Czech University of Life Sciences Prague

Faculty of Economics and Management

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Master's Thesis

**Comparative Analysis of Russian Social Media
Platform and the Impact of Computational Propaganda**

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Faculty of Economics and Management

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Comparative Analysis of the Russian Social Media Platform and the Impact of Computational Propaganda

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Objectives of thesis

The thesis explores the strategic use of computational propaganda or 'fake news' discourses in Russian-speaking communities using a mixed-methods approach grounded in discourse theory. In context, there have been previous studies that have already focused extensively on the political elite within Western or Anglo-American typologies of 'fake news'. However, in Russian speaking countries, it is not yet clear whether or how computational propaganda influences the political public sphere, where social media platforms serve as a growing tool of discourse. In other words, this thesis aims to develop a typology or metric, which can shed light on how Russian-speakers in three cases (Russia, Kazakhstan and Czech Republic) view computational propaganda in relation to their political and social lives.

Methodology

The methodology of the work consists of both quantitative and qualitative methods, whereby the use of a mixed methods approach will be incorporated. In particular this study will make use of a questionnaire which will be used to sample the populations of each case.

The qualitative approach will be represented by a series of structured interviews with participants (subject matter experts) from three cases (countries), by which a coding method (thematic or narrative) will be applied to draw correlations from the data.

The quantitative part of the project will consist of a content analysis dealing with data from the Russian speaking social media platform 'VKONTAKTE', a popular mechanism of mass communication in Russian-speaking countries.

These findings will be used in tandem to explore the topic and draw conclusions regarding the usage of social media applications and their potential to influence political discourse in Russian-speaking communities.

The proposed extent of the thesis

50-60 pages

Keywords

computational propaganda, discourse theory, Russian-speaking, social media:VK, mixed-methods, comparative analysis

Recommended information sources

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Declaration

I declare that I have worked on my master's thesis titled "Comparative Analysis of Russian Speaking Social Media Platform and the Impact of Computational Propaganda" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the master's thesis, I declare that the thesis does not break any copyrights.

In Prague on 31.03.2023 _____

Comparative Analysis of Russian Speaking Social Media Platform and the Impact of Computational propaganda

Abstract

The author studies the most popular social platform among Russian speakers using the mixed-methods approach in order to describe the impact that computational propaganda has on the platform itself as well as on the society built around the platform. In addition to this, the author also answers the question of whether a growing presence of computational propaganda can lead to the ultimate abandonment of the network on the part of its audience.

Consequently, the author comes up to the conclusion that, on average, VK has a striking presence of social bots with 24.6% out of the total comments in six major sampled news communities – RIA, LIFE.RU, RT in Russian, REN TV, RBK and Lentach. The author also categorizes the tendency of generating comments with computational propaganda. As it turns out, social bots are much more active on working days rather than on weekends. The author draws the conclusion that a huge proportion of social bots on VK are run by human beings presumably working for a particular specialized agency and not by artificial intelligence programs. In addition to this, after conducting a series of interpersonal interviews and analysing the results, the author concludes that users are not likely to fully abandon the network due to the personal attachment that they have to the network.

Keywords: computational propaganda, discourse theory, Russian-speaking, VK, mixed-methods, comparative analysis, political agenda

Komparativní analýza ruské sociální sítě a vlivu propagandy

Abstrakt

Autor zkoumá nejoblíbenější sociální síť rusky mluvících pomoci několika různých metod. Cílem výzkumu je charakterizovat vliv propagandy na tuto sociální síť a zároveň i na aktivních uživatele VK. Autor se také zabývá otázkou, jestli rostoucí přítomnost propagandy může vést k tomu, že významná část uživatelů zcela danou platformu odpouští.

Následně bylo prozkoumáno šest významných komunit (RIA, LIFE.RU, RT, REN TV, RBK and Lentach) a autor dochází k závěru, že průměrná přítomnost propagandy na VK v komentářích těchto komunit je 24.6 %. Mimo toho autor také popisuje nejčastější tendencí spojené s vývinem komentářů se zřejmou propagandou. Výsledkem toho je závěr, že největší část propagandy na VK je generovaná reálnými lidí, nikoli umělou inteligenci. Důvodem k tomu závěru je aktivnost těchto uživatelů, tím pádem je významnější část propagandy generována během pracovních dnů než o víkendech. Kromě toho, po provedení rozhovorů a analýze myšlenek rusky hovořících, autor dochází k závěru, že uživatelé nejsou ochotni odpouštět síť kvůli osobní preferenci této sítě i přesto, že procento přítomnosti propagandy je opravdu obrovské.

Klíčová slova: počítačová propaganda, teorie diskurzu, rusky mluvící, VK, smíšeny výzkum, komparativní analýza, politická agenda

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List of abbreviations

BBC	British Broadcasting Company
CEO	Chief Executive Officer
CNN	Cable News Network
DI	Democracy Index
FBI	Federal Bureau of Investigation
G7	Group of Seven
G20	Group of Twenty
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
IT	Internet technology
RT	Russia Today
TASS	Information Agency of Russia
TV	Television
USA	United States of America
USSR	Union of Soviet Socialist Republics
VK	Vkontakte
WWW	World Wide Web

1 Introduction

In the modern world, the presence of the phenomenon called "computational propaganda" is becoming more and more visible to users across different platforms of social media. Following its growing presence and significance, the phenomenon has already been researched, with its impact analysed and described in the Western hemisphere in English-speaking communities. However, it is still yet unknown how users in Russian-speaking communities built around social media react to the overwhelming presence and relatively high frequency of information containing bits of computational propaganda, also known as *fake news*. The author, as a former user of Russian social media, has a genuine interest in analysing the phenomenon.

In addition, it is also wise to think of whether the impact of related algorithms is crucial in terms of the effect that they produce on the user experience of individuals using applications that are extremely popular in Russian-speaking societies. Of course, it is crucial to think about the problem in the context of political instability and turmoil, whose severity is becoming more and more visible for observers outside of the community as well as for people going through it daily.

Nevertheless, social media long ago became an integral part of almost everyone's daily life, and it is vital to understand how people can exploit vulnerabilities of those applications to persuade and enforce target audiences to follow an offered political agenda. All in all, the author's research is extremely relevant in the context of recent events: the attempts to intervene in other communities using fake news and computational propaganda have been rising in numbers over the past years, and it is crucial to understand the mechanism, meaning, purposes and also the effect that those clandestine techniques have on societies built around social media in Russian-speaking communities.

2 Objectives and Methodology

2.1 Objectives

This diploma thesis explores the strategic use of computational propaganda or 'fake news' discourses in Russian-speaking communities using a mixed-methods approach grounded in discourse theory. In context, there have been previous studies that have already focused extensively on the political elite within Western or Anglo-American typologies of 'fake news'. However, in Russian-speaking countries, it is not yet clear whether or how computational propaganda influences the political public sphere, where social media platforms serve as a growing tool of discourse. In other words, this thesis aims to develop a typology or metric, which can shed light on how Russian speakers view computational propaganda in relation to their political and social lives.

The objective of the following thesis is to analyse the impact that computational propaganda has on users actively utilizing Russian social media platforms and on communities built around those platforms and answer the question of whether the presence of aggressive computational propaganda can lead to the eventual abandon of a social network based on the example of VKontakte. Apart from that, the author seeks another objective to quantify the presence of computational propaganda and also to understand if messages containing computational propaganda are generated by artificial intelligence or humans working for affiliated institutions. Effectively, the author's objectives can be summed up with the following series of research questions that are answered in the diploma thesis:

1) What is the average presence of social bots in percentage terms in the biggest news communities on VKontakte?
2) How do Russian speakers perceive computational propaganda, and can it prompt them to abandon the network?
3) Are social bots on the select social media platform managed primarily by humans or artificial intelligence programs?

2.2 Methodology

The methodology of the work consists of both quantitative and qualitative methods, whereby the use of a mixed methods approach will be incorporated. The qualitative approach will be represented by a series of semi-structured interviews with participants (subject matter experts) from three cases (countries), by which a coding method (thematic or narrative) will be applied to draw correlations from the data. The quantitative part of the project will consist of a content analysis with data from the Russian-speaking social media platform VKontakte, a popular mechanism of mass communication in Russian-speaking countries with a help of specific script to capture comments published by users.

Following the content-analysis, the author will focus on drawing insights from data using statistical indices, such as seasonality index and chain index. These findings will be used in tandem to explore the topic and draw conclusions regarding the usage of social media applications and their potential to influence political discourse in Russian-speaking communities. For the pertinent statistical analysis, the author uses basic techniques described by James (2013).

One of fundamentals statistical measures used by the author for the analysis is *mean*, which is calculated according to the following formula:

$$\overline{x} = \frac{\sum_{i=1}^{n} x_i}{n} \tag{1}$$

In addition to the calculation of the mean, the author also considers the *chain index* to explain daily changes in the number of comments. The *chain index* is calculated according to the following formula:

$$\textbf{\textit{Chain Index}} \ (\%) = \frac{X_n}{X_{n-1}} * 100 \tag{2}$$

Moreover, the author also incorporates the technique of seasonality analysis, where *seasonality indices* for the days of the week are calculated.

$$\boldsymbol{Seasonality\ Index}\ (\%) = \frac{Averages\ of\ periods}{Grand\ Average} * 100 \qquad (3)$$

According to the seasonality index, the author can draw essential insights about the tendency of users to publish comments. Whenever the index is above 100%, it means that activity for a particular day of the week is higher, while the value of the index lower than 100% suggests that activity is lower. For a better interpretation of the results of seasonality analysis, the author subtracts 100% or 1 from calculated values in order to better visualize a decrement or an increment for a particular day compared to the average activity.

3 Literature Review

3.1 Computational Propaganda

3.1.1 Concept

"All propaganda is lies, even when one is telling the truth."

George Orwell (Orwell, 1942)

George Orwell, whose quote serves as the foreword to the following thesis, became famous for writing an anti-utopian novel that shed light on a prototype of a society of the future where the state sets total control over everything that inhabitants of the country do, what they think about, and what they say. Furthermore, the fictional state, in a sense, encourages its people to follow a particular role model where an individual blindly follows the main political agenda while being highly influenced by propaganda. In fact, 1984 served as a precaution rather than an instruction, and little could the author of the novel, George Orwell, imagine that in less than almost 75 years after publishing his famous novel, the information society and technological progress would extend their large digital hands to offer political regimes and different political parties a new way of influencing one's choice and manipulating with political preferences of masses with the help of computational propaganda.

Computational propaganda, according to Oxford University, is *the use of algorithms, automation, and human curation to purposefully distribute misleading information over social media networks* (Woolley, 2018). It is vital to understand that any government, independently of the kind and nature of the main political ideology used and also regardless of whether it is a highly liberal or a conservative one, seeks many fundamental objectives, and re-election is among the most important ones (De Haan, 2014). Almost certainly, among the main methods used by governments, there are those that help the authorities to persuade the country's inhabitants to believe that the country is moving in the right direction under the rule of the current government and, quite often, finding an effective and, what is more important, a fruitful technique is a relatively complicated and time-consuming process.

Nevertheless, the transition from industrialized societies into the information ones with the help of the technological progress transformed every imaginable corner of the world. Now, people are offered a chance to find their target audiences wherever they wish under the condition that information will be distributed on the platform widely used by the community and in the language understood by audience. The growing importance of social media increases not only the role they play in the lives of people, but also increases the frequency with which political campaigns, movements, parties, and regimes tend to use those platforms to spread their ideas. However, spreading the information and justifying one's views usually has no boundaries, and quite commonly, those spreading propaganda through social media, tend to distort the real picture and generate information containing "fake news", i.e., purposefully altered bits of information and facts that are not true and serve as a tool for damaging the reputation of people and organizations against whom they are actively being spread. The logic behind it is quite simple – by vilifying the opposing party or ideology, institutions actively engaged in the use of computational propaganda could quickly gain the affection of masses influenced by them and, as a consequence, win followers or, what is more important when talking about parties and governments, voters' preference (Gelfert, 2018).

Undoubtedly, the effect of computational propaganda can differ from society to society as its success might be significantly affected by culture, the number of alternative and independent media available in the country, recent history, and the current role social media play in the daily life of people. Regardless, recent studies prove that computational propaganda is present almost everywhere, including also the countries which top the lists of the most liberal and democratic ones. Yet, there is one significant difference related to those more democratic regimes– the more independent media a country has and more freedom of media there is in the country, the less obvious this propaganda becomes as people become more sensitive to obvious cases of propaganda (Glaser, 2013). One of the recent examples is the case of the French Elections in 2022, when one of the candidates, Éric Zemmour, reportedly relied on computational propaganda on Twitter to persuade more people to vote for him thus gaining votes and affection of masses (Carpentier, 2022).

So far, the French presidential candidate is definitely not the only individual or representative who saw an excellent opportunity in using computational propaganda. By far,

there has been almost no doubt about the existence of cyber troops – specially trained units or teams whose main job is to constantly produce bits of information by the agency hiring them. All in all, it is possible to classify those troops according to the type of coordination they have:

- Decentralized - sponsored either by particular individuals or companies pursuing a political goal like getting elected. In this case, the information that is actively being spread may vary from one unit to another.
- Centralized - cyber troops serve their purpose in the name of an entire political regime of a given country, and quite obviously, there are almost no deviations from the main agenda set for all units.

A recent report from Oxford from **Figure 1**, indicates a list of countries with the highest capacity of cyber troops. Among them, it can be clearly seen that countries with absolutely different statuses of democracy all share something in common – they do all, to some extent, rely on computational propaganda but with just one exception: whenever a country tends to have a lower index of democracy and liberty (see **Figure 2**), this country is considered to be closer to authoritarianism rather than to a full democracy, e.g. Russia, China, and Saudi Arabia. Effectively, cyber troops of those countries and similar regimes are classified as centrally coordinated ones while, on the other hands, countries classified as democratic ones, tend to have primarily decentralized coordination (Bradshow, 2020).

Figure 1, countries with the highest capacity for cyber troops

HIGH CAPACITY					
Country	**Recent Activity**	**Status**	**Coordinated Cybertroop Team**	**Resources Spent**	**Coordination**
China	✓	Permanent	✉	💰	Centralised
Egypt	✓	Permanent		💰	Decentralised
India	✓	Permanent	✉	💰	Centralized
Iran	✓	Permanent		💰	Centralised
Iraq	✓	Permanent	✉	💰	Somewhat Centralised
Israel	✓	Permanent	✉	💰	Centralised
Myanmar	✓	Permanent	✉	💰	Centralized
Pakistan	✓	Permanent	✉	💰	Decentralised
Philippines	✓	Permanent	✉	💰	Centralized
Russia	✓	Permanent	✉	💰	Centralized
Saudi Arabia	✓	Permanent	✉	💰	Centralised
Ukraine	✓	Permanent		💰	Centralized
United Arab Emirates	✓	Permanent	✉	💰	Centralised
United Kingdom	✓	Permanent	✉	💰	Decentralised
United States	✓	Permanent	✉	💰	Decentralised
Venezuela	✓	Permanent	✉	💰	Centralized
Vietnam	✓	Permanent	✉	💰	Somewhat Centralised

Source: Bradshow, 2020

In other words, it is wise to highlight once more that computational propaganda is quite likely to be present in all kinds of regimes, but when talking about countries with more freedom and pluralism, it is still fair to conclude that cases of computational propaganda there are primarily driven by individual candidates and political activists trying to improve their electoral situation. Clearly, the question of computational propaganda is quite ambivalent, and the world behind it is nonetheless ambiguous, too, so the author will continue in the next chapter focusing on a more detailed breakdown of the goals behind computational propaganda and traditional propaganda in general, according to other studies (Bradshaw, 2020).

Figure 2, G20 economies classified by the index of democracy

G20 economies by GDP and by DI score and ranking	DI 2021 score	DI 2021 rank
United States of America — 22,752	7.85	26
China — 17,901	2.21	148
EU27 — 17,153		
Japan — 5,005	8.15	17
Germany — 4,165	8.67	15
United Kingdom — 3,169	8.10	18
India — 3,031	6.91	46
France — 2,972	7.99	22
Italy — 2,122	7.68	31
Canada — 1,917	8.87	12
South Korea — 1,794	8.16	16
Russia — 1,631	3.24	124
Brazil — 1,601	6.86	47
Australia — 1,579	8.9	9=
Mexico — 1,242	5.57	86=
Indonesia — 1,122	6.71	52
Saudi Arabia — 789	2.08	152
Turkey — 639	4.35	103
Argentina — 437	6.81	50
South Africa — 408	7.05	44

Nominal GDP US$ bn 2021 (est.)

