UNDERSTANDING SPUTNIK NEWS AGENCY INTERNET TRAFFIC ANALYSIS

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Abstract: Sputnik news agency remains one of the main-channels used by Russia to conduct disinformation campaigns across its borders, affecting both Romania and the Republic of Moldova virtual communities. This research offers a practical methodological solution for measuring communication outcomes and describing audience and its behavior and it shows that, at the end of 2018, Sputnik was a peripheral news platform for the Romanian informational space and a growing threat for the Republic of Moldova, where it occupied a leading position. The evaluation was conducted with data extracted through Alexa service provided by Amazon and Gemius data - the Moldovan Audit Office of Circuits and Internet.

Key words: social media, Sputnik, echo chamber, traffic analysis.

1. Introduction

Sputnik news agency remains one of the main-channels used by Kremlin to conduct disinformation campaigns across Russian borders, affecting the European Union, its Member States, and countries in the shared neighborhood. Since 2015, the EU response has come through EUvsDisinfo project, developed by the European External Action Service's East StratCom Task Force for *"better forecast, address, and response to the Russian Federation's ongoing disinformation campaigns"* (EU vs. Disinfo, 2019).

Analyzing this problem from a classical geostrategic perspective, for now, Romania lies within the comfort zone, as a member of the European Union and NATO alliance. The 5th NATO article plays an important role in assuring the security of the eastern flank of the military alliance, although it doesn't cover (yet) the 5th component of the battleground (Soil, Water, Air, Space), the virtual space.

For Romania, the virtual community is very important only if we count the 9.6 million unique users active on the Facebook platform (Facebrands, 2019), ignoring the rest of the citizens active on Instagram, YouTube, Tic Tok or other platforms. Seen as a strategic vulnerability, this virtual community becomes the battleground for powerful state actors, as Russia, interested in constructing true public discourse, *virtual imagined communities*. In time, these communities should understand the Russian way and should act in the direction of strengthening Russian power.

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The Sputnik brand was launched in 2014 by the Russian media group Rossiya Segodnya. Sputnik International's predecessors are the state-run news agency RIA Novosti and the Voice of Russia radio service, which were dissolved in 2013 (Sputnik, 2019). In 2016, Sputnik launched an office in Kishinev, which covers both Romania's and The Republic of Moldova's informational space (Sputnik, 2016). Sputnik remains an effective Russian tool used to boost news and enforce power. Researching its content is becoming an opportunity for better understanding of what Russian interests are in the Eastern part of Europe.

2. Literature Review

The Internet is a space where everybody can publish, read and share information. Nowadays it has become a breeding ground for disinformation campaigns conducted by state actors interested in blurring the past, controlling the present and shaping the future.

False information, in form of rumors, urban legends and conspiracy theories is abundant on the Web and regardless of whether a fact is real, false or misinterpreted it has an effect on people's lives. The European Commission defines disinformation as *"all forms of false, inaccurate, or misleading information designed, presented and promoted to intentionally cause public harm or for profit"* (High level Group on fake news and online disinformation, 2018, p. 3).

Disinformation affects everyday life. The best disinformation campaigns are those conducted through an alternative news platform that receives significant traffic and stands on the market for long periods of time (Kumar, West, & Leskovec, 2016, p. 3). Sputnik meets all the key characteristics.

The modern-day disinformation mechanism relies on the digital tools widely used by the web industry. In fact, these tools turned news platforms into personalized newspapers, controlled by algorithms that deliver custom content limited by people's own interests and expectations. Eli Pariser called this algorithm censorship - *filter bubble* - it reveals how the world we encounter is narrowed to our own interest and raises awareness about the internet which is not an open window to the wide world. Living in the filter bubble you are not exposed to new information to challenge your preexisting knowledge and expectations, you are not even aware that there are other things you are missing (Pariser, 2011). From here *"it's easy to slip into an echo chamber that reinforces political views, an environment in which you encounter only opinions and beliefs similar to your own, and you don't have to consider alternatives"* (Oxford Learner's Dictionaries, 2019).

