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Covid-19 Fake News Analysis from a Social Media Perspective

Stefan SFICHI [1], Alexandru LAVRIC[2]

Abstract

As the SARS-CoV-2 virus – more popularly known as COVID-19 – has spread around the globe, mankind is fighting this new unseen enemy. This paper comes to review the way that the new CORONAVIRUS is perceived all over the world. In the current scientific literature, there is a gap when speaking about the influence and the impact of fake news. This evaluation corresponds to the main contribution of this paper.

Keywords: *COVID-19; fake news; analysis; social media.*

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1. Introduction

This paper comes to review the way that the new CORONAVIRUS is perceived all over the world. In the current scientific literature, there is a gap when speaking about the influence and the impact of fake news. This evaluation corresponds to the main contribution of this paper. One of the primary institutions covering and handling the COVID-19 data is WHO (World Health Organization). Even since the 8th of February 2020, they said that at WHO, they're not just battling the virus; they're also battling the trolls and conspiracy theorists that push misinformation and undermine the outbreak response [1]. This is one of the first pieces of information that entered the media. WHO already saw a big problem with the conspiracy fans and tried to explain promptly made clarifications. The Guardian, the British daily newspaper, explained that misinformation on the coronavirus might be the most contagious thing about it, quoting Adam Kucharski [2]. This is why WHO interacts through the 'infodemics' team and the communications department. They are engaging with search all the major social media companies (Twitter, TikTok, Weibo, Pinterest, Facebook, Google, Tencent, Baidu) asking them to filter out false information that can do more harm to the population that the virus. The fake news can't be filtered out completely because one piece of news is considered fake if more people see it that way. If you don't have most of the info on it, you can't know it is false. Fake news can be defined as a form of news consisting of deliberate disinformation or hoaxes spread via traditional news media (print and broadcast) or online social media.

2. Social Media and Its Implication in Transmitting Information

The latest studies on social media show that people struggled with much information that come across their everyday attention. Things that get important, at least in evolved and evolving countries are: disasters, terrorism, controversial moves and other things. That means everything that moves one person emotionally. The moving media is what comes to mind when trying to find the best way to campaign something. 81% of those who receive a viral message are more willing to follow the message to others [3].

Moving images are the best way to get people's attention in social media and this is on the rise since 2016. People have a very short attention span, so the main characteristic of a fake news is to spread in some situation maybe faster than the virus. This action is usually performed when the piece of information is quickly forwarded to another person.

The need of information is something that besides the good things comes also with something bad. This need can be exploited by people in the need of manipulating the facts to their advantage.

If the viewer (the subject) is not hooked attracted in 2 seconds, they'll move on. COVID-19 got really high in on-line searches (figure 1). After that, it is important to create something powerful or interesting, in the next 10 to 15 seconds – something that people want to share and re-share. Subjects use to do this when they have something emotionally getting close to their mind. If this trigger is pulled, then it creates a viral effect.

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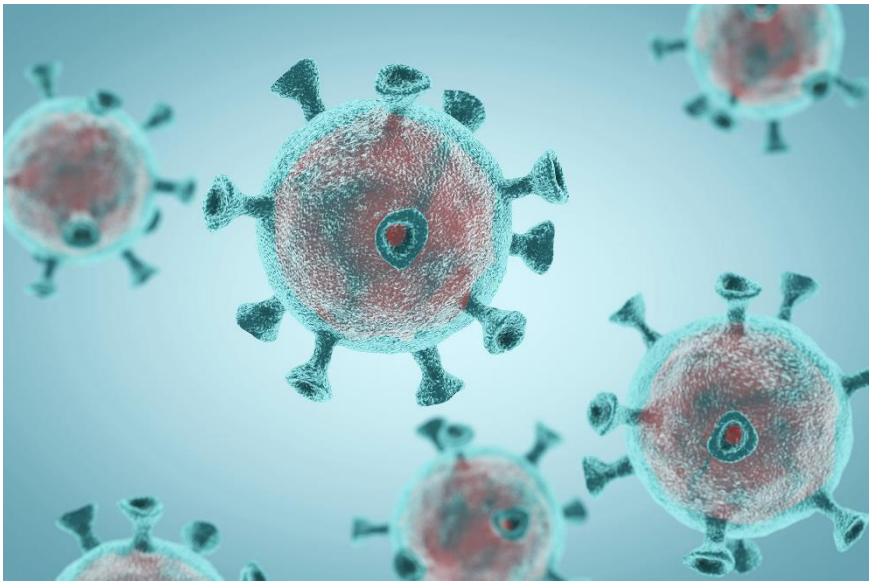