Legend: Full democracies, Flawed democracies, Hybrid regimes, Authoritarian regimes, No data

Source: The Economist Intelligence Unit, 2022

3.1.2 Goals

When thinking about the concept of computational propaganda and propaganda as a whole, it is fair to say that there is no way of defining a universal goal for spreading propaganda in society without defining the set of sub-goals that are pursued alongside it. Before defining those goals, it is essential to mention that computational propaganda is just a form of propaganda and specifying a particular set of goals that prevail only within the concept of computational propaganda without any relation to the original concept of propaganda itself is not sensible, since one is just a form of another broader and much complex concept. Thus, it is possible to say that any propaganda, regardless of its form and nature, has two particular sub-goals – neutral and fabricating. The neutral goal of propaganda is about shaping, strategizing, and communicating a political message in such a

way as to persuade people, a specific kind of audience, or even an entire nation to act in a particular way. Upon taking this action and sending a particular message to the masses, institutions spreading propaganda proceed further and take a look at the way how people would respond to those messages shaping a general opinion about a particular phenomenon. Then, those "agents" and institutions assess the result and, in the case, if it is not satisfying and there are no changes in the way how masses think, the system of communication or the method used is recalibrated so that the result could potentially improve (Jason, 2015).

The other goal of propaganda lies in fabricating knowingly untrue information. By doing so, people, organizations, and even phenomena whose presence or influence seems rather harmful and dangerous in the eyes of the ruling party get discredited in the eyes of society. The process of discrediting an opponent or alien ideology boils down to the repercussion that society willingly starts to follow a particular role model while also having a strong belief that alternative ideas are simply harmful or even dangerous to their world whose security and prosperity can be ensured by the domestic approach familiar to them – the only true and rightful one, according to people believing in this kind of propaganda (Jowett, 2018).

Undoubtedly, two goals sometimes tend to go in the foot with each other, thus leading to the ultimate one – getting as many people as it is possible to believe that someone's agenda is true while the other one is not only dire but also morbid to their society. People and societies which are highly affected by the presence of propaganda and, more importantly, societies where propaganda cases are relatively successful, i.e., goals mentioned above are being successfully met, tend to lack an essential process as critical thinking. Critical thinking is actually something that helps people to take a look at the same phenomena through different lenses and decide for themselves what is right and what is wrong. As it can be assumed, the whole presence of such a process as critical thinking among ordinary people is seen by those agents as one of the biggest obstacles since the desired effect might not be fully reached due to the fact that those people would be capable of distinguishing between

unbiased and biased communicated messages and the ultimate goal will not be achieved (Paul, 2006).

Figure 3, goals of propaganda
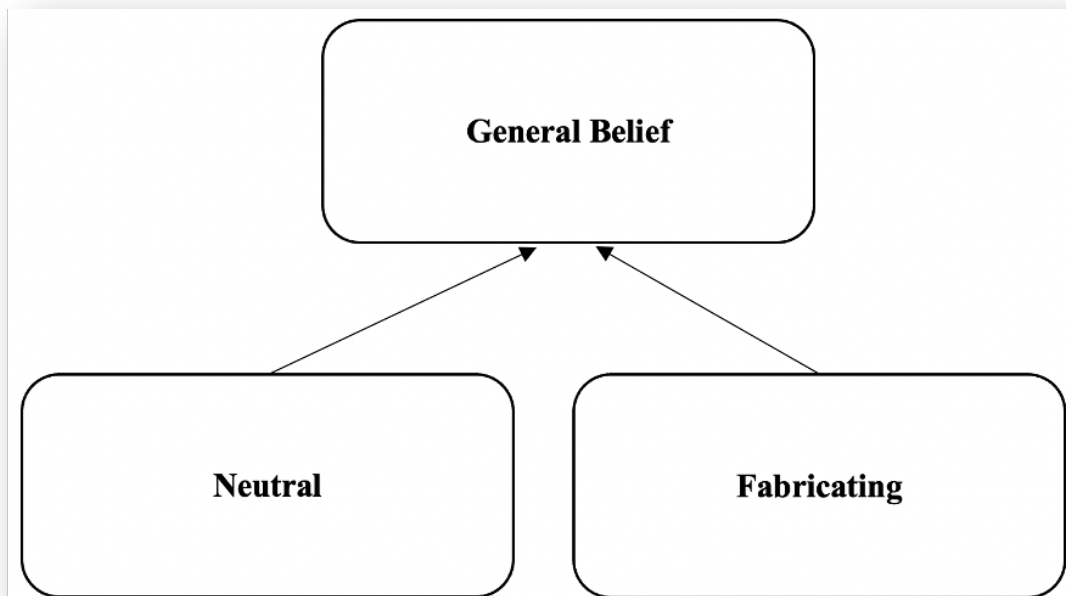
Source: Jason, 2015

As was described above, propaganda does not only increase the popularity of a particular movement or agenda, but it also creates the black and white world – a society where there is just one ideology or opinion that is always the right one, and on the other hand, there is another one which is poisonous and contagious for the environment and must be avoided and eradicated at all costs. Clearly, those goals are not always being met since they largely depend on the list of factors, including recent history, traditions, culture, and the chosen method. Still, when talking about computational propaganda, it is imperative to understand one aspect that makes this kind of propaganda different from others – a necessary condition for delivering any computational propaganda is the presence of the Internet, whereas platforms, where propaganda is actively spread are all connected to the world wide web (WWW). Therefore, it is possible to come to the conclusion that due to the Internet, agencies and institutions actively using propaganda can not only influence the domestic population on popular local platforms, but they can now also try to meddle with the domestic affairs of foreign countries and promote a particular point of view that is beneficial for them. In other words, among the two main goals of traditional propaganda, there emerges the third

goal that can also be pursued thanks to the very concept of computational propaganda, and that is intervening in foreign societies in order to manipulate with opinions of foreign nationals in such a way that it would be beneficial for the country launching a propaganda campaign. Over the course of the previous decade, it is possible to distinguish major cases of computational propaganda campaigns that had not presumably been launched by local institutions but from institutions outside of the targeted country – Taiwan and a massive social campaign against their president in 2017; the USA and the devastating attacks against Hilary Clinton that presumably cost her a presidency in 2016; Cyber-attacks against Ukraine where the initiators of the attack were pursuing everyone to believe that the tragedy of MH17 (a civil plane shot down) was caused by the Ukrainian negligence (Jamieson, 2020).

The author used the word "presumably" in the previous paragraph for a straightforward reason – even though it might be quite logical to assume who is the one behind those campaigns, it is, in fact, very complicated and almost impossible to put the blame as well as to put official charges against someone in those cases. Why so? The International Law is concerned, and the very essence of the international law leads to the situation, where there are practically no ways of forcing one country to change the way how it acts without breaking the principle of their sovereignty. For this purpose, sanctioning them seems a logical choice.

In addition to the goals mentioned above, it is possible to distinguish a narrower set of goals that does prevail in computational propaganda specifically, and those goals are:

1) Actively supporting the government (pro-government strategy)
2) Attacking opposition (anti-opposition strategy)
3) Distracting (trying to shift the focus of the audience from the problematic topic)
4) Suppressing (trying to shut down those public opinions that go against the desired ones)
5) Polarization (dividing societies by polarizing opinions and setting people against each other) (Bradshaw, 2020).

3.1.3 Techniques

Numerous studies justify the assumption that propaganda has existed for ages, if not for centuries. Clearly, it is pretty apparent that propaganda that took place 500 years ago is much different from the one that is currently seen on a daily basis (Clack, 2021). In fact, the goals might have remained the same, but one crucial difference took place – the level of technology. The main objective of technology, i.e., the set of knowledge, skills, experience, and techniques, is to offer people a chance to change and transform the environment to create tools, machines, products, and services to meet their needs and desires. Evidently, pursuing one's political goals and ambitions has something to do with the way how people interact with technology and what output they desire to get from it (Clack, 2021).

Technology does not only offer those institutions an option to generate bits of information containing propaganda and related messages, but technology also offers them a chance to be heard by large masses and target groups. Clearly, the 20th century's level of technological advancement was not offering political regimes a chance to be heard in every corner of the country in a similar manner to how it is possible today, so the regimes back then were getting used to methods that had proved to be the most effective ones back in the past. Thus, it is possible to distinguish that in the paperback age, when journals, tabloids, and papers were the only source of information, the most effective way to spread propaganda was through caricatures, pictures, and articles that were to be published and distributed throughout cities (Staal, 2018).

In Figure 4, two examples of caricatures can be seen - one from Nazi Germany and the other one from the USSR. The cases of two regimes that had proven themselves to be highly dependent on the power of propaganda, and this figure shows a perfect representation of how an alien or opposing ideology can be depicted in such a frighting way that people living in those societies would instantly decide for themselves who is the enemy and which party should strongly be supported in order to prevent another party from destroying cities, endangering lives and erasing cultures.

Figure 4, two propaganda machines portraying each other

Source: Hennepin County Library. Digital Collections, n.d.

Nevertheless, as time went on, technology also advanced, and the emergence of television completely changed the way how matters stand with regard to the transmission of messages and information containing literally anything, also including propaganda. Television, which was initially seen as a real luxury to ordinary people, soon became an integral attribute of a typical 20th-century family. Hence, the new degree of propaganda could have been achieved through the direct and daily transmission of meticulously planned reports and stories – people back then were not even required to buy a paper because they could be influenced directly in their homes. In a sense, television can be considered the first-ever case of computational propaganda to some extent since an advanced technology was firstly ever used for the purpose of sharing biased information to listeners, regardless of their desire to hear given information. After all, propaganda tends to prove itself to be highly effective when a similar message is being repeated over and over again over an uninterrupted

period of time. Quite evidently, television was a perfect tool for making the goals mentioned in the earlier chapter come true (Clack, 2021).

All in all, as time progressed, television was soon replaced by the fruit of the Internet – social media. Platforms, where all kinds of information and personal experience could be shared and easily accessed, were seen by authorities as a brand-new toy to manipulate one's opinion and beliefs, and soon, propaganda slowly reached social media and started spreading there at a high pace. Clearly, all methods and platforms for spreading propaganda and influencing people use tools whose main purpose was rather different (television was initially created to keep people entertained, and social media for connecting people from all over the world and sharing experiences). As it was mentioned earlier, propaganda campaigns use platforms that are most popular among people at particular times. Given the fact that people do get almost all information from the Internet today, it is quite obvious that modern propaganda does not consider paperback publications as their main platform anymore. Still, it is essential to describe the exact way how computational propaganda tries to make goals mentioned at the end of the previous chapter come true. According to the very same report published by Oxford, among the main methods used in computational propaganda, it is possible to distinguish the following techniques:

1) Media manipulation (creation of fake news and other controlled media whose purpose is to spread lies which is advantageous for another party)
2) Data-driven strategies (use of political advertisements)
3) Trolling (online harassment of anyone whose opinion does not correlate with the one desired by the government or political movement)
4) Mass reporting (coordinated reporting of an individual post or entire independent media that will force social media to either flag or take down accounts of opposition)
5) Amplifying content (active promotion of given content through tools) (Bradshaw, 2020)

Undoubtedly, when comparing computational propaganda with other propaganda techniques used before, it is possible to conclude that this kind of propaganda is highly advanced and can be much more successful given the number of different methods that can be incorporated.

Of course, with such a large span of possible techniques that can flood a given social media platform, it is almost impossible for a regular user not to come across computational propaganda today. Hence, there is a logical question arising from the very description of those methods: can this high presence of computational propaganda and numerous techniques somehow negatively influence the user experience of people using social media in Russian-speaking communities built around the most popular social network called VKontakte? Can an increased frequency of posts with propaganda lead to the ultimate abandonment of the platform on the part of a critically thinking audience? The author will focus on answering these questions in his practical part.

3.1.4   Effect on Society

Apart from the potential abandonment of social media, which is yet to be proven, there is a series of much more dramatic and crucial repercussions caused by propaganda that shaped the history of humankind in the 20th century.

> *"He who controls the past controls the present. He who controls the*
>
> *present controls the future."*
>
> *George Orwell (Orwell, 1949)*

The quote mentioned by the author above is a perfect depiction of what can happen in societies highly influenced by propaganda. Sometimes, and it is possible to find numerous examples in the history of the 20th century, when a given regime was constantly trying to distort the past in order to present it in a given advantageous way that will, later on, be used for justifying a particular action in the future. In other words, whenever propaganda does distort the past, it prepares the ground for meticulously planned political actions that can easily be justified later.

One of the most obvious and horrific examples of manipulating the whole community and forcing it to believe that the main cause of all their misfortune lies in a given minority and making people believe that the whole nation has fallen victim to the dark plot is the Big Lie campaign happened the 1930s in Germany. The Nazi party leaders, who wanted to get rid of the wealthy minority of Jews and nationalize their wealth, launched a massive disinformation campaign where they did blame Jews for plotting against Germans prior to the economic turmoil. As a consequence of this campaign, some Germans who might have not really had anything at all against the minority of Jews slowly grew to hate them and ultimately expulse them from the country or even outrightly kill them. Undoubtedly, there is no way to claim that Germans, as a nation, are prone to any hate or contempt for others, but what had indeed occurred is one of the disastrous drawbacks of propaganda – people are simply following the path paved for them (Welch, 2014).

Figure 5, "the war is his fault." German anti-jew poster

Source: Hennepin County Library. Digital Collections, n.d.

Of course, an example of turning one ethnicity against another is just one of the possible consequences of propaganda. Undoubtedly, the worst possible drawback of brainwashing an entire society can be a direct armed confrontation between countries or even alliances. Given the scale and audiences that can be targeted by computational propaganda, it is downright frightening to even assume what dispute could occur as a consequence of intensively contaminating a society with computational propaganda. In addition to this powerful potential to cause wars and increase hate between different nations, it is also possible to say that one of the most considerable modern consequences of computational propaganda is its ability to directly meddle with given elections by spreading disinformation against one's election opponents. What, in fact, could be even worse is the fact that an initiator of the given campaign can even be another state that is trying to directly intervene in the foreign elections so that a candidate supported by this country and loyal to it will be elected and that he would follow a particular political agenda that is beneficial for the country that had previously won the elections for him. Of course, the most obvious example of this is the United States presidential election in 2016 and the events that followed later involving Russia (Baines, 2018).

All in all, among the three consequences mentioned above, one consequence is becoming more and more widespread in the 21st century and is the creation of an information bubble and further isolation of communities. The information bubble is the sphere of information that people in a country currently have access to and sometimes, regimes try to strictly limit the access of users to foreign sources and media. In highly oppressive regimes that tend to use propaganda and rely on it as a primary tool for increasing their supporters, the creation of this bubble and further isolation of the domestic population is ubiquitous, and the main purpose behind it lies in isolating people from the outer world and making them perceive information from only government-approved sources. By accomplishing this, it would inevitably lead to the reality where the domestic population can be easily manipulated as well as can be easier lied to. Furthermore, locals can even stop trusting other foreign independent media or sources of information while believing that they are untrue, and the only truth is spread in their information bubble by the approved media (Woolley, 2018).

However, there is also another concept that is needed to be mentioned in the context of further isolation of communities on the Internet. Sometimes, social media and personalized

web themselves isolate people and communities by creating a "filter bubble" – the concept suggesting that search engines and social media are equally able to isolate people by offering them personalized content based on their searches and preferences while failing to offer an alternative one. Thus, people become entangled in the situation, where they are unable to break the bubble, and it leads to serious polarization of communities and the emergence of biased media. The mentioned phenomenon is believed to have had a significant influence on Brexit, Brazil's elections, and the US elections in 2016 (Bruns, 2019).

Clearly, there are many serious and crucial consequences that inevitably have drawbacks on all spheres of human activity within communities that might even include putting the fate of an entire country at risk if the candidate lobbying the interests of another state wins either a seat in the Parliament or the presidential race. In the next paragraph, the author will focus on the Russian-speaking community and the main platforms used there.

3.2 Russian Social Media

3.2.1 Background

Back in the middle of the 2000s, the active expansion of the Internet and digitalization of societies gave light to numerous start-ups whose main idea was to allow people from different parts of the country or world to seamlessly connect with each other and share personal experiences, opinions, and beliefs.

Following the series of start-ups being launched and some closed, Facebook came and became the unanimously claimed leader out of all social media. The network slowly started to set its foot into other countries and societies, but quite frankly, the platform did not really succeed in Russia and other Russian-speaking countries due to various reasons, including scepticism about foreign intervention into private lives, meticulous moderation with filtering of the content and bad localization alongside with just a few contents provided in Russian which is either a native language for people living in the post-soviet environment or lingua franca for others (ComScore, 2009).

Thus, the market was almost empty, and local developers came up with various ideas of how to create a successful analogue of Facebook for the post-soviet community. In March

of 2006, the first-ever Russian-speaking social media platform was launched under the name "*Одноклассники*" meaning "*classmates*" in English. The primary purpose of this social network was to connect people who were once either friends or classmates and who were unfortunately scattered all over the vast post-soviet area without any means of getting in touch with each other (Chvanova, 2014).

Following the creation of the pioneer, in October of 2006, another social network known under the name "*ВКонтакте*" meaning "*in touch*" in English entered the market. The platform, which is also the main focus of the following thesis, was created by Pavel Durov, who had largely been influenced by the success of Facebook, so he decided to create something similar while at the same time focusing on the specificity of his native community while also not narrowing down the platform's audience, as Classmates did by establishing a social network for primarily connecting once parted aged and grown-up people.