Kevin Roose analyzed this groups that deal with political issues. The natural way for these groups to interact is for a member to share articles or links and for other users to comment on, appreciate, or share. Some of these virtual platforms also use algorithms for spreading news. This means that these groups have members or algorithms that collect news from other platforms and rewrite or interpret it in the key of supporting a coherent political vision, limited by the interests of those who write them. These groups act as real echo chambers, promoting a limited political vision, ignoring versions that are not in line with their own opinions, ideas and interests (Roose, 2018). When a user comments on or shares an article on social media, the purpose is not to promote the publication but to

point out to the membership group that he has read the article and agrees with the social reality proposed by the article (Jameson, 1991, p. 276).

Here starts Sputnik's disinformation mechanism, telling us every single day a different part, the *"untold* part", of the same story that we hear from our traditional/mainstream media platforms. Little by little, Sputnik remains interested in constructing true public discourse, virtual communities permeable to the Russian way of doing/understanding things.

The process is facilitated also by the news' function of forming communities, best described by Benedict Anderson, who argues in his book *Imagined Communities* that, with the appearance of print media, readers were brought together, giving them a sense of community, without ever actually interacting with each other (Anderson, 2006).The concept remains as people connect to this collective awareness through an equally mobile source in the forms of internet media and social media (Sheller, 2015). In fact, social media creates an imagined community with its own characteristics and sense of communal consciousness (Kavoura, 2014). Ahmen Al-Rawi invited us to think of Facebook's News Feed function in the same way as a traditional newspaper. Both are the creation of print capitalism and produce their own communities and collective consciousness. The major difference between News Feed and a traditional newspaper is the level of inclusion (comments, likes, shares etc.) and this is in favor of the virtual platforms (Al-Rawi, 2017).

Nevertheless, metrics become essential in the mechanism of spreading news. Researchers on digitalized audiences (Currah, 2009; MacGregor, 2007) concluded that live metrics have become important for the editorial staff of news platforms. They offer a general view about the level of success that a story has and offer hints about which topics are hot, and deserve to be extended, and which are not.

Also, live metrics (real users, comments, clicks, likes, shares etc.) offer the opportunity to adapt the content that the editorial staff is delivering to the audience preferences (MacGregor, 2007). Thurman and Myllylahti made the same observation, the editorial teams they researched acknowledged checking news metrics countless times during a workday. Following this path they developed expertise on what works in the online environment and what doesn't (Thurman & Myllylahti, 2009).

The metrics utility was highlighted also by Phillips, who noticed that the news platform is interested in finding effective ways to bring people on site via search engines. It is a two-way road, first you manage to attract more people on your platform and then you get the opportunity to sell some advertising because you've created a large virtual community (Phillips, 2014, p. 90) or, in the case of Sputnik, to influence this community in the desired direction.

The importance of digital audience is publicly acknowledged also by Sputnik (Rotari, 2019), whose staff is claiming that they are monitoring their platform metrics using a service provided by Gemius. It's is also used as a propaganda instrument; once they achieved a leading position in audience preference, they reinforce that position by assuring people they are a good choice for a news platform, intensively accessed by a large part of population. In the end, checking the real users present on site offers Sputnik editors an idea about how big the imagine community they've managed to create is, offering a wide range of possibilities of what to do with this community for the benefit of the Russian state.

3. Research Questions and General Objective

The main objective of this research is to establish the position that Sputnik has among other news platforms that delivers news in Romania and Moldova, to identify how big the community that Sputnik managed to gather in both states is, and to describe that community in terms of digital behavior on Sputnik news platform.

In the end, this research will answer the following specific questions: How popular is Sputnik platform at national level – Romania and Moldova? What are the demographic characteristics of the audience? What geographical areas do the Sputnik readers come from? How many unique visitors (readers) are on Sputnik (reflects how big the readers community is)? What is the percentage of short-term visitors (readers) - bounce users? How readers manage to access Sputnik platform – traffic source? What subdomains are preferred by Sputnik readers? How many pages are viewed by a single visitor (reader)? How long does a visitor (reader) stay on the site?

4. Methodology

In order to accomplish the research objectives, an original database was created, populated with data about Sputnik digital metrics, achieved by the online news platform from 2016 until 2018. The data were collected using Alexa's service provided by Amazon and Gemius - the Moldovan Audit Office of Circuits and Internet. Both tools where used simultaneously to gather complementary data.