Figure 1. COVID-19 searches [4]

The researchers in the commercial field found out that what's shared the most on social media is generally vulnerable groups. People post about women, the disabled, the racialized, LGBTQ people and many others. It is important to have product placement from the first second of the video. Now, let's think for a little bit how does a viral COVID-19 viral social media film looks like. You have to get the attention quick. For example, the way that a Suceava vice.com journalist used to share the post that got 679 shares in 4 days (21st to 24th of April 2020). It was "I was hoping that at least you would escape" [5]. The journalist's mother showed the emotional implications in the region. This post generated over 220 comments and 2.5k reactions. This shows how quickly an emotion can generate social feedback and also how simple you can manipulate the

Example of fake news in Romania and the whole world included:

- Planned extermination of the population because we are too many,
- It's the end of the world, and this time Noah's Ark saves us,
- God kills them because they eat bats and mice,
- The great debate: created in the laboratory or comes from rats,
- It's an invention to put the chip in you,
- Bill Gates created the virus,
- Corona beer gives Coronavirus.

Of course, every fake news is crafted for its target people and it has to underlie the above criteria. Now, let us test the above information and see how our theory stands up. Planned extermination refers to killing many people not thinking exactly of each person. This is very emotional – it holds. The end of the world also refers to killing everybody. It is clearly emotionally. Next, we have God involved and the reference to the Chinese. This is kind of emotionally if we think of the Chinese. Next, we have a debate. This is about something of which everybody speaks of. It is controversial and it is of daily interest. The thing with the chip is something that deals with an emotion because of the fear of losing your freedom. Bill Gates is one very well-known public figure. One joke that every Microsoft Office user likes to do when in high school having a problem is "it's because of Bill Gates". Well, we can also have this one as a joke.

Google searches for "corona beer virus" increased by 2,300% globally during this period. "Beer virus" with 744% and "beer coronavirus" with 3,233%. That is, there are people who may believe or doubt whether the virus that has already killed so many people comes from the Corona beer brand. Yes, that beer with tequila.

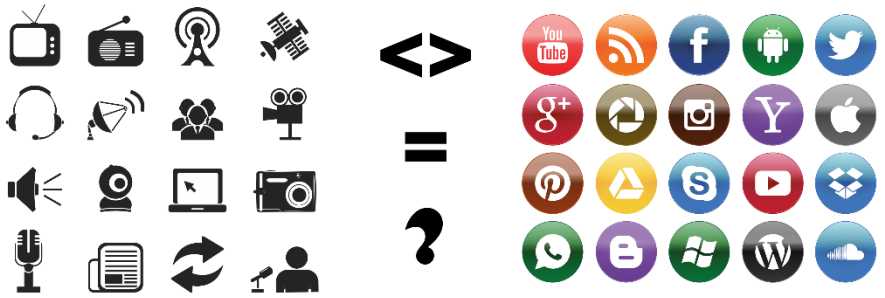


Figure 2. Traditional media vs. Social media

There is also a better side of social media. When the mainstream media don't show all the info, social media can do that and then some (figure 2).