Figure 6, VK and Facebook interface comparison
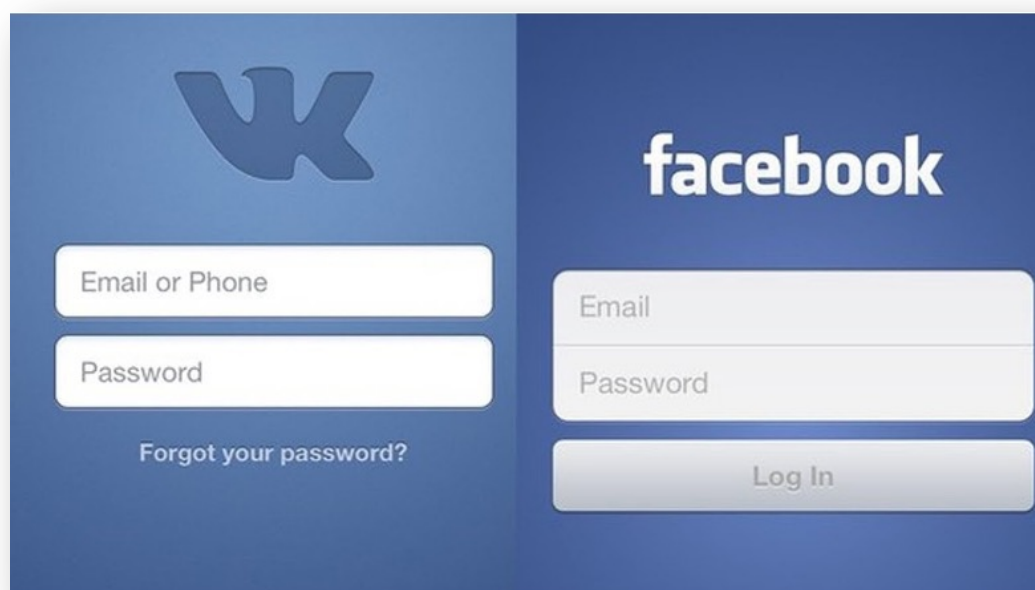
Source: VKontakte, 2020

Shortly after the launch of VK, the third founding stone of Russian social media was introduced under the name of *"Мой мир"* or *"my world"* in English. This platform served

as a complementary tool for finding people and sharing information alongside offering people a chance to create their own email address associated with their "world."

Thus, the Russian-speaking community was influenced mainly by three social media platforms that were competing with each other. Over time, however, VK has proven itself to be more advanced and advantageous due to the large number of investments made into expanding the media from an ordinary messenger to a multi-functional platform where people would be given an opportunity to do literally anything, starting from playing simple flash games, sharing videos and music without any moderation nor control at all.

Figure 7, convergence of audiences
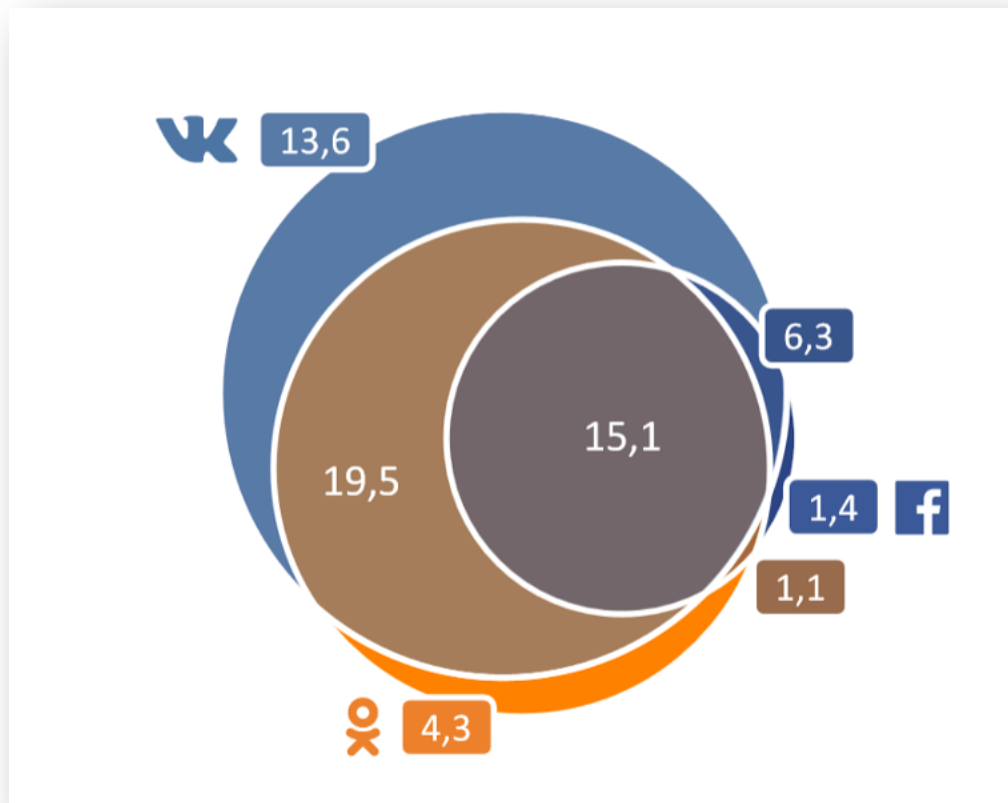
Source: VK Business, 2015

Nevertheless, the growing popularity of one social media platform does not necessarily mean that people will be using only one. As it can be seen in **Figure 7**, many people from Russia did, indeed, have their accounts on numerous platforms simultaneously, as of 2015.

Still, it is possible to draw a conclusion that other social media did lose in the long-lasting battle against VK, and by 2015, the active audience of VK continued its steady growth while the audience of other social media started to shrink by 2014, as it can be observed in **Figure 8**.

Figure 8, audiences of Russian social media platforms over time
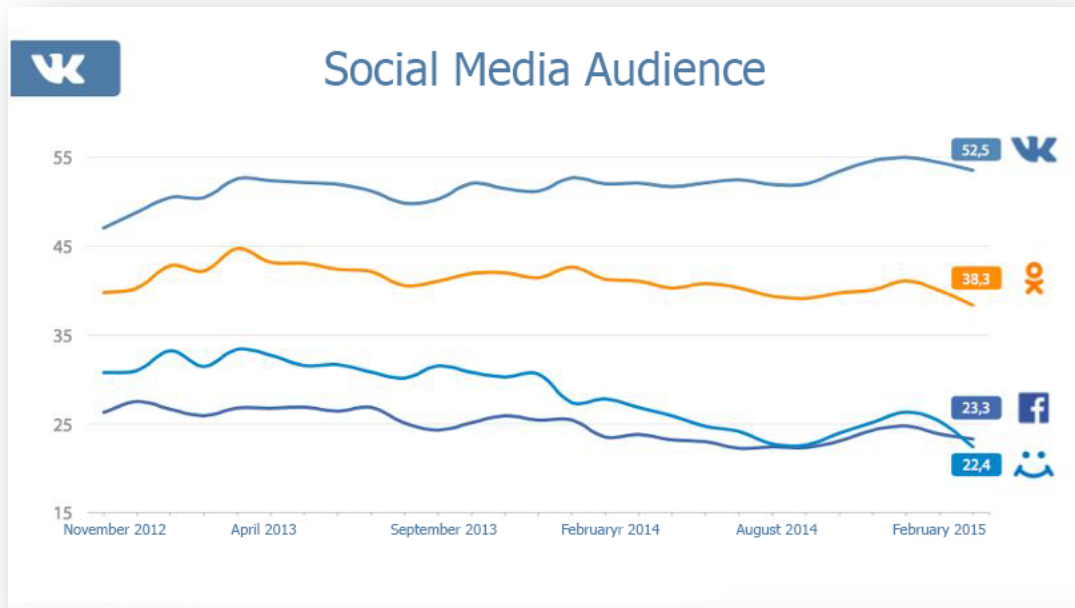
Source: TNS, 2015

Hence, it is possible to conclude that, indeed, VK became the most popular and influential social media platform for Russian Speakers starting from 2014, and this evidence justifies the author's choice of VK as the main target platform for this diploma thesis.

3.2.2   VKontakte

3.2.2.1 Governance

After briefly introducing the world of Russian social media and the establishment of its three founding stones, it is essential to take a look in more detail at the development that was taking place inside the social network of the author's interest. VK, which was originally created by one IT specialist who was a fresh graduate from Saint Petersburg State University, was initially planned as a forum access to which would have been offered

exclusively to students of his alma mater. After realizing the potential of his startup, Pavel Durov changed his vision and started to invite his friends and acquaintances, and by doing so, the network expanded until eventually succeeded in becoming more and more influential thus becoming a major platform with active users from all over the post-soviet world (Enikolopov, 2020).

As it usually happens, the creator of the platform, when seeing a real opportunity to become the number one social media across Russian-speaking communities, recruited a team of young specialists consisting primarily of his former classmates. Expansion of the network created a need for maintaining the social network and further improving it. At this point, it is possible to say that the team and managers running the social network did not really think about moderating and filtering out the content shared on the platform since the head executive of the company, i.e., Pavel Durov, had a strong belief that everyone should be given a completely free choice of what to do, what to write and what to share regardless of the way how society would see it As time went on, VK became the number one platform with over 100 million active users, and according to the CEO of the company, the Russian government proposed him a deal whose essence was to share the private information of users affiliated with the Ukrainian Revolution with the Russian Federal Service of Security. Pavel, according to him, had no other choice but to sell all his shares and step aside from the position he had been occupying for almost seven years (Ermoshina, 2021).

Thus, when summing up the reign of the creator of the social network over his start-up, it is possible to say that the main principle was to let everyone share whatever he or she wanted and not anyhow cooperate or obey recommendations given by any government. Eventually, Pavel's controlling share was bought by the Mail.ru group, and as a consequence, the social network started to slowly impose more control over publications that somehow violated someone's personal views. In addition, the platform started to actively follow government regulations by banning accounts and groups that were declared extremist or terrorist according to the Russian municipal and district courts, as well as courts located in other countries upon their request (Ermoshina, 2021).

All in all, from being a highly liberal platform that did not at all have any regulation or moderation, VK slowly transformed itself into an ordinary social platform that does obey

government regulations and suggestions on banning users and deleting publications, like Facebook and others. At last, it is believed that the degree of liberalism that prevailed in VK made the ascension possible, and presumably, it was one of the main reasons for choosing VK over Facebook. Unfortunately for those preferring VK because of this, the social network eventually turned out to be something quite similar to Facebook, i.e., a strongly moderated social network (Ermoshina, 2021).

3.2.2.2 Statistics

When thinking about a particular social media platform in the context of assessing the importance it has for a given community, it is wise to compare the active audience with other popular sources of information and mass media. As it might be easily assumed, television did not disappear entirely even despite the fact that broadcasters had to count with the presence of social media platforms and come to grips with an actively shrinking daily audience that was slowly shifting to social media. Nevertheless, as it can be seen in **Figure 9**, VK in 2015 was, in fact, reaching out to the same number of people as Russia's most important TV channel – "*Первый*" meaning "*the First*" in English. Clearly, it does prove the fact that Russians, presumably the younger generation, switched their focus from more traditional and somewhat controlled television broadcasts to a more liberal platform where everyone back in 2015 was still given an opportunity to express himself in any possible way he would like to (Ermoshina, 2021).

Figure 9, VKontakte compared to the central television in 2015
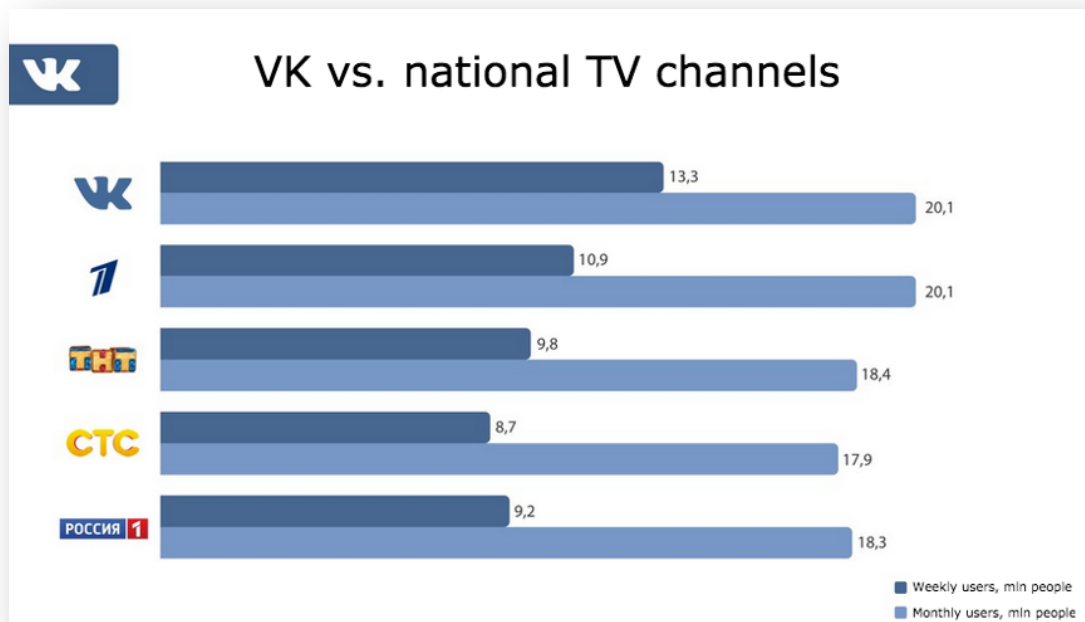
Source: TNS, 2015

Another important statistic that needs to be taken into consideration is the demographics of VK – the distribution of people using the platform according to their gender and, what is more important, their age. Following the distribution shown in **Figure 10**, it can be observed that users below represent a very low share of people using VK on a daily basis. This piece of statistics is especially important when thinking about the platform in the context of its potential utilization for spreading propaganda, largely the political one. When the overwhelming majority of users are already at the age where there are able to actively participate in the political life of a given state and in the overwhelming majority of Russian-speaking countries, this is the age of 18, the platform becomes rather attractive for institutions specializing in propaganda.

Nevertheless, even the fact that a given part of VK users is represented by teenagers would not necessarily spoil the whole strategy of manipulation – influencing and manipulating teenagers who, in just a matter of years, would become voters and active participants of the political lives themselves is also an advantage that could be seized by institutions targeting social media platforms (Golovchenko, 2022).

Figure 10, demographics of VK in 2019
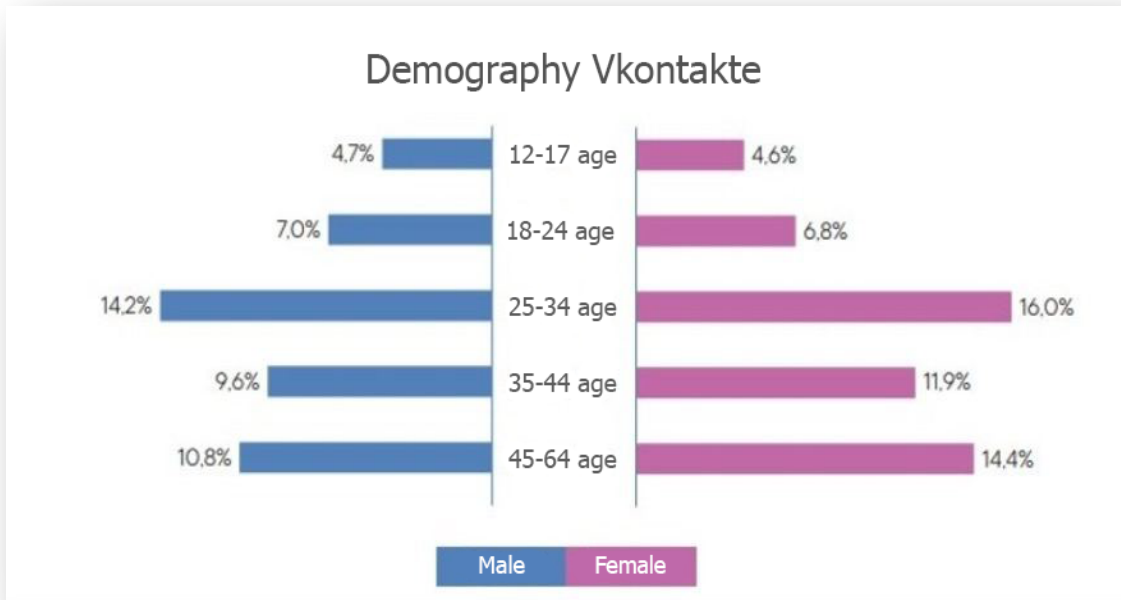
Source: VKontakte, 2020

Finally, it is crucial to take a look at the latest statistics reflecting the average number of active users online per month. Unfortunately for the network, beginning in February 2018, VK started to lose its users dramatically. Of course, the growing popularity of other social networks such as Instagram, Twitter, and TikTok can partially justify the decrease in the audience since people tend to embrace new platforms that are getting trendy, while the ones to which they are more accustomed like VK that had already been used for ages becomes less attractive.