Alexa is a web traffic analysis company that collects data about internet browsing behavior providing web traffic data and measuring global rankings (Alexa, 2019a). The tool offers access to a wide range of metrics such as global/country rank, audience demographics, points of web access, bounce users, subdomains visits, traffic source, page views and time on site.

On the other hand, Gemius measures online audience behavior and tracks real user access, page views, time on site and total visits (Gemius Global, 2019). All data were collected in CSV format and analyzed in Microsoft Excel, in order to answer the researched questions.

The metrics are extensively described in the result section, mainly because the terminology is sometimes technical and in this way the text is easier to read.

Research limits: in 2016, since the platform was only at the beginning, some of the metrics where inconsistent and the tools used couldn't collect such data. So, sometimes we might only have data available for 2017 and 2018 but, for a better understanding of those research fields, I included some extra data extracted at the beginning of 2019.

5. Results
5.1. How popular is Sputnik platform at national level – Romania and Moldova?

In Table 1 we have Sputnik country rank for Romania and the Republic of Moldova. Alexa's traffic estimates and ranks are based on the browsing behavior of people in the global data panel which is a sample of all internet users (Alexa, 2019c).

Sputnik rank   Table 1

Year / Country	Romania	Republic of Moldova
2017	1.995	91
2018	898	52
2019	894	40

Although growing every year, the position currently held in Romania doesn't place Sputnik among the news platforms that matter in our informational space. Moreover, between August 2018 and Marth 2019, the platform managed to advance only 4 positions, although it was in a marginal traffic area. If nothing changes in the editorial policy, it seems like this will be the position that Sputnik will have in Romania.

On the other hand, since 2017 the platform has increased its importance in Moldova where, within just one year, it managed to advance 39 positions in top 100 Moldavian sites, followed by 2019, when it managed to advance 12 positions. The position held today in Moldova offers a good advantage for boosting news with impact in the country.

5.2. What are the demographic characteristics of the audience?

Audience demographics: the demographic data collected comes from voluntary information transmitted by people from the global traffic panel. The audience's demographics provided are internet average. They show how similar the site's audience is to the general internet population (Alexa, 2019b).

As shown in Figure 1, we have insights on gender, education, income and age of the target website's audience, helping us to identify key characteristics about Sputnik readers.

Fig. 1. *Sputnik - audience demographics 2018*

Gender: compared to the general population on the Internet (i) men are over-represented and (ii) women are under-represented.

Level of education: compared to the general population on the Internet (i) people who didn't go to college are under-represented, (ii) people with some higher education (technical, vocational schools) are under-represented, (iii) people with higher education are over-represented, (iv) the number of people with long-term education (master, PhD) present on Sputnik is similar to the general average on the Internet.

Navigate location: people who navigate from home are over-represented (ii), people who navigate from school are highly under-represented (iii), and people who navigate from the workplace are under-represented.

Age: compared to the general population on the Internet (i) the age category 18-24 years is under-represented, (ii) the age category 25-34 years is over-represented, (iii) the age category 35-44 years is similar to the general population on the Internet, (iv) the age category 45-54 years is under-represented, (v) the age category 55-64 is under-represented, (vi) no data were available for people over 65 years.

Annual income: compared to the general population on the Internet people with incomes (i) below $30.000/year are over-represented, (ii) from $30.000/year to $60.000/year are heavily under-represented, (iii) from $60.000/year to $100.000/year are heavily under-represented, (iv) over $100.000/year are under-represented.

The data provided by Alexa in the "annual income" category is representative for visitors who were born in the Republic of Moldova or Romania where, in general, the average annual salary doesn't exceed $30.000/year.

Children (Yes/No): compared to the general population on the Internet (i) people with children are under-represented, (ii) people without children are over-represented.

The "most likely user" is the same from 2016 - a college graduated male, between 25-34 years old, without children and with an annual income below 30.000 $. In general, he is using the internet home connection to access Sputnik platform.

5.3. What geographical areas do the Sputnik readers come from?

Points of web access: Alexa service is using the IP addresses to trace users' points of internet access and map their locations.

The first 10 countries used for web access in 2017: Romania - 20,6%, Russia - 12,1%, Republic of Moldova - 10,2%, Japan - 9,3%, Germany - 8,3%, Italy - 5,8%, France - 4,5%, U.K. - 3,2%, USA - 2,5% and Spain -1.8%.