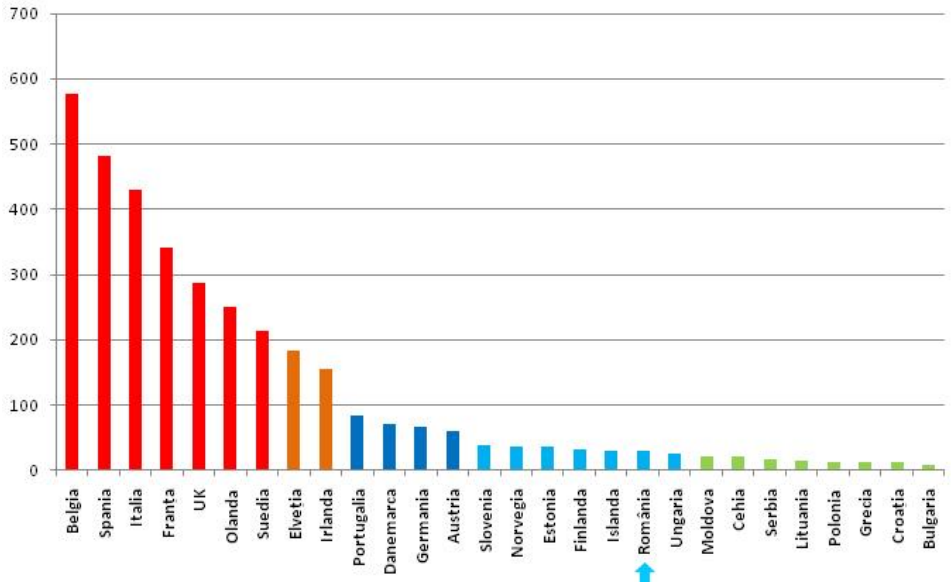


Figure 3. The number of deceased people of COVID-19 per million populations [6]

For example, we have a niche TV station that can provide some info that the other media doesn't show. It is not necessarily that they don't want to do it. It is just that it could be too hard to verify and pass all the

traditional media filters. This is also the down side of social media. It is very easy to pass through the verification filters, so it gets viral really quick.

For example, here is an example of how simple it is to have a good graphic done by someone that wants to get some news out and to transmit one piece of information that he or she believes in. You can see the here the number of deceased people of COVID-19 per million population.

Many of the researchers worldwide got to stay home. Every person has an interest in something. Most of us want just to relax, stay home and watch some TV (or Netflix), but there are few of us that want to do more, that are interested in evolving and in finding out new things. This is how researchers function. And that's why we can try and understand (maybe understand) something out of this infographic. This article doesn't want to find out more about how COVID-19 evolved worldwide. It has the intention of showing how good news and bad news spread in the social media environment. It also wants to see how the fake news gets to spread. Still, in figure 3 we can see how the more financially evolved countries in Europe have a greater percent of deceased persons than in the others. This could be because of a numerous of causes. It could be because of the number of the deceased tests done. In this case it could be misinformation that we get from this. It could also be because of the different ages in every country. And the discussion could continue. What we get from this is that it is really simple to misinform somebody, and that using only facts. This is why it is so simple to transmit fake news. Some of them can seem so true at first.

Another interesting, funny fake news in Romania was that if you inject Hexipharma disinfectant you will not suffer anything. It was a big deal back in Romania in 2016 when we had a big disinfectant crisis. The firm mentioned was selling to state hospitals really low concentration disinfectants. Also, there was another 2020 bad information that the president of the US Donald Trump mentioned [7]. He just suggested that disinfectants could be used to treat coronavirus. After that, he informed the public that it was just a joke. Still, all this info got messy and it also got to this joke in Romania, also promoted like another piece of fake news. Dr. Stephen Hahn, US Food and Drug Administration commissioner, had to step up and say to people not to eat or inject yourself with disinfectant [8]. This joke got really messy and is somehow in the middle – between fake and true news.

The human mind is kind of endless and it doesn't stop here. It can try to develop other true-false news (at least this is how we can call it) [9].

Figure 3 shows us how different European countries felt this COVID-19 crisis. The info used is the worldomeners.info. It has algebraic information on the tests done an also on the number of people that died. What you see is what you get. Or it is not necessarily true?

Why it could not be all true? It is just info. The thing is that you can't know for sure if this is all the info. You just can't. So it seems that we could also have another false, true news here, although it is not. We can still see some pattern in figure 4.

Fake news exists. This is clear. We also have another kind of fake news, one that is so realistic that it can mislead someone really easy. This is widespread in celebrity pornographic video, fake news, hoaxes, financial fraud and many others. It is called deepfake. This kind of manipulation has part of the ability to destroy democracy by manipulating the elections. Scandals are the worst that could happen for presidential candidates and although they might not be true, they can drag 2 to 10 percent out of the candidate really easy. The recovery is hard and takes more time than the damage.