However, there can also be another explanation for this decrease in users. Given the fact that the first documented and identified cases of computational propaganda had been spotted prior to that time, it is also quite possible to assume that the number of messages with computational propaganda surged and it led to the situation when conscious and educated users capable of spotting obvious cases of propaganda started to choose other alternatives over the network full of hidden messages and propaganda. Another explanation for the decrease in the number of active users and also a piece of partial evidence to support the assumption about the amount of propaganda is the fact that starting in 2017, VKontakte was

officially banned in Ukraine. Clearly, the decision might have had something to do with the growing tension between the countries, but the main justification was the security of Ukrainian citizens, according to the communiqué of the Ukrainian authorities (Golovchenko, 2022).

3.2.2.3 Tendencies

In light of recent circumstances involving the outlaw of Meta corporation, international social media are no longer welcome in Russia, so the importance of VKontakte, as an alternative platform, is slowly growing, and its popularity is slowly returning (Nashgorod, 2022).

Undoubtedly, the main reason behind the reoccurring interest in the platform is not likely to be linked with the surge of the patriotic spirit of the Russian population – the explanation behind the augmentation in the number of active users lies on the surface. The recent ban of Instagram and Facebook did not only deprive people of alternatives often full of unique and independent content shedding light on reality from another perspective, but it also played a crucial role in helping VKontakte to regain its popularity in the long-term horizon (Mizrahi, 2022).

Presumably, if the Russian government will not stop there and continue blocking other international platforms and social media such as TikTok, Youtube, Twitter, and so on., it would inevitably lead to a further increase in the numbers of users in VKontakte and despite the overall harm and dissatisfaction caused by the potential isolation of the Russian Internet, there will always be one big player in the market that will definitely win from the presumed situation, and that is VKontakte. Clearly, based on the updates and services that have been introduced over the course of the last three years, it becomes pretty clear that the platform is trying to provide an alternative to already existing services, each offering a unique function. Still, the popularity of those services has not yet reached the desired level of popularity (Mizrahi, 2022).

3.3   Social Bots

3.3.1   Mechanism

When computers were first introduced in the middle of the 20th century, their main purpose was to do what humans could not – perform multiple processes at the same time and, by doing so, help people to accelerate the speed of all operations significantly. Indeed, it is possible to unanimously conclude that computers did succeed in this particular domain, but people did not stop there and came up with another question: *"would ever be a computer able to communicate like a human being and imitate human behaviour?".*

One of the first ever computer engineers and the founder of the first computer – Alan Turing, once developed a unique test also known as the Imitation Game, whose main idea was to test if a given artificial intelligence or a computer is really able to communicate like a human and remain undistinguished by a genuine person (Piccinini, 2000). Eventually, many programs tried to pass the test, but all of them failed until the year 2014 when a particular chatbot finally passed the Turing test (BBC News, 2014).

All in all, the time went on, and there is undeniably no need to explain the fact that computers and artificial intelligence both had gone through further development since the year 2014 when Turing's test was finally passed. As of now, there have been numerous reports and observations made by ordinary users and special supervising agencies about the presence of "social bots," who actively participate in open discussions on the Internet by leaving particular comments and messages on the world's most influential and popular platforms such as Twitter, Facebook, Instagram, etc. The mechanism behind those bots is quite simple – a unique program that is linked to an existing personal account uses keywords that had earlier been configured to surf a given platform and naturally leave messages or comments automatically generated from the database (Vasilkova, 2021).

Generally, those comments consist of a given message whose primary goal is to persuade people to follow a particular agenda. However, the ultimate effect surely depends not only on the keywords that had been set but also on the final output, i.e., the imitation of human behaviour. After all, compared to programs and bots, humans are gifted with

something that makes them somewhat unique, and this is essentially the ability to think critically and analyse the information that they receive. Still, despite all, those social bots are relatively effective for quite a transparent purpose: the campaigns involving a large presence of bots and related programs usually possess not just one unit or a team with a couple of social bots, but they actually have thousands if not millions of accounts to which those bots are connected (Hagen, 2022).

The reason behind it is related to the way how the human mind works and how humans generally perceive crowds and massive social movements. According to the crowd effect, whenever people see a given social movement or an uprising that has a relatively large number of people involved, they start thinking that they are indeed right. All in all, because of such a severe deployment and pressure on people with a neutral point of view and with a hesitation to choose a side, those bots pose a significant threat to social media and independent platforms (Reicher, 2012).

All in all, the growing presence of social bots has already been noticed and highlighted by various organizations and special agencies who seek to get rid of the tendency in the Western Hemisphere by integrating special programs or scripts that would help to highlight comments and publications believed to be generated by social bots (Ferrara, 2016). For the purpose of detecting those bots, scientists also suggest using machine learning and natural language processing techniques in order to predict the overall credibility of the user and of the content published by him. The fact that users, scientists and independent agencies try to fight the phenomenon serves as a piece of evidence that many find this enormous presence of social bots on a platform that they actively use somewhat disturbing and irritating or even dangerous. Of course, the practice of highlighting suspicious messages proves itself to be quite valuable but fighting with those bots without the help of social media officials seems like fighting against the wind – individual efforts are fruitless against coordinated campaigns that will keep on generating more and more bots thus replacing the old ones (Wickramarathna, 2020).

In addition to fighting against the phenomenon directly, many scientists took another approach and tried to categorize the activity of social bots instead, also focusing on estimating the approximate percentage of automated accounts. Thus, it was estimated, based

on a small sample of Facebook activity prior to the American Elections in 2016, that the real "bot rate" is approximately 0.06% on Facebook, while on Twitter, it is somewhat around 9% (Santia, 2019). The authors believed a significant difference in the platform's policy towards bots resulted in such a huge difference. While Twitter does not categorically disallow bots, Facebook partially eradicates the problem by ensuring that profiles are represented by actual people. As for the platform of the author's interest, it is essential to mention that the first significant observations of massive bot campaigns on VKontakte were made in 2016, thus suggesting that until then, the social network had not really suffered from this problem (Rezunkov, 2016).

3.3.2 Institutions

As it was mentioned earlier (in the first chapter of the thesis), computational propaganda campaigns can be classified as centralized and decentralized. However, as reports show, the overwhelming majority of reported cases with computational propaganda in the Western Hemisphere are decentralized, thus leading to the fact that those campaigns are likely to have a relatively limited budget compared to centralized, which are primarily funded directly by the government budget or government-related institutions.

Undoubtedly, social bots have become a part of reality for almost every social media platform without exception, but there is something really different in the way how they are coordinated on Western social media and VKontakte. Based on massive evidence, social bots used on English-speaking platforms are primarily represented by programs and scripts, whose mechanism was described in the chapter earlier (Shao, 2017). On the other hand, based on reports and research from independent Russian journalists, the overwhelming majority of social bots on VKontakte are directly operated and controlled by human beings (Novaya Gazeta, 2022).

As the recent investigation from Fontanka (an independent media based in Saint-Petersburg) shows, there are special agencies and their sub-companies hiring people to generate comments and messages to be later on distributed on VKontakte. They do it on a daily basis and thus earn 0.25$ (based on the exchange rate prior to the publication of the investigation) per comment left. Undoubtedly, there is also a portion of automated bots who blindly follow the algorithm and just leave comments whenever a relevant keyword pops

up, but the general tendency is all about engaging real people to work for those agencies (Fontanka, 2022).

The explanation behind the difference in tendencies on VKontakte and English-speaking platforms is quite simple – computational propaganda campaigns on English-speaking social media are quite often driven by decentralized forces or individual candidates who constantly fight with each other to get more votes and support, while the computational propaganda campaigns in Russia are almost entirely driven by the centralized force and government-related institutions, for which there is plenty of fundamental evidence. In other words, it is quite fair to suggest that social bot campaigns in Russia have a tremendous budget that could not anyhow be compared to other cases (Sobolev, 2018).

According to independent investigations and relevant publications from both Russian media and international ones, the main institution behind the computation propaganda in Russia is called the "Internet Research Agency" often referred to as "the Fabric of Trolls." The agency became notorious both domestically and overseas for its boldness and arrogance, as well as for its fearless openness in recruiting people in Russia to engage them in aggressive troll and propaganda campaigns without any attempt to conceal the essence of the job. Clearly, the government might have seen a real opportunity in relying on bots and expanding its network with active financial support (Sanovich, 2017). Experts claim that the agency left a toll on almost all recent significant social and political events, such as the American Elections in 2016 and the debates that preceded the elections, the American elections in 2020, Debates that preceded, the latest Brazilian elections, Ukrainian Elections, G20 and G7 summits, just to mention a few (Kollanyi, 2016).

Undoubtedly, VKontakte, compared to other social media, exists in the same environment as this major player, who is believed to have a relatively unlimited budget and a never-changing agenda. It puts the platform at risk of being highly polluted and affected by the presence of computational propaganda generated by the institution.

3.4 International Legal Issues

The author, upon formulating his main goals and objectives, mentioned his interest in understanding the impact that the presence of computational propaganda could have on individuals and their social and political lives. Clearly, when it comes to individuals living in societies targeted by computational propaganda, it is quite clear that the main focus of any disinformation or fake news campaign lies in engaging more and more people to follow a particular ideology or belief and it should not necessarily be accomplished domestically, but also internationally. Consequently, there is also an important aspect that needs to be discussed individually, and it is the impact on the international community that might arise from those campaigns (Pennycook, 2021).

A powerful disinformation campaign presumably led by the institution mentioned in the chapter before can, as it was proven back in 2016, lead to a severe polarization of a foreign society and thus create a series of solemn drawbacks for an entire nation. Evidently, the situation mentioned earlier is the case of severe disinformation and fake news campaign launched prior to the American election in 2016, and as a consequence of which, the candidate whose defeat had been projected by every single election model and public poll eventually won the elections. Undoubtedly, unanimously claiming that the result of the American elections was significantly affected by an external force is yet too early, but the ongoing investigation indicates that there is enough evidence to suggest that it might be the real case (FBI, 2018).

It may come as a surprise, but there was also another significant event presumably caused by the very same agency that specializes in computational propaganda, and, as it turned out, it included the theft of personal data and putting at risk the cybersecurity of Europe. Over the course of the previous decade, the European Union, its institutions, and international European companies established under the EU law were suffering from devastating cyber-attacks. The trail left by those attackes suggested that the International Research Agency together with Russia are behind them. This partially led to a new legislation and the creation of the GDPR. As it is possible to see, the agency seems to be quite powerful and mighty in terms of getting the desired objective done, but there comes a

logical question – why attack institutions and companies and not focus on the so familiar goals of brainwashing and polarizing societies, but this time in Europe? (Jensen, 2019)

The answer lies on the surface – the overwhelming majority of European countries and societies, if not all of them, do mainly use western English-speaking social media such as Facebook, where the presence of Russian computational propaganda and International Research Agency's backed bots is kept to a minimum. Compared to the environment of VKontakte, there is no way for them to act arrogantly and remain undetected and unbanned on Facebook and Twitter (Wingfield, 2016).

All in all, as recent reports show, there is still a high presence of bots and suspicious accounts on almost all platforms. This problem is believed to have prompted Elon Musk to refrain from buying Twitter due to the fact that the actual percentage of bots exceeds the one officially reported by the company (BBC News, 2022). In addition to this small fact, a recent report from 2021 made by an enterprise specializing in protecting networks from bots suggests that around 64% of all traffic on the Internet from January to June 2021 was generated by bots (Barracuda Networks, 2021). Nevertheless, the author will continue his narrative in his practical part to come up with a relevant conclusion regarding the overall presence of computational propaganda, its repercussions on Russian-speaking society, and the potential negative effect that it might all have on the way how people view the platform and perceive information.

4 Practical Part

4.1 Limitations

The precise methodology of the practical part has already been discussed in the second chapter of the thesis. Hence, it is quite apparent that in order to perform the content analysis and draw relevant conclusions about computational propaganda on VK, statistics obtained directly from VKontakte shedding light on the amount of computational propaganda, the number of social bots with suspicious comments and other metrics are required in order to precisely describe the current situation.

For this purpose, the author has tried to contact the social network's representatives multiple times by email, but all his efforts were fruitless as no reply came on their part. Hence, it can be concluded that VKontakte is not interested in this kind of research, or the company could not get in touch with the author in time due to unknown reasons known only to them and their internal staff.

Another limitation of the research is the number of people interviewed by the author. Undoubtedly, three people are not likely to represent the whole population of given Russian-speaking communities, but it is believed to be enough for those interviews to have an illustrative nature and effect rather than representative. The author believes that the results of the empirical analysis can perfectly be correlated with ideas generated by participants of the interviews.

Thus, the author will perform the content analysis mentioned earlier using a script to highlight suspicious messages believed to be generated by social bots. The author will inspect the social network as an outside observer using all the information available on the surface from open sources. The script itself was created in 2020 by a team of independent IT specialists seeking to eradicate all biased messages and tons of propaganda present on VK. Since then, the developers were able to create a massive database with all messages and comments generated by social bots alongside all suspicious personal accounts affiliated with the phenomenon over the course of two years (Gosvon.net, 2020).

As for the script, it was created based on Java coding language, and its primary function is to highlight suspicious messages and display them to all users who had previously installed the script. The criteria for identifying suspicious messages and users will be discussed in the chapter dedicated to the content analysis later on. Following the analysis, the author will incorporate a couple of empirical techniques in order to reach the final objective. All in all, the author focuses on the mixed-methods approach to delivering his research.

4.2 Interviews

4.2.1 Choice of Participants

When choosing participants for the series of interpersonal interviews, it was important that all of them will have a solid background experience of using VKontakte for at least 5 years, and this was very much the only essential criterion applied during the search for participants.

In addition, based on the very essence of the thesis and its goal to see how Russian speakers in different countries perceive the social network and propaganda-related tendencies, it was decided that each of the three participants would represent a different environment under a prerequisite condition – their native language should be Russian.

Upon thinking about countries with a high presence of native Russian speakers, the choice of the Czech Republic seemed the most feasible and logical due to the presence of a relatively large Russian-speaking community to which the author of the thesis also belongs. By choosing a Russian-speaking person living in the Czech Republic with the background experience of using VKontakte, it would be possible to observe how an individual living in a country with relatively free media and actively using VK at the same time would see propaganda and whether he or she frequently notices it.

The second person chosen was from the Russian Federation and still living there. The selection of an ordinary Russian living inside of the presumed bubble was definitely needed in order to compare his perspective from the inside to the one from the outside.

As for the final person, the decision was made to engage someone from a relatively friendly country to Russia. This country should have been located in the sphere of Russia's interest and considered to be under its partial influence. Ultimately, the choice was made to invite a person from Kazakhstan, because it is probably the best country to fit into the description according to the author's knowledge. The logic behind the final choice lies in seeing if his daily experience with VKontakte is also somehow influenced by propaganda and also getting to know the media used by the person.

Thus, based on the individual criteria discussed above, the author invited three participants: Alexander, a Russian freelancer living in Moscow; Ivan, a Russian living and studying in the Czech Republic and Konstantin, a Kazakh living and studying in the Czech Republic.

4.2.2   Notes on the Process

Before going into a detailed breakdown and analysing the content of the conversations the author had, it is wise to highlight the most important topics and thoughts brought up by respondents.

All interviews were organized through individual video conferences with each respondent, and the average length of conversations the author had was ranging from 10 to 15 minutes. Upon being introduced to the subject and invited to the interview, the majority of participants mentioned the importance of such research in light of the recent circumstances alongside the cyberwar going on between Russia and the Western countries. During the process, the respondents were acting normally and did not seem to be stressed or anxious while answering questions on rather a sensitive topic. In addition to the main series of questions, the author decided to give a final word to respondents by asking if they had any recommendations or requests that the author could somehow realize. Surprisingly, two respondents, namely the one from Kazakhstan and the second one living in the Czech Republic, had nothing else to say nor suggest, while the person living in Moscow asked to keep the content of the interview, as well as his personality in secret out of the fear for his own liberty and future life in Russia.

To begin with, it is worth saying that all three respondents had utterly different points of view on the current evolution of VK. In addition, their opinion about almost everything that was asked during the interviews was quite diverse. However, all of them unanimously agreed on one very important subject brought up during the interview – the negative effect of propaganda and their attitude towards it.

The main assumption of the author was that massive amounts of computational propaganda and their further increase might justify the drastic decrease in popularity of VKontakte at the end of 2010s. Hence, the question of whether VK is better or worse than it was 5 years ago was asked, and two out of three respondents said that the network got significantly worse. When asked to justify their opinion, one (the respondent from Russia living in the Czech Republic) blamed the chaos that is prevailing in all open discussions on VK for negatively influencing the platform, while the person currently living in Russia saw the biggest problem not in the presence of propaganda itself but in the fact that the Russian government sees VK as a propaganda tool and uses it in its own interest rather than keeping the network to its users. Contrary to these two respondents, the person from Kazakhstan was not so pessimistic about the evolution of VK and the growing presence of social bots – he believed that propaganda is everywhere and everything that people say is, to some extent, an example of propaganda.