The first 10 countries used for web access in 2018: Russia - 51,2%, Romania - 8,7%, Germany - 5,2%, Italy - 4,0%, Republic of Moldova - 3,2%, U.K. - 3,0%, Spain - 2,5%, France - 2,0%, Holland - 1,8% and USA - 1,6%.

As shown above, we can observe a predilection for accessing Sputnik from geographical areas where, traditionally speaking, we find significant communities of Moldavan citizens such as Russia, Romania, Italy or Germany. As the audience matures, we observe that more than 50% of the total number of visitors are from Russia. Romania and Germany share the second and 3rd places and, at close difference, we have Italy.

In just one year we observe that the percentage of Romanian visitors decreased from 20,6 % to 8,6% visitors. This aspect underlines once more the peripheral character of the platform in relation to the Romanian audience.

5.4. How many unique visitors are there on Sputnik (reflects how big the reader community is)?

Real users (unique visitors): the number of Internet Users (visitors) in a given target group who visited (generated at least one-page view) the selected node. This indicator relates to the actual number of persons, not computers, cookies or IP addresses (Gemius Audience, 2019).

In 2016, Gemius started to collect and store traffic data starting with May. In eight months of monitoring, Sputnik recorded an average of 13.224 unique visitors/day, with a maximum on September 24, when it reached 42.056 unique visitors/day, and a minimum of 5.650 unique visitors/day reached on June 6.

In 2017, Sputnik recorded an average of 32.049 unique visitors/day, with a maximum on August 2, when it reached 62.786 unique visitors/day, and a minimum of 11.344 unique visitors/day reached on May 16.

In 2018, the platform recorded an average of 87.362 unique visitors/day, with a maximum on July 25 when it reached 265.707 unique visitors and a minimum of 32.088 unique visitors/day reached on May 26.

Since the launch of the platform, in 2016, until now, the average number of unique visitors/day has doubled every day, reaching at the end of 2018 an impressive 87.000 unique visitors/day. After 3 years of monitoring, we can't notice any stagnation in platform's development. This means that the maximum potential for attracting visitors has not yet been established.

5.5. What is the percentage of short-term visitors (readers) - bounce users?

Bounce users: percentage of visits to the site that consist of a single pageview (Alexa, 2019b).

Since launch, we can notice an upward trend of visits that consists in a one-page access, from 72.53% in 2016 to 84.88% in 2018. Normally, as the site's audience matures, it should interact more with the content, an aspect which is not found in our data.

In other words, the Sputnik platform manages to bring people on the site, but the content delivered does not meet visitor's expectations, leaving them no other choice than to leave. This high percentage of bouncers is common for paparazzi sites where the glossy news titles don't meet the content and the user expectations.

5.6. How do readers manage to access Sputnik platform – traffic source?

Traffic source: allows us to understand how people access Sputnik platform (Alexa, 2019d).

We can have four types of access: *direct* - the user types the site address on the web; *social* - traffic redirected from social platforms (such as Facebook or Vkontakte); s*earch* - traffic redirected from search engines (such as Google, Yahoo, Yandex) and *link* - traffic redirected from a link.

The data presented in Table 2 represents an average of the previous 4 months, before the date when I interrogated Alexa database. In this specific case, there is a limit to the research, in the context that Alexa service does not allow the full sharing of information. However, in my assessment, a 4-month sample offers a 25% of the real imagine.

Traffic source   Table 2

Direct	6%	45%
Social	40%	12%
Search	24%	18%
Link	29%	25%
Collected date	30.07.2017	10.08.2018

In 2016, there was a significant access, up to 40%, from social networks. This denotes a strategy that Sputnik used to promote in the early beginnings. As the number of visitors grew and the community matured, the traffic from social networks decreased to only 12%.

The most relevant metric for a site that grows organically is the direct access traffic. It is important because it fulfills two simultaneous conditions: (i) the visitor is aware of the existence of the news portal and its Internet address and (ii) the visitor intentionally wants to access the site by typing the URL address in the browser.

We should mention that direct access can also be done by saving the URL address in the browser memory and accessing it from different categories such as "favorites" or "recent accessed sites" or "frequently accessed sites".