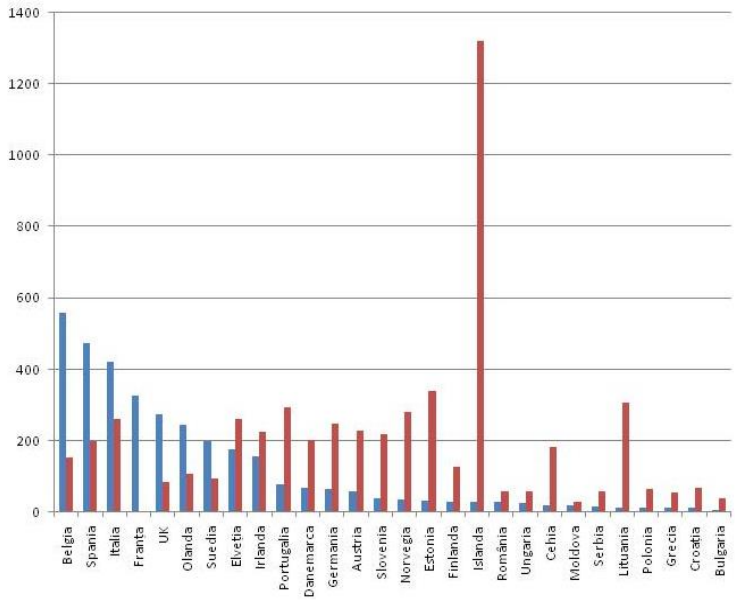


Figure 4. Blue: deceased/million people, Red: tests /10k people COVID-19 [6]

3. Are We Allowed to Have Opinions? What About Deepfake

There is a term circulating on the internet and getting now really strong in the notebooks of the researchers all over the world: deepfake [10].

This term comes from a combination between 2 terms: deep learning and fake. Photo manipulation was developed in the 19th century. Even Stalin used photo manipulation to get a certain come-up. Things are very volatile. You've seen technology. These already exist. This easily generates a video with the voice and image of a person saying what you want. You can send a very well thought out message (from your point of view). It is very easy to influence now.

We now have social private groups. These could change something on the long run. For example, there are communities where the desire to strengthen the positive sides is maintained. Some try to delimit themselves completely from the political or controversial area of society.

People are super interconnected now. Fake news exists. All this technology can shape minds. The question is how strong is local, national or global society to counter? You are in your privacy zone: you and your neighbors (even social media neighbors). This fake news can pass easily. It is NOT necessarily a criminal activity. It is your own business, not the even the state's. In fact, it is related to the education of the individual and perhaps the maximum of those close to him who are ultimately chosen (or who have them from birth).

Still, deepfakes are not so easy to use, taking into consideration the fact that they represent the top of the iceberg in audio video manipulations [11].

In Norway, young people read on the ferry-boat, in public transport. There society teaches them to work in teams. In Romania, in the educational system you are automatically verified. It depends on the strength of the education system to get to a point where someone has the education that gives him the ability to spot fake news. Man is the only animal that can do a task if the reward will be received later. There is an old saying. If you want to go fast, go alone. If you want to do well, go as a team. Efficiency lies in mathematics, it lies in the procedures. A system is not effective because of the individual, it is effective because of the procedure. These are all things that must be taken into consideration when thinking of fake news.

Nowadays the good thing about social networks is that if you don't get customers a human and humane experience, you have no customers. [12] It is pretty elementary. This could also be the worst thing.

4. Rummors of Interest

Verifying Google Trends, we find different statistics on COVID-19. This is the same info that fake news manufacturers try to understand to get the best re-sharable news out there.