Another important assumption of the author was about access to independent media – whether it would somehow change the way how respondents perceive the political domain and computational propaganda in general. To the author's surprise, only one respondent confessed to having been using independent media such as BBC or CNN and still, he has much scepticism about the information generated by them. Regarding news tendencies, Russian respondents were keen on checking the news on Telegram rather than on VK, while the person from Kazakhstan admitted using mostly Russian media to check the latest news (*RIA* and *TASS*, for instance). Clearly, these two significant differences (media preferences and the perception of VK's evolution) between respondents with a Russian background and the one from Kazakhstan might serve as proof that Russian speakers from relatively friendly countries do have a completely different point of view on the status of Russian media. In other words, there might have already been a growing suspicion and scepticism among Russians about the degree of biasedness of Russian media, including Russia Today, RIA,

TASS, and others., so Russians have decided to switch to something relatively impartial – Telegram channels. In contrast, the person living in other countries tend to be more easy-going on traditional Russian media and not so radical towards them. Undoubtedly, the impartiality of Telegram channels and other sources of information mentioned by Russian participants is still subject to debate, but it is still considered a breath of fresh air for ordinary Russians.

Finally, it is worth mentioning another critical observation made by the author after conducting all three interviews. Despite the initial belief that the growing presence of social bots and the subsequent unveiling of the problem by various media, bloggers, researchers, and what is more important, by users themselves, would somehow prompt a significant part of the audience to leave the network, the actual situation turned out to be quite different. Indeed, all three participants admitted having at some point noticed armies of social bots creating chaos in the comment section everywhere they go, but none of the three participants decided to quit the network once and for all despite the serious inconvenience they experienced when seeing those bots or being contacted by them. After asking two participants, *"why do you still use the platform?"* they mentioned the importance of information that has been collected and stored for ages on their personal accounts, so they consider it a piece of memory. Thus, they confessed to having continued using VK despite all problems they faced because of the memories that they have. In other words, it can be suggested that this kind of nostalgic feeling really keeps people returning to the network. Would this nostalgic feeling keep users returning once the situation gets more and more severe in terms of the amount of computational propaganda is dubious, but as of now, this seems to be a strong leverage that helps VK to stay buoyant and not to lose a prominent part of the audience even despite their ability to distinguish suspicious comments and messages.

Nevertheless, further analysis of the interviews' output will be presented in the 5th chapter of the diploma dedicated to the results and discussion.

4.3 Content Analysis

4.3.1 Criteria for Identification

Before taking an insight into VKontakte and initiating the process of content analysis, it is essential to put down criteria based on which suspicious accounts will be identified by the author. Effectively, the author's criteria for identifying suspicious accounts generating biased content and fake news eventually coincide with the criteria set by the script moderators. The following table contains the criteria according to which accounts are characterized as suspicious.

Table 1, criteria for identifying bots

№	Criteria	Explanation
1.	User created his or her account less than a year ago.	VK is a founding stone of Russian social media, and it is not quite unlikely to meet someone who created his first account there in 2021 or 2022.
2.	User's account is private, and the user has almost no activity on his account.	In order to hide defects of the account, bots tend to keep their profile hidden so that no one can verify anything.
3.	User has a relatively low number of friends, and all of them are either bots or spam accounts.	As it was mentioned earlier, VK's role in Russian social life is so tremendous that it is almost impossible to encounter someone who has an incredibly low number of friends with a striking resemblance to spam accounts.
4.	User has no followers, or all followers are bots.	This is one of the signs that the account was created recently.

5.	User has stolen someone's personal pictures, and all of them were published within a short period of time.	Quite self-explanatory. This, however, can be easily checked in the database available online of the script.
6.	Comments left by user consist of relatively simple messages and sentences.	This is a massive sign that the comment is generated by artificial intelligence since social bots are usually not programmed to support complex conversations.
7.	The number of likes on user's comments is artificially increased.	In order to increase the popularity of a comment, the number of likes is also artificially increased.
8.	User has a neutral profile picture.	In order to either avoid stealing someone's picture or save time searching for one, a neutral profile picture containing an animal, or a cartoon could be set.

Source: own research based on gosvon.net, 2020

As it may seem quite apparent, in order to categorize a given account as a social bot, or as an account affiliated with computational propaganda, it is absolutely not mandatory for a given user to fall under all criteria mentioned above. The most logical solution will be to identify accounts as suspicious if their account falls under at least a couple of categories.

However, based on the history of personal observations and also according to the information obtained from the database of the script, social bots presently used on VKontakte show "*incredible*" results by falling under at least four or five criteria at once. In the next chapter, the author will demonstrate the exact way how the script works by showing

an example of social bots and their recently published messages containing computational propaganda.

4.3.2   Script Verification

In order to see if the script does its job of highlighting suspicious messages well, a couple of comments and users from the database will be selected and double-checked here. The additional verification of the script is needed to ensure that the eventual analysis will be performed on data that do really depict the actual situation in terms of the number of messages containing computational propaganda. The verification will consist of a manual check of the comments and users identified as "bots/trolls" by the script in order to conclude if those accounts fall under the criteria set in **Table 1**, and if the messages left by them can be categorized as those containing computational propaganda according to the set of goals mentioned in the theoretical part. For the purpose of demonstrating the activity of each individual case chosen, the author did the job of translating the most important information into English. From the script's database that is available online to all users, the author chose 3 particular comments left by three individual users on the very same day – the 17th of July. The overview of the first user's recent activity, his profile and the comment left by him is shown in **Figure 11**.

<p align="center">Figure 11, first user analyzed</p>

As it can be seen from the top left picture from the college created by the author based on the output from the script, the user named Robik Semenov registered his account on the 8th of May 2022 and left 28 comments over the course of 2 months in 4 different communities. The relatively recent registration date, alongside the intensive social activity of the user, seems downright suspicious at first glance. Then, in the top right corner, it is possible to see that all users' followers are bots that share one common trait – they all have en face picture of a real person so that the registration process could have been completed quicker for those accounts. Finally, it is wise to take a look at the comment left by the user and it definitely has traits of polarization and distracting goals of computational propaganda. Undoubtedly, this is a social bot according to a couple of criteria: 1, 2, 3, and 4 (see **Table 1**). In addition to this, it is logical to conclude that not only this is an example of a social bot, but this is a bot spreading computational propaganda according to the detailed breakdown of the message left by him (the right bottom corner). Therefore, it is possible to say that the script did correctly classify the user as a social bot.

In Figure 12, the recent activity of another user under the name Roman is presented. 27 comments left in 3 groups seem like a relatively natural imprint. However, it can be noticed that the user's account was registered on the same day and hour as the account of the first user from **Figure 11**. In addition to this, it is visible that the same situation in the list of followers is encountered – all of them are bots with en face pictures.

Figure 12, second user analyzed

Source: own processing

As for the comment (shown in the right bottom corner), the user did not really post anything radical, but it is surely possible to classify the message as a pro-government one. All in all, the user is also likely to be a bot based on the astonishing similarity between the first user and him, as well as according to the criteria set in **Table 1**. The script correctly classified another observation again.

Figure 13, third user analyzed
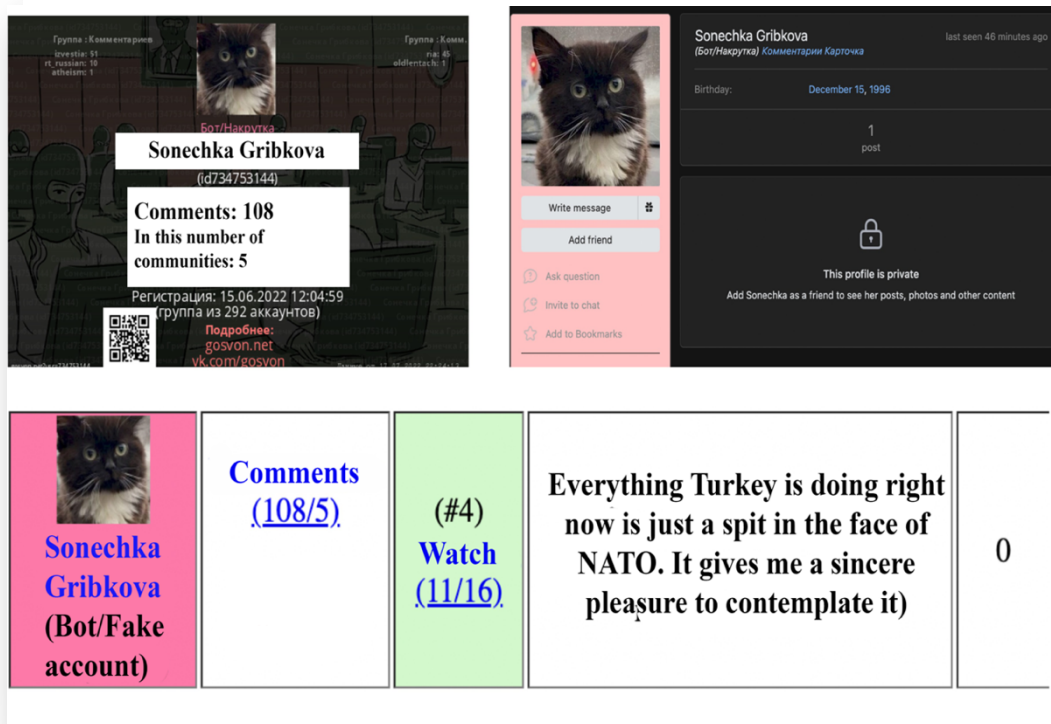
Source: own processing

When it comes to the third selected user, the breakdown of her activity is shown in **Figure 13**. The social imprint left by the user is definitely much more distinguishable compared to other cases. Sonechka left 108 comments in 5 communities over the course of just one month (registered on the 15th of June 2022), totalling almost 4 comments per day. Contrary to the first and the second users, the third one decided to keep his profile private, thus sowing an additional seed of suspicion. As for the comment left by the user, it is definitely possible to identify the same goals – polarization and distraction. Once again, the user can definitely be classified as a social bot and the most active one compared to others analysed. The script did its job well of classifying once again.

Three users whose imprint was broken down above were chosen randomly out of the list of all suspicious messages left on the 17th of July 2022. This manual breakdown allows the author to use the following script for extracting quantitative data regarding the bot activity. The script proved itself to be reliable and quite precise.

4.3.3 Analysis

When it comes to the main section of the practical part, the author decided to choose a time interval of one month, starting from the 16th of July 2022 until the 15th of August 2022, to collect numeric data about the bot activity, including the total number of suspicious comments left in selected major communities. Consequently, the author calculated daily and percentual changes. For this purpose, it was essential to choose particular communities on VKontakte. The author chose six which directly represent Russian mass media that publish news on a daily basis: *LIFE.ru, RBK, RIA Novosti, RT in Russian, Lentach, and REN TV News.* All in all, 3 out of 6 media chosen were mentioned by the interview's respondents during the process, so it is definitely vital to see the degree to which those communities are affected by computational propaganda.

The time interval of one month and such an immersive number of media selected were needed in order to ensure that the overall number of comments analysed would reach at least 1 million comments in total. In order for a sample related to social media to be relatively representative and significant, a considerable number of comments is inevitably needed. The data regarding suspicious and biased comments are collected automatically by the script. As for the other metrics of the selected communities (namely the total number of comments per day), the author uses a social media marketing platform that allows premium subscribers to analyse meticulously any chosen key metrics of selected communities on VKontakte з-Popsters (Popsters, 2022).

Before taking an insight into the statistics provided by the author, it is essential to take a look at the list of the most occurring words used and topics brought up by social bots according to the script. Another table is created based on the information from the script's database containing the keywords.

Table 2, the most frequently used keywords in July

Category	Keywords
Western domain	Western society, Europe, Europeans, Sanctions
Ukrainian domain	Ukrainians, Ukraine
Russian domain	Russia, Russians, Russian production
Political domain	Political elites, Politicians
Economic domain	Work, Supply, Developing own production

Source: own research based on data from gosvon.net, 2020

In **Table 2**, it is possible to see the list of the most popular words used by bots to generate messages containing computational propaganda. As it can be noticed, the overwhelming majority of those messages are directly related to 5 domains identified by the author: western domain (criticizing political decisions of western leaders and highlighting the futility of imposed sanctions); Ukrainian domain (mocking and threatening Ukraine); Russian domain (praising the Russian resilience and highlighting the Russian force); political domain (discussing political ideologies) and economic domain (praising Russian economy and pointing at Europe's economic recession).

Following the analysis, **Tables 7**, **8,** and **9** available in the appendices of this diploma thesis were created based on which, the author elaborates on the results in the next chapter of this thesis.

5 Results and Discussion

5.1 Presence of Computational Propaganda

5.1.1 Social Bot Presence

Thanks to the script, the author was able to capture the daily activity of social bots in six major communities. In total, **1,245,074** comments were captured, according to the information available from Popsters from the *16th of July 2022 to the 15th of August 2022*. The information related to the number of suspicious comments is shown in **Table 3**.

Table 3, percentage of bot comments

t vector	Comments					
	LIFE.ru	RBK	RIA	RT	REN TV	Lentach
1	-	-	-	-	-	-
2	1,202	962	2,718	1,544	602	58
3	1,736	1,212	4,465	2,313	1,150	264
4	1,928	966	3,999	2,329	861	313
5	1,621	1,262	3,976	2,422	961	231
6	1,598	1,056	4,213	2,576	1,180	190
7	1,617	1,004	3,641	2,601	1,076	199
8	1,343	593	3,131	1,515	783	112
9	942	546	2,833	1,349	678	116
10	1,221	784	3,198	1,909	526	306
11	1,470	835	4,071	2,222	934	63
12	1,823	1,031	3,446	2,368	936	279
13	1,414	910	3,202	1,842	991	185
14	1,367	736	3,307	2,196	807	119
15	1,409	678	2,971	2,063	628	134
16	915	569	2,611	1,374	671	84
17	1,360	1,074	3,167	2,342	976	320
18	1,670	1,123	3,987	2,776	717	411
19	1,765	1,552	4,359	2,450	1,062	256
20	1,556	1,034	3,316	2,679	1,161	330
21	1,660	873	2,687	2,605	1,256	65
22	798	505	2,736	1,746	773	88
23	681	729	3,078	1,791	698	107
24	1,223	1,109	3,537	2,836	1,050	168
25	1,634	867	2,933	2,953	944	228
26	1,621	1,264	4,333	3,148	993	132
27	1,443	1,169	4,675	2,928	1,471	243
28	1,200	743	3,731	2,483	974	238
29	697	654	3,053	1,549	450	159
30	522	395	3,758	1,559	717	67
31	1,368	998	3,804	2,725	734	198
total bot comments	40,804	27,233	104,936	67,193	26,760	5,663
total comments	99,498	223,473	322,162	248,736	82,022	269,183
percentage of bot comments	41.0%	12.2%	32.6%	27.0%	32.6%	2.1%

Source: own processing

After a series of simple calculations available in **Table 6**, the author was ultimately able to quantify the presence of social bots in those communities and find the average percentage of social bots in the comments of six communities – **24.6%** and **272,589 comments** in total. Out of six communities, the one with the lowest presence of social bots is *Lentach*, where only **2.1%** of total comments are classified as ones generated by social bots and containing computational propaganda; following *Lentach*, the second most optimistic result belongs to *RBK* with **12.2%** of suspicious messages out of the total number. Nevertheless, it is worth mentioning that the other four communities did not at all show optimistic results and the gap between *Lentach* and *RBK*, and the rest is quite vast. In consequence, **27%** of comments left in the *RT* community are classified as biased. In *REN TV*, the value gets even bigger, with **32.6%** classified as suspicious and finally, *LIFE.ru* has a shocking percentage of **41%**, thus boiling down to the fact that a social bot generates almost every second message left in the studied community, and *RIA* also had a very high percentage of **32.6%.**

Of course, it would be wise to focus on finding an explanation for those percentages. The most logical one would be to conclude that in communities, wherever the main agenda is a liberal one, the percentage is lower. However, this only applies to *Lentach*, as it is the only liberal community out of the six, so this kind of logic cannot be used to justify the colossal difference in percentages between *RBK* and *RIA*. Two media are believed to be autonomous and self-governed, but one is much more polluted. Presumably, this disproportionality might be a consequence of the scale of the two communities – *RBK* has almost one million users while *RIA has* almost over three million users making the latter more attractive for social bots.

Yet, when it comes to *REN TV*, *Life.ru* and *RT*, it is possible to say that the results somewhat match the author's expectations, since they are fully government-sponsored media. Still, the degree to which those communities are polluted is downright astonishing, especially when comparing individual results of those communities with the same metric on Facebook and Twitter. As it was mentioned above, the independent researchers investigating Facebook and Twitter found that the presence of bots in comments is approximately **0.06%** and **9%**, respectively (Santia, 2019). Upon comparing those results with the ones obtained by the author for VKontakte – it becomes quite visible that, in contrast with Western social media, VKontakte is a social network where social bots generates almost every fourth

comment based on the selected sample of communities. Hence if taking Western social media as a model for the comparative analysis, it is possible to draw a conclusion that the presence of computational propaganda along social bots on VKontakte is astonishingly high, which is highlighted both by the author of this diploma thesis and Sobolev (2018), who specified that the tendency with computational propaganda on VK is concerning.