We can observe a considerable increase of direct access from 6% in 2017 to 45% in 2018, which means that the platform managed to coagulate a community that is looking actively over the content that the platform delivers.

Regarding the traffic by accessing the link, the site registered a rate of 29% in 2017 followed by a slight decrease in 2018, when it reached 25%.

Regarding the traffic coming through search engines, it registered a constant behavior, maintaining at about 25% of the total access.

5.7. What subdomains are preferred by Sputnik readers?

Subdomains visits: As shown in Table 3 Sputnik has three important subdomains: *"ro.sputnik.md"* which provides news in Romanian from Romania, *"ru.sputnik.md"* which provides news in Russian from Moldova and Russia and *"sputnik.md"* providing news in Romanian from Moldova. We can exceed the 100% percentage in the context in which a single user can visit several sub-domains.

Subdomains visits   Table 3

Subdomains/Visits	2017	2018	2019
ru.sputnik.md	49,42%	86,38%	81,48%
ro.sputnik.md	37,41%	8,6%	12,01%
sputnik.md	16,08%	5,48%	8,69%

Since 2017, a majority of 49% visitors have been accessing the sub-domain "ru.sputnik.md", an upward trend maintained until 2018 when it reached 86%, followed by a slight decrease to 81% at the beginning of 2019.

The sub-domain dedicated to news in Romania decreased from 37% to 8.6%, followed by a slight increase, at the beginning of 2019, to 12.01%, which means a lower interest of

the Sputnik platform visitors in Romania.

The sub-domain "sputnik.md" decreased from 16% to 5%, with a slight increase to 8% at the beginning of 2019. Due to the fact that the difference was recovered by the sub-domain "ru.sputnik.md" we can only conclude that platform visitors prefer reading content written in Russian language, being difficult to say if they read news from the Russian Federation or from the Republic of Moldova.

5.8. How many pages are viewed by a single visitor (reader)?

Page views: the number of times a webpage was requested by a visitor (Gemius Audience, 2019).
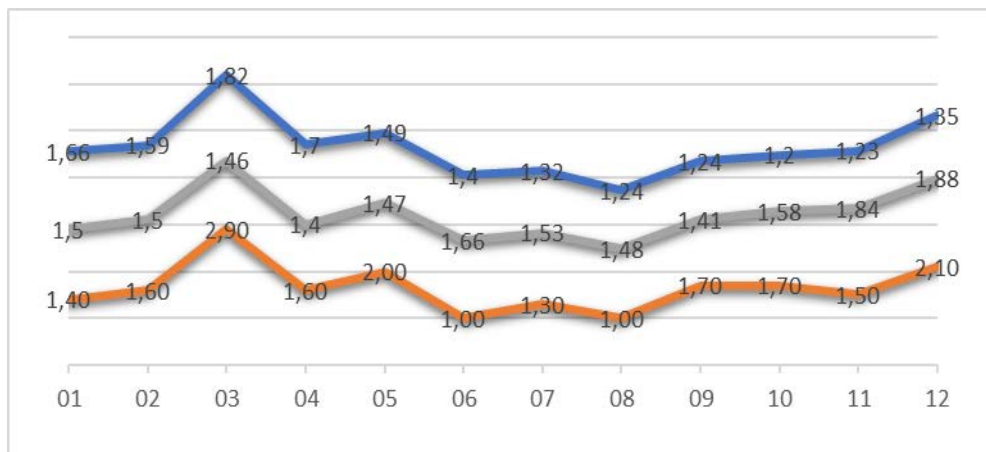
Fig. 2. *Average page views/month* (2016 2017 2018)

As shown in Figure 2:

In 2016, a general average of 1.45 unique pages viewed by each user was recorded. The peak month was March with 2.9 pages viewed, while the lowest average was in June, only one page viewed by each unique user. This percentage is similar with *Bounce users*, therefore, in June 2016, the Sputnik platform failed to deliver attractive content for its audience.

In 2017, an average of 1.56 unique pages viewed by each user was recorded. The peak month was December with an average of 1.88 unique pages viewed, while April had the lowest average of only 1.4 unique pages viewed.

In 2018, a general average of 1.43 unique pages viewed by each user was recorded. The peak month was March with an average of 1.82 unique pages viewed, while the lowest average was in October, of only 1.2 unique pages viewed.