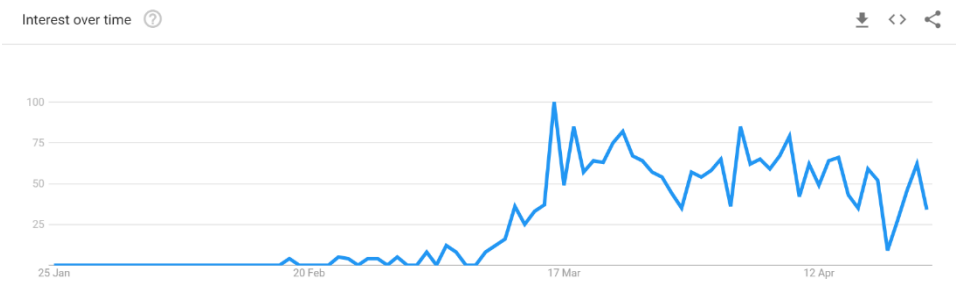


Figure 5. Interest over time COVID-19 - google trends [13]

Interest over time, over COVID-19 news can be seen in figure 5. We have the highest peak that means higher interest. The 50 is the half as interesting. The bottom line represents too low data to process.

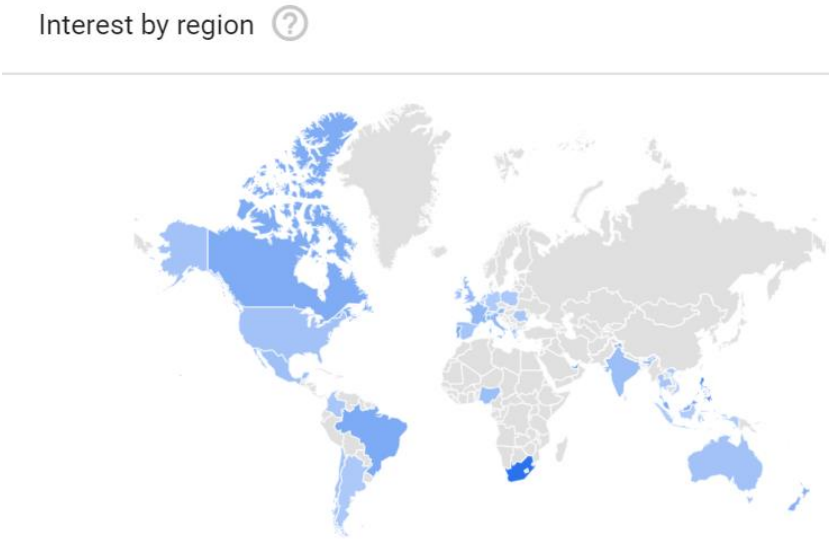


Figure 6. Interest by region COVID-19 - google trends [13]

Table 1. Interest by country COVID-19 - google trends [13]

No	Country	Search percent
1	Singapore	100
2	South Africa	77
3	Philippines	61
4	Portugal	33
5	United Arab Emirates	31
6	Malaysia	31
7	Brazil	29
8	Canada	28
9	New Zeeland	24
10	France	18
11	Italy	17
12	United Kingdom	16
13	Austria	16
14	India	12
15	Nigeria	12
16	Mexico	10
17	Ireland	10
18	United States	9
19	Australia	9
20	Chile	8
21	Switzerland	7
22	Romania	7
23	Spain	7
24	Thailand	6
25	Belgium	6
26	Colombia	5
27	Greece	4
28	Vietnam	3
29	Argentina	3
30	Netherlands	3
31	Poland	3
32	Germany	2
33	Indonesia	1

The interest by region shown in figure 6. We have a scale from 0 to 100, 100 represents the place with the highest popularity. A higher value is represented by the dark blue that is the highest queries level. [13]

The number of searches for COVID-19 could be somehow connected to many factors (population, digitalization, news interest and so on). Table 1 shows us Singapore, South Africa and Philippines like the leaders (only the 3 this state has over 50%).

5. The importance of COVID-19 in social media

The COVID-19 pandemic has a great impact on the world. It manipulates our lives, our routines. The corporations and the small firms must pay to understand their clients, their interests for shopping. The customers are missing their brands and all this time off somehow disconnected this process. So, it is important not to cut the social media marketing [14].

On March the 17th there were many mentions on business social media about COVID-19. One cause could be the New York mayor ordering the shutdown on the 16th of March. The same time, many other countries closed the borders.