5.1.2 Tendencies

Then, after proving the existence of the problem with social bots on VKontakte and using the same statistics obtained by the author, it is essential to describe the nature of social bots' activity on the social network. Given the fact that the author was meticulously collecting observations for over a month, it is possible to find out the days on which those social bots were more active.

For doing so, the author will use the seasonality index (formula 3) that will shed brighter light on days of the week when bots are the most active. In order to perform the calculation, the original dataset containing 31 days had to be shortened to 28 to cover just 4 weeks with an equal number of days of the week – seven per each cycles out of four. The output of calculations is available in **Table 4**.

Table 4, seasonality index per each observation

t vector	total per day	seasonality	
	-	-	
1	7,086	0.78	Sunday
2	11,140	1.22	Monday
3	10,396	1.14	Tuesday
4	10,473	1.15	Wednesday
5	10,813	1.18	Thursday
6	10,138	1.11	Friday
7	7,477	0.82	Saturday
8	6,464	0.71	Sunday
9	7,944	0.87	Monday
10	9,595	1.05	Tuesday
11	9,883	1.08	Wednesday
12	8,544	0.94	Thursday
13	8,532	0.93	Friday
14	7,883	0.86	Saturday
15	6,224	0.68	Sunday
16	9,239	1.01	Monday
17	10,684	1.17	Tuesday
18	11,444	1.25	Wednesday
19	10,076	1.10	Thursday
20	9,146	1.00	Friday
21	6,646	0.73	Saturday
22	7,084	0.78	Sunday
23	9,923	1.09	Monday
24	9,559	1.05	Tuesday
25	11,491	1.26	Wednesday
26	11,929	1.31	Thursday
27	9,369	1.03	Friday
28	6,562	0.72	Saturday
total bot comments	255,744		
average for the cycle	9133.714286		

Source: own processing based on the formula (3)

After calculating individual seasonality indices per day, it is finally possible to find the average seasonality index per day of the week. The output is presented in **Table 5**.

Table 5, average seasonality indices per each day of the week

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0.74	1.05	1.10	1.18	1.13	1.02	0.78

Source: own processing based on the formula (3)

Interestingly, it can be clearly seen that during working days, social bots are, on average, much more active compared to weekends – 0.74 for Sunday (26% fewer comments on average) and 0.78 (22% fewer comments on average) for Saturday. This observation might serve as a piece of evidence to justify the assumption of other scientists and researchers claiming that social bots on VK are primarily represented by humans manually generating comments and not by artificial intelligence programs, notably Sobolev (2018) and DiResta (2019). Yet, it is impossible to say that the stream of comments ceases during weekends, but the drop is nonetheless significant compared to working days – *26* percent and *22* percent for Saturday and Sunday, respectively and also lower activity on Fridays.

5.2 User Experience and Recommendations

In **Table 6,** the author presents a quick overview of the series of semi-structured interviews with participants.

Table 6, overview of individual responses

Questions	Alexander	Konstantin	Ivan
Social Media Used	Telegram, Youtube and VK.	VK, Whatsapp, Instagram and Telegram.	VK, Telegram and Instagram.
Main purpose for using VK	Music and and memorable materials.	Music.	Multifunctionality.
Opinion about VK	Negative.	Positive.	Ambivalent.
Attitude towards computational propaganda and the problem behind it	Negative, and the problem lies in the government.	Neutral, it is partially users' fault, because they were not able to stick to their own opinion.	Negative, moderators of popular communities on VK are partially responsible for not being able to tackle the problem in time.

Resources where propaganda was spotted	VK and literally all sources of Russian mass media.	Respondent did not stress any particular domain.	VK and international mass media.
Attitude towards the presence of social bots	Intolerance.	Neutrality.	Strong intolerance.
Confessed to having been under the influence of propaganda	Yes.	Yes.	Yes.
Uses alternative sources of information	No, because of the skepticism.	No.	Yes, but with a certain degree of skepticism.
The future of VK according to the respondent	Decline and the ultimate abandonment.	Prosperity following the multifunctionality and the lack of competition.	Prosperity following the ban of other social media.

Source: own research based on the interview results

A brief overview of the series of interpersonal interviews is available in **Table 6**. In addition, the full transcript of the conversations the author had with participants is available in the appendices section of this diploma thesis.

Based on the impression created by the respondents and also according to the discourse theory, the author draws the conclusion that for Russian speakers, the most important response to any propaganda would be having a strong personal point of view or being intelligent enough. In other words, the majority of respondents stressed the importance of individual resilience to propaganda and not a collective one. Upon asking respondents the question, *"What do you think is the real problem of being tricked into believing something?"*

one of them mentioned the importance of having a strong personal opinion about a given issue, while the other blamed the lack of education for creating the problem. This might be a piece of evidence that sometimes when judging the effect of propaganda on individuals, people seem to underestimate the effect of the immense psychological pressure and other complications that any propaganda creates. Undoubtedly, as it was mentioned numerous times throughout the narrative, it is downright challenging to stick to one's opinion and resist the nudge caused by another message or publication containing attractive agenda, especially when it is done in a subtle and professional way.

As for the author's suggestion about the eventual abandonment of the network on the part of intelligent and conscious users, the real situation turned out to be quite different. The nostalgic feeling and importance of old materials stored on VK seem to be a powerful force keeping those users, as it was mentioned by most respondents being asked the following - *"Please, tell me about the main functions for which you use the network."* Despite the growing presence of computational propaganda, respondents blamed nostalgia and memories for not letting them leave the platform once and for all. In addition to this, the absence of strong competitors or alternative platforms with similar multifunctionality also plays a crucial role in keeping people attached to VK, as it can be followed throughout the interview with respondents. Only one person confessed that the multifunctionality of the platform could negatively influence the user experience, while two others believed that it is a great advantage.

However, none of the respondents admitted to using VK as a messenger, which is its primary and original function. Why? The key lies in their answers – all respondents are active users of Telegram. They all mentioned their use of Telegram for the purpose of checking channels and unique publications there. Presumably, those people also use Telegram because this messenger, to some extent, offers an alternative platform with a relatively neutral agenda, in addition to a comfortable and quick messaging tool. Nevertheless, the personality of the former CEO of VKontakte behind Telegram might also kindle nostalgic memories of old VK without any moderation or government intervention.

Unsurprisingly, all three participants admitted to having been under the influence of propaganda at some point in their lives. Given the fact that respondents are representatives

of the younger generation of Russian speakers, it can be concluded that Russian propaganda seems to be quite effective even towards the younger generations. Hence, the author recommends encouraging users to use the script that helped the author to analyse suspicious comments – Gosvon, in order to be able to distance and protect themselves from computational propaganda. In addition, the author recommends the creators of the script to add a metric that would demonstrate an average daily percentage of suspicious comments for each open community on VK in order to help users to choose less biased and polluted media. Following the answer of Konstantin, the respondent from Kazakhstan, about the media preferred by him, and after analysing the percentage of comments left by social bots in one of his favourite media – *RIA* with the result of **32.6%**, it can be assumed that if the respondent had seen the numbers behind the computational propaganda in the media used, he might have changed his preferences. Hence, the aforementioned metric would be quite helpful in order to assist users in choosing the proper media.

When comparing the essence of computational propaganda and the techniques used in English-speaking communities on Facebook and Twitter described in the report published by Oxford University (Bradshaw, 2020), the very same techniques were identified on VK. Hence, it would be quite fair to assume that the general tendencies behind computational propaganda are relatively similar in both English-speaking communities and Russian-speaking ones.

Along with the main series of questions asked to the participants, the author included the question if they have at some point noticed a surge in the frequency of messages with propaganda after the start of the conflict in Ukraine. Following the discovery made by the author that the overwhelming majority of keywords triggering bots and also used by them in the summer of 2022 are related to Ukraine, it did not come as a surprise that all respondents answered in a unanimous manner that they did indeed notice a colossal increase in the amounts of computational propaganda on VK after the 24th of February.

Also, in light of the quick ascension of Telegram's popularity, the author also recommends creating a similar script to monitor suspicious activity in the most popular Russian-speaking Telegram channels. Furthermore, the author suggests expanding research

to Telegram, given its growing importance, and seeing if the increase in the number of daily users was also accompanied by a surge in the amount of computational propaganda spread.

Another interesting observation can be made after analysing the answers of two respondents to the following question – *"Do you follow any alternative news media (the international ones) such as BBC or CNN?"*. The remark from Alexander about the biasedness of international media towards Russians - *"No, I try not to follow such news portals at all. It is not likely that I will hear something apart from "Russians are bad"* as well as Ivan's scepticism noticeable in his answer to the very same question - *"Yes, but I would not recommend believing everything that they are saying. Today, propaganda can be heard from both camps"* might be a logical explanation behind the fact that none of the three respondents use alternative international news portals such as BBC and CNN. As the author sees it, the gradual deterioration of the government-sponsored and pro-Russian mass media might have created an impression in the eyes of Russian speakers that there are no independent media at all and all media push a given agenda – some the pro-Russian one, while others the anti-Russian one. In contrast, another explanation might be that Russians prefer listening and reading something that might be pleasant to hear about themselves or their environment. Clearly, for people sceptical about many aspects of mass media and news like Ivan and Alexander, the best solution would be to find another niche in the middle, and apparently, they did so upon discovering various Telegram channels. The depressing domestic situation in terms of the quality of information published in mass media might have prompted Russians to develop a particular instinct of perennial scepticism about everything they hear or see, which is, of course, not necessarily a bad tendency. The studies mentioned by the author in the theoretical part claim that propaganda is present in every regime, from the most democratic to the most authoritarian ones, but the nature is still different. Clearly, Russian speakers who have grown to be sceptical about any social media or mass media representing a given country or community prefer to switch to Telegram channels believed to have a neutral position. Undoubtedly, their neutrality and unbiasedness are still subject to research, but the author comes to the same conclusion as the researcher from Moscow State University, who believes that Telegram indeed offered Russians a breath of fresh air by offering a large variety of independent opinions generated by "think tanks", according to Lyakhovenko (2022). However, also according to him, this also prompted agencies specializing in computational propaganda to switch their focus from VK to

Telegram and create a series of channels whose main goal lies in manipulating one's consciousness in the same manner it happens on VK. The growing importance and popularity of VK were also noticed by the authors from Heidelberg University and Erasmus University, who believe that the case of Russia and the population's attitude towards Telegram is somewhat similar to the Iranian case, according to Azadeh (2019). All things considered; the author's findings are justified by both publications.

Then, it is wise to underline the fact that all respondents seem to know the mechanism of social bots, but it is essential to remember that the average age of three respondents is just 23.3 years, so a young generation of Russian speakers is sampled in this case. However, this has a serious limitation since people in their mid-twenties are quite likely to have already been growing up in the age of technologies and social networks, so they are more likely to be able to distinguish social bots due to their IT skills. Thus, the author recommends continuing to expand this research to a larger sample group representing the whole Russian population in order to understand the real situation in terms of the perception of social bots. Following the interviews and the content analysis, it does not seem likely to the author that the growing presence of computational propaganda will eventually lead to the ultimate abandonment of the platform primarily due to the strong personal attachment and nostalgic feelings, as well as due to the fact that there are currently no serious competitors on the market. Moreover, those who had been there before (Facebook and Instagram) were banned by the government, so the market started to resemble more and more a monopolistic kind of competition with just one big player doing whatever it wants.

Thus, the author believes that the growing presence of computational propaganda had one really prominent consequence on Russian users actively using social media – the perception of all kinds of media has changed significantly. What is even more interesting is that it helped Telegram to increase its popularity among Russian speakers, as another researcher also concludes (Lyakhovenko, 2022). All in all, the author believes that VK will still continue to be a fundamental platform for most Russian speakers in the nearest future regardless of computational propaganda, but it will primarily be used for other functions and not for checking the news on a daily basis or messaging. In other words, the author believes that VK's decision to go for multifunctionality has saved the network a significant part of the audience and prevented the loss of thousands or even millions of users.

6 Conclusion

Following his research, the author was able to quantify the average presence of social bots in open communities on VK based on the six major news communities sampled in the research – *RIA, LIFE.RU, RT in Russian, REN TV, RBK and Lentach.* As a consequence of this, it was identified that the average percentage of social bots and computational propaganda in the selected sample of communities is equal to **24.6%**.

In addition to this, the author was also able to reflect on the nature of social bots' activity on VK and the tendency to generate comments containing computational propaganda. It turned out that their activity is much more visible during the working days compared to the weekends (26% and 22% lower numbers for Saturday and Sunday, respectively), which prompts the author to suggest that a significant proportion of social bots are represented by humans manually producing messages and working for specialized agencies. Yet, at the same time, it can also be concluded that people working for those agencies are likely to use a particular script that is triggered by keywords mainly related to the most popular and sensitive topics of today's Russia.

As for his other objective about the user experience and the potential abandonment of the social network by a part of active audience due to the growing presence of computational propaganda, the author, based on the series of interpersonal illustrative interviews, concludes that users, despite noticing social bots and biased messages, are still likely to continue to use the platform acting primarily out of the personal attachment to VK. However, there is an important observation to be made – despite their devotion to VK, more and more Russian speakers start to prefer Telegram over VK for checking the news, presumably believing that Telegram communities offer a somewhat neutral point of view.

All in all, the author concludes that all of his objectives were met, and he also expresses genuine concern for the network as the proportion of comments containing computational propaganda is really enormous and continues to grow. The author hopes that the group controlling the network will notice the growing scale of the problem and try to follow in the footsteps of Facebook, whose moderators and management tackle the same problem by

constantly fighting and restricting social bots, as well as suspicious accounts that generate computational propaganda.

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8 Appendices

8.1 Interviews in Russian

8.1.1 Interview with Alexander

1. **Как твое имя и откуда ты?**
   - Александр, Россия.

2. **Сколько тебе лет и чем ты занимаешься?**
   - 26, самозанятый.

3. **Где ты живешь?**
   - Москва.

4. **Какими соцсетями ты пользуешься?**
   - Телеграм, ютуб, гугл, иксбокс и ВКонтакте.

5. **Какой у тебя стаж использования ВКонтакте?**
   - 12 лет.

6. **Используешь ли ты до сих пор эту соцсеть?**
   - Иногда.

7. **Если ты до сих пор ее используешь, то расскажи мне об основных функциях, ради которых ты в ней сидишь.**
   - Музыка и новости, но новости реже.

8. **Какое у тебя общее мнение о ВКонтакте?**
   - Не знаю, в принципе положительное, но после того, как Дуров ушел, соц.сеть двинулась радикально не в ту сторону.

9. **Знаком ли ты с концептом пропаганды в интернете?**
   - Да.

10. **Ты когда-нибудь встречал ее в социальных сетях? Если да, то где именно?**
    - Да. Новостные паблики и паблики с огромной аудиторией во Вконтакте кишат ими.

11. **Знаешь ли ты о существовании ботов во ВКонтакте? Имел ли когда-нибудь опыт взаимодействия с ними?**
    - Да, видел комментарии от ботов, но они мне никогда не писали.

12. **По каким критериям ты определил, что это были боты?**

– Окей, я тебе это скажу так, как я считаю. Суть того, что они делают, лежит в провокации или создании резонансы, т. е., они генерируют очень резкие высказывания, чтобы вызвать людей на эмоцию или получить от них реакцию, что и являются их ключевой задачей.

13. **То есть, ты считаешь, что основная цель пропаганды – создать резонанс, а не убедить больше и больше людей верить во что-то?**

– Как по мне, это одинаковые вещи. Создание резонанса или вопроса в головах людей по типу «а действительно ли я верю в то, что происходит в правительстве, на улице или в оппозиции?» Создание сомнения в своей же правоте – главная часть пропаганды, исходя из моей логики. Потом уже в свою очередь идет цель убеждения людей или их обработки, возможно даже перепрограммирования.

14. **Если сравнивать ВКонтакте 5 лет назад и сейчас, можешь ли ты сказать, что соц. сеть улучшилась или ухудшилась?**

– Ухудшилась.

15. **Почему?**

– Потому что они пытаются вставить во Вконтакте слишком много всяких функций, которые по факту не нужны это во-первых, а во-вторых, они замедляют работу соц.сети, в то время когда это в первую очередь мессенджер для людей. Эта вот глубина и разные функции просто не нужны.

16. **Считаешь ли ты, что какую-то роль в этом ухудшении сыграла пропаганда?**

– Не сказал бы, что прямо сама пропаганда. Скорее то, что платформа стала одной из частиц машины для пропаганды или болтиком в государственном механизма. Сейчас, это скорее государственная платформа по убеждению людей, чем просто социальная сеть.

17. **Считаешь ли ты приемлемым большое количество ботов в соц. сетях? Какое у тебя в общем отношение к пропаганде в интернете?**

– Не сказал бы, что это приемлемо, но это наши реалии. Есть просто вот такая вот игра и многие люди ведутся на нее. Они просто не понимают механизм того, как работают соц.сети и в чем их логика.