We notice in general a low average of about 1.5 pages viewed by a visitor. In October 2018, we have an average of 1.2 pages, which is very close to the rate of 1 page/visit, specific to bouncers' users.

5.9. How long does a visitor (reader) stay on the site?

Time on site: total time spent by visitors from a given target group on the selected node in a specified time period (Gemius Audience, 2019).

In 2016, the average number of visits was 3 minutes and 7 seconds, with a minimum in March of 2 minutes 30 seconds and a maximum in December of 3 minutes and 53 seconds.

In 2017, the average time on a visit was 3 minutes and 22 seconds, with a minimum in August of 2 minutes and 59 seconds and a maximum in May of 3 minutes and 44 seconds.

In 2018, the average time on a visit was 2 minutes and 38 seconds, with a minimum in September of 2 minutes and 18 seconds and a maximum in January of 3 minutes and 21 seconds. The platform lost about 45 seconds of the average time spent on the site.

The loss of time spent on the site in 2018, together with the increased number of bouncers, stressed the idea regarding content quality, it seems like the content doesn't meet the visitor expectations.

6. Discussion

The Sputnik news agency remains one of the main channels used by Russia to conduct disinformation campaigns across its borders, affecting both Romania's and the Republic of Moldova's virtual communities. Although Sputnik Kishinev station simultaneously broadcasts news in the informational space of both countries (given the historical bonds) this research shows that it manages to achieve totally different outcomes.

 Starting with 2016, Sputnik began a constant process of maturation, both as a brand and as a news broadcaster, being sensitive to political and social events in Romania and Moldova and gradually trying to build around it a community of readers, caught in the world *(bubble)* described by editors and filtered by algorithm power (Pariser, 2011).

Although the funding is supported by the Russian state, the Kishinev agency cannot get rid of the free market economy, being sensitive and reactive to the digital metrics achieved (Currah, 2009; MacGregor, 2007).

Although the platform has had a steady growth since launching, until now it has managed to concentrate a significant virtual community only in Moldova, where it holds the 4th place on the news platforms and 40th place on country rank. In Romania things are different, the 894th position currently held doesn't place it among the news platforms that have a real impact in our country. Moreover, only 12% of total visitors access "ro.sputnik.md", which confirms that the platform is not accessed for Romanian news.

Nevertheless, over 40% of the audience is made by visitors living in Russia. This explains the 80% access of the sub-domain "ru.sputnik.md", where you can read news in Russian about Moldova and Russia. The access zone is closely followed by Romania, Italy or Germany. It seems like Sputnik readers from all over Moldovan diaspora were brought together by the news they read (Anderson, 2006).

Although a consistent community was formed, the interaction metrics remained modest, the platform having an overall average of 1.5 pages viewed by a unique visitor. We have peaks that do not exceed 2.9 pages/visit. Along with the time spent on site, an average of 2 minutes and 30 seconds, we find that the visitor spends very little time on the platform, choosing to read only news feeds and to scroll, on average, a single news headline.

Despite those weak metrics, the platform has made significant progress in coagulating a virtual community, stabilizing the direct access process at about 45% in 2018. This aspect shows loyalty from those users who intentionally access the news platform on a regular basis.

The study shows that at the end of 2018, Sputnik news platform was a peripheral platform for the Romanian informational space and a growing threat for the Republic of Moldova. This doesn't mean that we don't have to raise awareness about this platform that is used by Russia to coagulate virtual communities that understand the Russian way. In the near future, these communities could function like those echo chambers described by Roose, empowering Russian foreign policy and creating communities, politically biased groups that, at a certain point, can accept and support Russian international behavior (Roose, 2018).

There is much to be done and questions to be asked, beyond the correct identification of that part of our community that is permeable to the Russian disinformation campaigns; there is a need for correct identification of Russian narratives, specially designed for this Eastern part of Europe. Future research should focus on a qualitive approach of the content that Sputnik delivers every day, taking care of the metrics they achieve and the communities they form. The purpose is not only to identify the strategic narrative that Russia is trying to promote in our informational space, but also to prepare the society to question everything they read and escape from their echo chamber.

Nevertheless, it will also contribute to the EU and NATO efforts for better forecasting and responding to the Russian Federation's ongoing disinformation campaigns.

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