Rank	Hashtags	By Profiles	In Posts
1	Coronavirus	3,315	**7,464**
2	Covid19	2,674	**5,546**
3	Covid_19	1,457	**2,358**
4	corona	887	**1,765**
5	staysafe	707	**1,026**
6	covid	543	**910**
7	socialdistancing	424	**664**
8	yomequedoencasa	395	**652**
9	virus	284	**635**
10	health	269	**596**
11	stayhome	403	**569**
12	quedateencasa	320	**530**
13	dirumahaja	261	**523**
14	stayathome	295	**468**
15	stayhealthy	251	**373**

Rank	Hashtags	By Profiles	In Posts
1	Coronavirus	7,110	**18,364**
2	Covid19	6,914	**16,395**
3	Covid_19	1,654	**2,841**
4	corona	1,135	**2,547**
5	staysafe	1,266	**1,887**
6	covid	1,184	**1,885**
7	yomequedoencasa	873	**1,334**
8	quedateencasa	604	**953**
9	stayhome	602	**802**
10	socialdistancing	556	**755**
11	stayathome	499	**705**
12	coronavirusoutbreak	249	**697**
13	quédateencasa	392	**669**
14	health	345	**607**
15	virus	339	**584**

Figure 7. Brands about COVID-19 on social media: Instagram & Facebook [14]

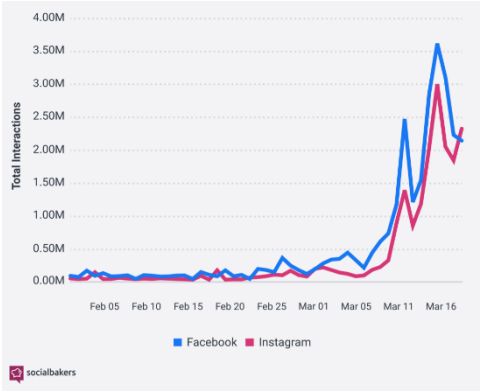


Figure 8. Evolution of Total Interactions for Coronavirus Content on Facebook and Instagram [14]

So – we have a high interest shown in the subject. This is why Fake news crafters are interested in and this is marketers that place products are interested in the matter.

6. Fake News Pandemic

Some of the effects of the coronavirus pandemic that are generally overlooked at this early stage of the development of the global threat (when most of the focus is naturally put on the imminent, destructive consequences to health, life and the economy) are the resulting developments in crime and terrorism. One of these threats is a rise of fake news and disinformation campaigns (distributed primarily on social media), bearing the characteristics of the nation-state sponsored, and information warfare operations. By definition (Wardle 2018), disinformation is the information created and shared for doing some harm.

The Europol's Report coincided with the UK Parliament Report "Preparing for the Changing World" (UK Parliament 2019) which raised – in the chapters devoted to the new directions in cyber security and emerging computer technologies – the very similar concerns, stressing that cyber-enabled crime might significantly impact the landscape of law-enforcement and intelligence work. The UK Parliament Report stressed the problem of the undue influence of fake news on public opinion.

Fake news may also have a form of misinformation that is information being false. It may not have bad intentions, but there are lots of moments when it gets to having. Currently, in regards to COVID-19 pandemic that started in Wuhan, China, and caused a global public health

crisis [16], the intelligence reports point primarily to Russia and China as the main initiators of disinformation campaigns. The Russian influence in particular gained the worldwide attention with Reuters (Emmott 2020), Guardian (2020) and Deutsche Welle (2020) - among others – covering the news backed by the internal EU sources….. The disinformation campaigns get on social websites (Facebook, Tweeter). They are spread with the help of fake accounts. The information is linked to Chinese web forums. At the very top of scenarios that we selected was the abuse of Artificial Intelligence for the purpose of creating AI-authored fake news and audio/video impersonation, so we are talking about deep fake [15].

Fake news is a similar to misinformation, which is defined to be a mimicry of media outlets that lacks the editorial process, norms and journalistic rigor that ensures a trustworthy quality of news reporting [17].

7. Conclusions

These articles conclude that there is definitely an effect coming out of these fake news. There are people that try to manipulate the information so that they can gain different opportunities, not necessarily material ones. There are some corporations that try to find anything that could help them to sell certain products, trying to get to the people that focus on certain ideas.