18. **Ты когда-нибудь оказывался под влиянием пропаганды (будь то пропаганда в интернете или любая другая в средствах массовой коммуникации)?**

– Да, у меня зачастую закрадывалось сомнение касательно того, как вещи обстоят на самом деле. Будь то какая-нибудь политическая ситуация или же просто новость из нашей обыденности.

19. **Где ты узнаешь актуальные новости? Можешь перечислить паблики/каналы?**

– Телеграм, ВКонтакте и ютуб. Спортивные – спортс.ру. Обычные новости – база, двач и топор. Я, в принципе, политические новости не смотрю, и я ушел уже давно с ВКонтакте как с платформы для просмотра политических новостей. Не скорее даже из-за ботов, а просто из-за того, что вся журналистика в России уже давно превратилась в какую-то пропаганду.

20. **Следишь ли ты за альтернативными новостными порталами (международными) как, например ВВС или CNN?**

– Нет, я вообще стараюсь новости такого формата не смотреть, потому что я там уже ничего хорошего не увижу кроме того, что русские - плохие.

21. **Как ты думаешь, в чем проблема людей, кто ведутся на пропаганду в интернете?**

– Необразованность, наивность, незнание интернета или логики работы социальных сетей и их нюансов.

22. **Исходя из твоего опыта использования социальных сетей, не увеличилось ли визуально количество пропаганды в русском сегменте сети интернет после начала конфликта в Украине?**

– Да, есть такое. Та же реклама с пропагандистскими темами на разных сайтах.

23. **Как ты думаешь, какое будущее ждет ВКонтакте?**

– Умрет так же, как и Одноклассники. Останутся люди, кто были там десятилетиями и их связывают теплые воспоминания или памятные материалы такие как фотографии или музыка. Как новостной портал – чем больше вскрывается правды касательно того, насколько эта социальная сеть загажена пропагандой – настолько больше социальная сеть и будет дальше умирать.

24. **Слышал ли ты когда-нибудь о фабрике троллей?**

– Да

25. У тебя есть что-нибудь, что ты бы хотел сказать касательно моего исследования?

– Я бы хотел, чтобы мое полное имя осталось в тайне, как и содержание нашей беседы. Я бы не хотел, чтобы моя будущая жизнь могла как-то пострадать из-за сказанных мною здесь вещей.

8.1.2 Interview with Konstantin

1. Как твое имя и откуда ты?

– Константин, Казахстан.

2. Сколько тебе лет и чем ты занимаешься?

– 21 год, студент.

3. Где ты живешь?

– Прага, Чехия.

4. Какими соцсетями ты пользуешься?

– Whatsapp, VK, Telegram и Instagram.

5. Какой у тебя стаж использования ВКонтакте?

– 8 лет.

6. Используешь ли ты до сих пор эту соцсеть?

– Да.

7. Если ты до сих пор ее используешь, то расскажи мне об основных функциях, ради которых ты в ней сидишь.

– За 8-летний период использования ВКонтакте, у меня накопилось около 4 тысячи музыкальных треков, которые связаны с разными ситуациями из моей жизни. Таким образом, я в любой момент могу зайти в свой плейлист и вспомнить былые времена. Другая функция, из-за которой я использую ВК – сообщества по интересам. Там можно получить полезную информацию, услуги, консультации и т. д. Как мессенджер я использую ВК крайне редко.

8. Какое у тебя общее мнение о ВКонтакте?

– Считаю, что ВК это очень популярная соц. сеть. Как пользователя, меня все устраивает. Однако, стоит отметить, что за последние годы ВК претерпел редизайн и, по моему мнению, стал обширным многопользовательской платформой, где роль мессенджера занимает далеко не первое место. Вк

предлагает очень много разных сервисов по переводу денег, дарению подарков, стриминга и так далее.

9. **Знаком ли ты с концептом пропаганды в интернете?**

– Пропаганда – распространение взглядов, фактов и аргументов, зачастую искаженных или заведомо ложных, чтобы сформировать нужное общественное мнение и затем уже манипулировать общественным сознанием. Исходя из того, что я знаю, мы можем прийти к выводу, что каждый пользователь Вконтакте в той или иной степени занимается пропагандой чего-либо. Так как пользователь имеет полное право высказывать и распространять свои или чужие взгляды на своей стене или в группе сообществ, я могу сделать такой вывод. Конечно, это все возможно, если эти взгляды не нарушают правила ВК и местное законодательство.

10. **Ты когда**-нибудь встречал ее в социальных сетях? Если да, то где именно?

– Встречал. В каждый соц. сети есть механизм ленты и подбора публикаций для каждого пользователя, ровно так же как и таргетированная реклама.

11. **Знаешь ли ты о существовании ботов во ВКонтакте? Имел ли когда-нибудь опыт взаимодействия с ними?**

– Да, знаю и сталкивался лично. Опыт, в целом, был безобидный. Бот начинал диалог с обычного приветствия и после завязывался простой диалог. Вычислить, что это бот, было достаточно просто – интервал его сообщений был ровно 3 минуты, и на его стене была заметна нулевая активность в сети ВК, что свойственно новым пользователям либо же ботам. Так же, несвязность и его невозможность ответить на простые вопросы с моей стороны, выдавали, что это был всего лишь бот.

12. **Если сравнивать ВКонтакте 5 лет назад и сейчас, можешь ли ты сказать, что соц. сеть улучшилась или ухудшилась?**

– По моему мнению, ВК стал лучше и удобней.

13. **Сыграла ли роль пропаганда?**

– Не думаю, что пропаганда или ее присутствие там повлияли на мое мнение о ВК или о каких-то аспектах активности в платформе. Я просто знаю, что, допустим, 5 лет назад ВК не имел тех сервисов для пользователей, которые он имеет сегодня, и для меня это является главным критерием оценивания.

14. Считаешь ли ты приемлемым большое количество ботов в соц. сетях? Какое у тебя в общем отношение к пропаганде в интернете?

– Я не считаю, что большое количество ботов в соцсетях это приемлемо. При помощи этого инструмента, заинтересованные люди могут, например, отводить внимание людей от настоящих проблем на ложные инфоповоды. Используя механику социальной сети – это достаточно просто. При помощи накрутки лайков и комментариев (которые могут быть специально заказаны под определенный случай или тему), новость можно поднять в том и обратить внимание пользователей на нее. Такие манипуляции я не считаю честными по отношению к обычным пользователям ВК. Отношение к пропаганде в принципе у меня нейтральное, ведь для меня пропаганда – попытка навязать чужое мнение, а это характеристика присущая любому человеку и это вполне себе натурально. Главное вовремя понять, когда тебе пытаются это вот мнение навязать и не поддаться на провокацию.

15. Ты когда-нибудь оказывался под влиянием пропаганды (будь то пропаганда в интернете или любая другая в средствах массовой коммуникации)?

– Да, во всех социальных сетях.

16. Где ты узнаешь актуальные новости? Можешь перечислить паблики/каналы?

– РИА, ТАСС и паблики в телеграме.

17. Следишь ли ы за альтернативными новостными порталами (международными) как, например BBC или CNN?

– Нет.

18. Как ты думаешь, в чем проблема людей, кто ведутся на пропаганду в интернете?

– Я не считаю, что проблема в самих людях. Люди лишь верят в то, что им показывают. Чаще всего пропаганду стараются выдавать за правду и от этого еще сложнее разобраться. Проблема в тех, кто ее распространяет.

19. Исходя из твоего опыта использования социальных сетей, не увеличилось ли визуально количество пропаганды в русском сегменте сети интернет после начала конфликта в Украине?

– Увеличилось.

20. **Как ты считаешь, есть ли у России цель изолировать Казахстан от Европы?**

– Возможно, но я не думаю, что удастся.

21. **Как ты думаешь, какое будущее ждет ВКонтакте?**

– Пока Мейл.ру управляет соцсетью, у нее будет много пользователей и стабильное будущее. Это уже сформированный конечный продукт. Чтобы ВК действительно начал кардинально меняться, ему необходим конкурент, а таковых в данных момент не наблюдается.

22. **Слышал ли ты когда-нибудь о фабрике троллей?**

– Слышал.

23. **У тебя есть что-нибудь, что ты бы хотел сказать касательно моего исследования?**

– Нет.

8.1.3 Interview with Ivan

1. **Как твое имя и откуда ты?**
– Иван, Санкт-Петербург.

2. **Сколько тебе лет и чем ты занимаешься?**
– 23, студент и работаю.

3. **Где ты живешь?**
– Прага, Чехия.

4. **Какими соцсетями ты пользуешься?**
– ВК, Телеграм и Инстаграм.

5. **Какой у тебя стаж использования ВКонтакте?**
– Более 10 лет.

6. **Используешь ли ты до сих пор эту соцсеть?**
– Да.

7. **Если ты до сих пор ее используешь, то расскажи мне об основных функциях, ради которых ты в ней сидишь.**
– Крутые стикеры и много сообществ по интересам.

8. **Какое у тебя общее мнение о ВКонтакте?**
– Удовлетворительное.

9. **Знаком ли ты с концептом пропаганды в интернете?**

–   Да.

10. **Ты когда-нибудь встречал ее в социальных сетях? Если да, то где именно?**

–   Да, под абсолютным большинством новостей о современной ситуации в мире.

11. **Знаешь ли ты о существовании ботов во ВКонтакте? Имел ли когда-нибудь опыт взаимодействия с ними?**

–   Да, постоянно замечаю в комментариях.

12. **По каким критериям ты определил, что это были боты?**

–   Однотипные сообщения, продвигающие определенную точку зрения с подозрительных страниц.

13. **Если сравнивать ВКонтакте 5 лет назад и сейчас, можешь ли ты сказать, что соц. сеть улучшилась или ухудшилась?**

–   В плане возможностей, интерфейсов и так далее, улучшилась. Посты и публикации же стали более агрессивными с битвами ботов в комментариях. Крупнейшие паблики заливают продажные посты и их админы радуются хаосу в комментариях.

14. **Сыграла ли роль пропаганда?**

–   Определенно. С тех пор, как правительство начало использовать пропаганду в интернете, качество контента значительно упало. Паблики ранее специализировавшиеся на определенных категориях (наука, техника, гаждеты) теперь постоянно публикуют контент по заказу, который ну никак не мог бы находиться в этой тематике (особенно про события в Украине). Даже паблики, к примеру, по тематике техники Apple постоянно строчат новости совершенно неподходящие к тематике их сообществ.

15. **Считаешь ли ты приемлемым большое количество ботов в соц. сетях? Какое у тебя в общем отношение к пропаганде в интернете?**

–   Определенно нет. Точка зрения, которая публикуется ботами, это их массовое мнение, которое склоняет обычных людей в это верить исходя из стадного инстинкта. Пропаганда есть везде и всегда и главное иметь свою личную точу зрения.

16. **Ты когда-нибудь оказывался под влиянием пропаганды (будь то пропаганда в интернете или любая другая в средствах массовой коммуникации)?**

– Думаю, что да. Пропаганда влияет на всех людей с самого детства.

17. **Где ты узнаешь актуальные новости? Можешь перечислить паблики/каналы?**

– Лентач и Топор.

18. **Следишь ли ы за альтернативными новостными порталами (международными) как, например ВВС или CNN?**

– Да, но всему там верить тоже нельзя. Пропаганда работает с обеих сторон в наше время.

19. **Как ты думаешь, в чем проблема людей, кто ведутся на пропаганду в интернете?**

– Психологическая особенность людей, плюс от этого тяжело уйти.

20. **Исходя из твоего опыта использования социальных сетей, не увеличилось ли визуально количество пропаганды в русском сегменте сети интернет после начала конфликта в Украине?**

– В десятки раз. Причем увеличилась как пророссийская пропаганда, так и прозападная.

21. **Рассматриваешь ли ты возвращение в Россию?**

– В данный момент нет.

22. **Как ты думаешь, какое будущее ждет ВКонтакте?**

– Изначально, аудитория на фоне развития других соц. сетей (инстаграм и т. д) падала, но теперь вместе с их запретом, огромное количество блогеров возвращается в ВК, следовательно и их аудитория тоже.

23. **Слышал ли ты когда-нибудь о фабрике троллей?**

– Да, контора по формированию мнения в интернете.

24. **У тебя есть что-нибудь, что ты бы хотел сказать касательно моего исследования?**

– Нет.

8.2 Translated Interviews into English

8.2.1 Interview with Alexander

1. **What is your name and where are you from?**

– Alexander, Russia.

2. **How old are you, and what is your occupation?**
 - 26, freelancing.
3. **Where do you currently live?**
 - Moscow.
4. **What are the social media that you use?**
 - Telegram, Youtube, Google, Xbox Network and VKontakte.
5. **What is your experience of using VKontakte?**
 - 12 years.
6. **Do you still use the social network?**
 - From time to time.
7. **If you still use the network, please tell me about the main functions for which you use it.**
 - Music and news (less often).
8. **What is your general opinion about this social network?**
 - I cannot really tell. In general, I would rather say that I have positive feelings about the platform, but after Durov left, the platform took a really wrong turn.
9. **Are you familiar with the concept of computational propaganda?**
 - Yes.
10. **Have you ever come across it on any given platform yourself?**
 - Yes. In news communities with huge audiences on VK.
11. **Have you ever heard about the existence of social bots on VKontakte? Have you ever come across them personally?**
 - Yes. I saw a couple of comments left by them, but I have never come in touch with them myself.
12. **How did you identify that they were bots?**
 - Okay, I will explain my logic. The very essence of those bots lies in provoking others, drawing attention to something by posting very radical messages that will egg on other people and polarize the conversation – all that is their main goal, as I see it. According to this, I identify them.
13. **So you think that the main objective of propaganda lies in drawing too much attention to particular events and not in persuading people to believe that something is true?**

– As for me, these two are the same concepts. Intensively drawing attention to something or nudging people to start asking themselves questions such as "do I really believe in everything that is going on in the government, or in the street and in the opposition block?". Nudging people to question one's rightness is the main thing in propaganda. Then, after succeeding in this goal, here comes another – persuading and brainwashing people, or even reprogramming them.

14. **So if we would compare the platform then and now – is it better or worse today than it was 5 years ago?**

– It has got worse.

15. **Can you explain why?**

– They are trying to add too many different functions which are absolutely not needed, and they simply slow the platform down. After all, VK is a messenger, there is no need for such multifunctionality.

16. **Do you think that propaganda somehow played a role in the decline of VK?**

– I would not say that the content containing computational propaganda played a role. It is more likely that the fact that the network itself became a platform for spreading it played a larger role. VK has just become a brick in the wall of the government mechanism. Now it is more of a platform for persuading people and coercing them into something rather than a social network.

17. **Do you find a large number of social bots acceptable on social media? What is your general opinion about computational propaganda?**

– I cannot say that it is acceptable, but it is just the way how the things are today. It is even more like a game. Many people, who fall for those bots and believe in everything that they write do not understand the mechanism of social bots and the logic behind them.

18. **Have you ever been under the influence of propaganda yourself? (Including both computational and the one spread on the TV)**

– I would say yes because sometimes I was questioning myself if I really know the real way how matters stand in politics and our daily lives.

19. **How do you get to know the news? Can you name some sources, please?**

– Primarily on Telegram, VK and Youtube. When it comes to sport news, I use the website called sports.ru. To be honest, neither do I watch nor read political news, and what is more, VK has long ago stopped being a platform for checking political

news to me. Actually, I would not say that I stopped because of bots, but rather because all media in Russia – both social and mass media have long ago become too much infiltrated with propaganda.

20. Do you follow any alternative news media (the international ones) such as BBC or CNN?

– No, I try not to follow such news portals at all. It is not likely that I will hear something apart from "Russians are bad".

21. What do you think is the real problem of people being tricked by propaganda into believing something?

– They lack education, or they are simply naïve. Also, I would mention the lack of knowledge about the Internet and not knowing the mechanism of social networks and their nuances. I believe that these are their real problems.

22. According to your experience of using social networks, would you be able to say that the amount of computational propaganda has increased in the Russian-speaking part of the Internet after the start of the conflict in Ukraine?

– I think so. Well, I noticed an increase in the frequency of adverts containing propaganda. Also, I saw a real increase in sites spreading fake news.

23. What do you think is the future of VKontakte?

– It will inevitably die in the same manner as Odnoklassniki did. Those who have been using the platform for ages and have nostalgic feelings that are fueled up by tons of memorable content like photos or music – they will definitely stay. As the truth about VK's computational propaganda problem will keep on becoming more and more obvious, the network will continue to die and lose more and more intelligent people.

24. Have you ever heard about the "Fabric of trolls"?

– Yes.

25. Do you have anything to say at the end of this interview?

– I would like to ask you to keep my full name confidential. Also, I would like to ask not to publish the interview on any Russian platform, because I am quite afraid of my liberty and the future life in Russia.

8.2.2 Interview with Konstantin

1. What is your name and where are you from?

- Konstantin Shulzhik, Kazakhstan.

2. How old are you, and what is your occupation?

- 21, student.

3. Where do you currently live?

- Prague, Czech Republic.

4. What are the social media that you use?

- Whatsapp, VK, Telegram and Instagram.

5. What is your experience of using VKontakte?

- Approximately 8 years.

6. Do you still use the social network?

- Yes.

7. If you still use the network, please tell me about the main functions for which you use it.

- Over 8 years for which I have been using the network, I managed to save over 4 thousand songs that each remind me of an important moment in my life. Thus, any time I can just open my songs stored there and remind remind myself of the good old times. The other reason for still using the network are communities that I have there. I often find relevant information, services and various consultations there. As a messenger, I rarely use it.

8. What is your general opinion about this social network?

- I think that the role of VK in daily lives is really significant. As a user, I am quite happy with the platform. However, it is wise to mention that VK has recently changed its shape by redesigning everything and introducing new functions, thus becoming a multifunctional platform rather than an ordinary messenger. Now VK offers possibilities to transfer money, electronic gifts, stream online, watch sports, etc.

9. Are you familiar with the concept of computational propaganda?

- Yes. Propaganda, as a whole, is all about spreading opinions and information that are not necessarily true. The purpose of transmitting such information is very important for particular groups of people and it is creating a strong social belief about an important issue. I think that everyone of us is to some extent engaged in propaganda, including regular VK users. After all, users are given an opportunity to

post their thoughts and be heard by other people, this also seems like propaganda to me.

10. Have you ever come across it on any given platform yourself?

- Yes, in every social network that I ever used. Mostly, it happens because of target advertising and posts of individual users.

11. Have you ever heard about the existence of social bots on VKontakte? Have you ever come across them personally?

- Yes, I have heard about this issue and also had the experience of chatting with them. In essence, I would say that there was not anything really serious or dangerous about the conversation I had. A bot once contacted me, started with an ordinary greeting and thus, he initiated a small conversation with me. It was reasonably easy to spot that it was a social bot on my part because of the same time interval between each of his messages – it was precisely 3 minutes. Also, there was literally no activity on his page, and it helped me to realize that it was either a new user or a bot. In addition, I would say that the way how the communication from the bot was far from being humanlike. He was not able to answer the question posed by me in a cohesive or adequate manner.

12. So if we would compare the platform then and now – is it better or worse today than it was 5 years ago?

- I think that VK got really better and more convenient.

13. Do you think that propaganda somehow played a role in evolution of the platform?

- When evaluating VK as a social platform, I prefer assessing the functions offered by the network, so side issues like propaganda has no chance of influencing my evaluation.

14. Do you find a large number of social bots acceptable on social media? What is your general opinion about computational propaganda?

- I do not think that it is acceptable. Using this mechanism, those seeking to distract users from actual problems will nudge users to switch their attention to something less important. I think that it is pretty effective. Also, thanks to other services, users are allowed to artificially increase the number of likes and comments. As for the comments, those services allow users to manually configurate the desired narrative, style and even the frequency according to the topic those users want. After using

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those services, a given publication and the discussion below could become really hot, because the attention would have been drawn artificially. As for the general opinion about propaganda, I would not say that I have any particular opinion about it. For me personally, propaganda is an attempt to persuade people to follow one's opinion, and we, as humans, tend to do the thing quite often. The most important thing, however, is being able to notice whenever somebody's trying to perform that trick on you and avoid being nudged.

15. Have you ever been under the influence of propaganda yourself? (Including both computational propaganda and the one spread on the TV)

– Yes, on VK.

16. How do you get to know the news? Can you name some sources, please?

– RIA, TASS, and a bunch of channels on Telegram.

17. Do you follow any alternative news media (the international ones) such as BBC or CNN?

– No.

18. What do you think is the real problem of people being tricked by propaganda into believing something?

– I do not think that the problem lies in those who are falling for propaganda. Ordinary people tend to blindly follow what they are being told and shown. The biggest problem of propaganda is its fabricating nature. Whenever it is spread, it is done in such a way that people believe it to be true, so it becomes quite complicated to find a light in the darkness. So, those spreading it are the ones to blame.

19. According to your experience of using social networks, would you be able to say that the amount of computational propaganda has increased in the Russian-speaking part of the Internet after the start of the conflict in Ukraine?

– It has surely increased.

20. Do you believe that Russia has a goal of isolating Kazakhstan from Europe?

– Maybe, but I do not think that they will succeed.

21. What do you think is the future of VKontakte?

– As VK will continue to be managed by Mail.ru group, the future will remain relatively cloudless with a lot of new users coming. After all, it is a successful media product. If we want the network to start changing something, a certain degree of

competition with a newly emerged competitor is essential. As of now, we are not able to see anything like that going on.

22. Have you ever heard about the "Fabric of trolls"?

– Yes.

23. Do you have anything to say at the end of this interview?

– No.

8.2.3 Interview with Ivan

1. What is your name and where are you from?

– Ivan, Saint Petersburg, Russia.

2. How old are you, and what is your occupation?

– 23, student and actively working.

3. Where do you currently live?

– Prague, Czech Republic.

4. What are the social media that you use?

– VK, Instagram and Telegram.

5. What is your experience of using VKontakte?

– 10 years.

6. Do you still use the social network?

– Yes.

7. If you still use the network, please tell me about the main functions for which you use it.

– Cool emojis and many interesting communities.

8. What is your general opinion about this social network?

– Positive.

9. Are you familiar with the concept of computational propaganda?

– Yes.

10. Have you ever come across it on any given platform yourself?

– Yes.

11. Have you ever heard about the existence of social bots on VKontakte? Have you ever come across them personally?

– Yes. Whenever I see a post with the news about the current situation in the world, I inevitably see propaganda in the comment section below the post.

12. How did you identify that they were bots?

– Identical messages that try to promote a given point of view whilst also using suspicious accounts.

13. So if we would compare the platform then and now – is it better or worse today than it was 5 years ago?

– In terms of functions, new opportunities and interfaces, I would rather say that the network has improved. On the contrary, when it comes to the quality of the content published there, I think that computational propaganda became more aggressive with endless bot battles in comments. Also, huge communities squander their reputation by posting something paid adverts of ambivalent nature. Consequently, those publications trigger bots to engage in open discussions, and moderators are happy about the chaos in the comment section and the increased activity.

14. Do you think that propaganda somehow played a role in evolution of the platform?

– It surely did. Since the government switched to computational propaganda, the quality of content drastically degenerated. Communities that had earlier been specializing in unique domains and topics (science, hardware, or gadgets) started to publish the content paid by the government. The newly published content does not anyhow belong to the main specialization of those communities. What does a publication about the events taking place in Ukraine have to do with Apple community about gadgets? This is just an outrage.

15. Do you find a large number of social bots acceptable on social media? What is your general opinion about computational propaganda?

– I do not find it acceptable. I think that it is harmful in the way that, for instance, a give agenda supported by an army of bots will prompt people to believe that is is true as a consequence of the herd instinct. As I see it, propaganda is already everywhere and I do not really have any particular opinion about it as a whole, but I just believe that it is vital to have your own point of view and stick to it.

16. Have you ever been under the influence of propaganda yourself? (Including both computational propaganda and the one spread on the TV)

– I would say yes. Propaganda has its toll on every one of us since the very young age.

17. How do you get to know the news? Can you name some sources, please?

- Lentach, Topor.

18. Do you follow any alternative news media (the international ones) such as BBC or CNN?

- Yes, but I would not recommend believing everything that they are saying. Today, propaganda can be heard from both camps.

19. What do you think is the real problem of people being tricked by propaganda into believing something?

- Psychological instinct – there is no natural way to fight it, only to restrain it to some extent.

20. According to your experience of using social networks, would you be able to say that the amount of computational propaganda has increased in the Russian-speaking part of the Internet after the start of the conflict in Ukraine?

- I think that the amount increased 10-fold but not only from the Russian side, but from the Western one as well.

21. Do you consider returning back to Russia?

- I do not, as of now.

22. What do you think is the future of VKontakte?

- Given its recent decline due to the rise of other social networks as Instagram, VK, compared to that period, is slowly improving its position. Of course, the ban of alternative platforms had its toll. Prominent bloggers from Russia will be moving to VK with their huge audiences.

23. Have you ever heard about the "Fabric of trolls"?

- Yes, the Internet Research Agency.

24. Do you have anything to say at the end of this interview?

- Not really.

8.3 Tables

Table 7, development of the total number of comments left by bots

Date	Comments						
	LIFE.ru	RBK	RIA	RT	REN TV	Lentach	
16.07.2022	177,383	183,180	437,156	265,175	85,945	51,916	Saturday
17.07.2022	178,585	184,142	439,874	266,719	86,547	51,974	Sunday
18.07.2022	180,321	185,354	444,339	269,032	87,697	52,238	Monday
19.07.2022	182,249	186,320	448,338	271,361	88,558	52,551	Tuesday
20.07.2022	183,870	187,582	452,314	273,783	89,519	52,782	Wednesday
21.07.2022	185,468	188,638	456,527	276,359	90,699	52,972	Thursday
22.07.2022	187,085	189,642	460,168	278,960	91,775	53,171	Friday
23.07.2022	188,428	190,235	463,299	280,475	92,558	53,283	Saturday
24.07.2022	189,370	190,781	466,132	281,824	93,236	53,399	Sunday
25.07.2022	190,591	191,565	469,330	283,733	93,762	53,705	Monday
26.07.2022	192,061	192,400	473,401	285,955	94,696	53,768	Tuesday
27.07.2022	193,884	193,431	476,847	288,323	95,632	54,047	Wednesday
28.07.2022	195,298	194,341	480,049	290,165	96,623	54,232	Thursday
29.07.2022	196,665	195,077	483,356	292,361	97,430	54,351	Friday
30.07.2022	198,074	195,755	486,327	294,424	98,058	54,485	Saturday
31.07.2022	198,989	196,324	488,938	295,798	98,729	54,569	Sunday
01.08.2022	200,349	197,398	492,105	298,140	99,705	54,889	Monday
02.08.2022	202,019	198,521	496,092	300,916	100,422	55,300	Tuesday
03.08.2022	203,784	200,073	500,451	303,366	101,484	55,556	Wednesday
04.08.2022	205,340	201,107	503,767	306,045	102,645	55,886	Thursday
05.08.2022	207,000	201,980	506,454	308,650	103,901	55,951	Friday
06.08.2022	207,798	202,485	509,190	310,396	104,674	56,039	Saturday
07.08.2022	208,479	203,214	512,268	312,187	105,372	56,146	Sunday
08.08.2022	209,702	204,323	515,805	315,023	106,422	56,314	Monday
09.08.2022	211,336	205,190	518,738	317,976	107,366	56,542	Tuesday
10.08.2022	212,957	206,454	523,071	321,124	108,359	56,674	Wednesday
11.08.2022	214,400	207,623	527,746	324,052	109,830	56,917	Thursday
12.08.2022	215,600	208,366	531,477	326,535	110,804	57,155	Friday
13.08.2022	216,297	209,020	534,530	328,084	111,254	57,314	Saturday
14.08.2022	216,819	209,415	538,288	329,643	111,971	57,381	Sunday
15.08.2022	218,187	210,413	542,092	332,368	112,705	57,579	Monday

Source: own processing

Table 8, daily change in comments left by social bots in six major communities

Date	Change						
	LIFE.ru	RBK	RIA	RT	REN TV	Lentach	
16.07.2022	-	-	-	-	-	-	Saturday
17.07.2022	1,202	962	2,718	1,544	602	58	Sunday
18.07.2022	1,736	1,212	4,465	2,313	1,150	264	Monday
19.07.2022	1,928	966	3,999	2,329	861	313	Tuesday
20.07.2022	1,621	1,262	3,976	2,422	961	231	Wednesday
21.07.2022	1,598	1,056	4,213	2,576	1,180	190	Thursday
22.07.2022	1,617	1,004	3,641	2,601	1,076	199	Friday
23.07.2022	1,343	593	3,131	1,515	783	112	Saturday
24.07.2022	942	546	2,833	1,349	678	116	Sunday
25.07.2022	1,221	784	3,198	1,909	526	306	Monday
26.07.2022	1,470	835	4,071	2,222	934	63	Tuesday
27.07.2022	1,823	1,031	3,446	2,368	936	279	Wednesday
28.07.2022	1,414	910	3,202	1,842	991	185	Thursday
29.07.2022	1,367	736	3,307	2,196	807	119	Friday
30.07.2022	1,409	678	2,971	2,063	628	134	Saturday
31.07.2022	915	569	2,611	1,374	671	84	Sunday
01.08.2022	1,360	1,074	3,167	2,342	976	320	Monday
02.08.2022	1,670	1,123	3,987	2,776	717	411	Tuesday
03.08.2022	1,765	1,552	4,359	2,450	1,062	256	Wednesday
04.08.2022	1,556	1,034	3,316	2,679	1,161	330	Thursday
05.08.2022	1,660	873	2,687	2,605	1,256	65	Friday
06.08.2022	798	505	2,736	1,746	773	88	Saturday
07.08.2022	681	729	3,078	1,791	698	107	Sunday
08.08.2022	1,223	1,109	3,537	2,836	1,050	168	Monday
09.08.2022	1,634	867	2,933	2,953	944	228	Tuesday
10.08.2022	1,621	1,264	4,333	3,148	993	132	Wednesday
11.08.2022	1,443	1,169	4,675	2,928	1,471	243	Thursday
12.08.2022	1,200	743	3,731	2,483	974	238	Friday
13.08.2022	697	654	3,053	1,549	450	159	Saturday
14.08.2022	522	395	3,758	1,559	717	67	Sunday
15.08.2022	1,368	998	3,804	2,725	734	198	Monday
Average	1,360.13	907.77	3,497.87	2,239.77	892.00	188.77	
Total per month	39,436	26,235	101,132	64,468	26,026	5,465	
total average	1,514.38						

Source: own processing

Table 9, growth rate of comments left by social bots

Date	Growth Rate						
	LIFE.ru	RBK	RIA	RT	REN TV	Lentach	
16.07.2022	-	-	-	-	-	-	Saturday
17.07.2022	0.68%	0.53%	0.62%	0.58%	0.70%	0.11%	Sunday
18.07.2022	0.97%	0.66%	1.02%	0.87%	1.33%	0.51%	Monday
19.07.2022	1.07%	0.52%	0.90%	0.87%	0.98%	0.60%	Tuesday
20.07.2022	0.89%	0.68%	0.89%	0.89%	1.09%	0.44%	Wednesday
21.07.2022	0.87%	0.56%	0.93%	0.94%	1.32%	0.36%	Thursday
22.07.2022	0.87%	0.53%	0.80%	0.94%	1.19%	0.38%	Friday
23.07.2022	0.72%	0.31%	0.68%	0.54%	0.85%	0.21%	Saturday
24.07.2022	0.50%	0.29%	0.61%	0.48%	0.73%	0.22%	Sunday
25.07.2022	0.64%	0.41%	0.69%	0.68%	0.56%	0.57%	Monday
26.07.2022	0.77%	0.44%	0.87%	0.78%	1.00%	0.12%	Tuesday
27.07.2022	0.95%	0.54%	0.73%	0.83%	0.99%	0.52%	Wednesday
28.07.2022	0.73%	0.47%	0.67%	0.64%	1.04%	0.34%	Thursday
29.07.2022	0.70%	0.38%	0.69%	0.76%	0.84%	0.22%	Friday
30.07.2022	0.72%	0.35%	0.61%	0.71%	0.64%	0.25%	Saturday
31.07.2022	0.46%	0.29%	0.54%	0.47%	0.68%	0.15%	Sunday
01.08.2022	0.68%	0.55%	0.65%	0.79%	0.99%	0.59%	Monday
02.08.2022	0.83%	0.57%	0.81%	0.93%	0.72%	0.75%	Tuesday
03.08.2022	0.87%	0.78%	0.88%	0.81%	1.06%	0.46%	Wednesday
04.08.2022	0.76%	0.52%	0.66%	0.88%	1.14%	0.59%	Thursday
05.08.2022	0.81%	0.43%	0.53%	0.85%	1.22%	0.12%	Friday
06.08.2022	0.39%	0.25%	0.54%	0.57%	0.74%	0.16%	Saturday
07.08.2022	0.33%	0.36%	0.60%	0.58%	0.67%	0.19%	Sunday
08.08.2022	0.59%	0.55%	0.69%	0.91%	1.00%	0.30%	Monday
09.08.2022	0.78%	0.42%	0.57%	0.94%	0.89%	0.40%	Tuesday
10.08.2022	0.77%	0.62%	0.84%	0.99%	0.92%	0.23%	Wednesday
11.08.2022	0.68%	0.57%	0.89%	0.91%	1.36%	0.43%	Thursday
12.08.2022	0.56%	0.36%	0.71%	0.77%	0.89%	0.42%	Friday
13.08.2022	0.32%	0.31%	0.57%	0.47%	0.41%	0.28%	Saturday
14.08.2022	0.24%	0.19%	0.70%	0.48%	0.64%	0.12%	Sunday
15.08.2022	0.63%	0.48%	0.71%	0.83%	0.66%	0.35%	Monday
Average	0.69%	0.5%	0.7%	0.8%	0.9%	0.3%	

total average	
	0.65%

Source: own processing based on formula (2)