This article could help authorities better adjust their posts about COVID-19 so that they won't get dragged into a fake news trap. Fake news could easily contribute to the destabilization of public order and when talking about countries, it could get really bad. It seems that the COVID-19 got to a point that is as sensitive of a subject as the subject of religion.

Nowadays social media can help corporations and governments transmit the information they have prepared for or their people. It is important to well and fine adjust the information sent through these streams. Fake news can also be supported by entities that need to transmit information or maybe use cyber-attacks to raise their flag the way they want to. It is also the way to place products to the customers and also structure misinformation.

The international context has huge implications. China has a main role here, but it is playing among with the US, Russia and also the EU. We hope that this article will help researchers and practitioners that try to get the best good information campaigns on the market.

In the future, we plan to further expand this study and connect the outcomes of this pandemic with the fifth with this other virus called fake news.

References

[1] WHO link: Director-General's remarks at the media briefing on 2019 novel coronavirus on 8 February 2020. Available from: https://www.who.int/dg/speeches/detail/director-general-s-remarks-at-the-media-briefing-on-2019-novel-coronavirus---8-february-2020

[2] The Guardian. Available from: https://www.theguardian.com/commentisfree/2020/feb/08/misinformation-coronavirus-contagious-infections

[3] Penenberg A. Viral Loop: From Facebook to Twitter, How Today's Smartest Businesses Grow Themselves First Edition; 2009.

[4] Techcrunch. Germany's COVID-19 contacts tracing app to link to labs for test result notification. https://techcrunch.com/2020/04/23/germanys-covid-19-contacts-tracing-app-to-link-to-labs-for-test-result-notification/[Accessed: Apr 2020]

[5] Vice România. Available from: https://www.facebook.com/viceromania/, [Accessed: Apr 2020]

[6] Georgeta Condur graphic: https://www.facebook.com/georgeta.condur

[7] The New York Times. Trump's Suggestion That Disinfectants Could Be Used to Treat Coronavirus Prompts Aggressive Pushback. Available from: https://www.nytimes.com/2020/04/24/us/politics/trump-inject-disinfectant-bleach-coronavirus.html, [Accessed: Apr 2020].

[8] CNN. Available from: https://edition.cnn.com/world/live-news/coronavirus-pandemic-04-23-20-intl/h_1d2d1c2779b624b151a1f72557aabe0d

[9] https://ro.pinterest.com/pin/484629609880498215/, NASA proves that the bible is true, [Accessed: Apr 2020]

[10] Wikipedia. Deepfake. Available from: https://en.wikipedia.org/wiki/Deepfake. [Accessed: Apr 2020]

[11] Paris B, Donovan J. Deepfakes and Cheap Fakes: The Manipulation of Audio and Visual Evidence. Data & Society; 2019. (Accessed Mar. 2020). Available from: https://datasociety.net/wp-content/uploads/2019/09/DS_Deepfakes_Cheap_FakesFinal-1-1.pdf

[12] The Circle - 2017 – movie

[13] Google Trends on Corona. Available from: https://trends.google.com/ [Accessed: Apr 2020]
[14] Yuval B-I. CEO, Socialbakers: social bakers: State of Social Media Report: The Impact of COVID-19
[15] Kacper G. Crime In The Time Of The Plague: Fake News Pandemic And The Challenges To Law-Enforcement And Intelligence Community, Society Register; 2020 4(2): 133-148. DOI: 10.14746/sr.2020.4.2.10
[16] Li L, Zhang Q, Wang X., Zhang J, Wang T, Gao TL, Duan, W, Tsoi K.K.F, Wang FY. Characterizing the Propagation of Situational Information in Social Media during COVID-19 Epidemic: A Case Study on Weibo. IEEE Transactions on Computational Social Systems. 2020, 7(2). https://doi.org/10.1109/TCSS.2020.2980007
[17] Lazer MJD, Baum MA, Benkler Y, Berinsky JA, Greenhill KM, Menczer F, Metzger MJ, Nyhan B, Pennycook G, Rothschild D, Schudson M, Sloman SA, Sunstein CR, Thorson EA, Watts DJ, Zittrain JL. The science of fake news, Science. 2018, 359(6380): 1094-1096. DOI: 10.1126/science.aao2998