MYKOLAS ROMERIS UNIVERSITY
FERNANDO PESSOA UNIVERSITY
FACULTY OF SOCIAL STUDIES
INSTITUTE OF DIGITAL TECHNOLOGIES

SVETLANA KIŽINA

(Social Technology Management)

SOCIAL MEDIA PROPAGANDA AS A NEW MEANS OF CYBER WARFARE

Master Thesis

Supervisor
Prof. dr. Darius Štitilis
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INTRODUCTION

The digital world has fetched a new kind of apparent and present menace: cyber warfare. Since internet and information technology have progressed to such an extent that they appear to be fundamental of a national power now, cyber warfare hit the headlines at an increasing rate in the past years showing the extent of this problem. Cyber space became a new arena of political conflict while countries are strengthening their cyber capacity, developing national cyber security strategies and engaging in cyber actions meanwhile searching for new politically motivated cyber defense and attack tools.

Social media, relevantly recent phenomena though, has been developing in its own direction. While propaganda has been for almost thousand years, only recently with development of social media, propaganda through social media is involved to a methodical process capable of influencing whole nations now in a very short time. The powerful manipulation of public mind appears through social technology tools.

Meanwhile after propaganda is engaged in social media, it becomes a political tool in cyber warfare thus a new element of cyber warfare. The essence of modern cyber warfare started to comprise not only the technological counter-stand, but the social engagement as well. Increasingly there are reports of social media manipulation that are linked to political goals and country behavior in cyber space. (Reports are being mentioned further in this paper).

In this thesis the case of pro-Russian propaganda in social media in cyber warfare context is being researched. The main idea is not to define the nature and source of propaganda, but to investigate the infrastructure of de facto used means of propaganda. The thesis is not stating that pro-Russian propaganda is coming from the one centralized source but concentrating on the pro-Russian content with no matter where are its roots.

Background: Currently, there is a tension between Russia and Baltic states including Lithuania. As a fact, the cyber geopolitical arena goes in line with traditional politics, moreover first sources of tension and conflict elements provoked by such phenomena as social traditional and social media propaganda. “In last 2 years, the target-oriented propaganda is assured from Russian ruling regime”.[1] While contrasting Russia to the western political and cultural block, a conservative anti-western identity is being created. The public support of current Russian government political actions is determined by the image of the strong government which is not influenced by a western block and which is counterbalancing it.

[1] Valstybės saugumo departamentas, “2014 metų veiklos ataskaita”, 2014 http://www.vsd.lt/Files/Documents/635645217977365000.pdf (retrieved 02.02.2015)

Research Problem: Countries' warfare policies have changed significantly for the last few years. To the former traditional means of warfare they added "the asymmetric and indirect-impact measures (information campaigns, cyber attacks, social media propaganda)[2]. Countries keep developing their warfare policies and new tools in favor of online propaganda while there is a stunning lack of international dialogue and social media propaganda proper management with respect to the containment of cyber warfare. The cyber space is an area in which social technology innovations and operational art have been integrated and while interacting between each other create new methods and tools meanwhile is developing mostly on its own without any influence or management. The case of Russia is an example of the growing use of social media in cyber warfare.

Relevance of the Topic: At the moment pro-Russian propaganda in Lithuania works both ways – traditional media and online social media. The effectiveness of traditional media is huge. Russian TV channels and newspapers play a huge role in Lithuanian society for Russian speakers as well as other minorities, which most of them speak Russian. Also Russian TV channels offer a great product of reality shows and cultural programs therefore the audience is not only minorities but Lithuanians as well. At the moment there are debates to unite Baltics States to launch its own Russian speaking media where Lithuania, Latvia and Estonia would create a content of the channel.[3] If they offer a good product and win the audience from the Russian channels, pro-Russian propaganda may switch to the internet as almost the only left platform to easily outreach the foreigners, so called propaganda consumers.[4] Already now Russia is searching for new approaches to expand its influence. Potentially, social networks and Lithuania's online media would be used more intensively in forming the public opinion of Lithuanians. Influence the Lithuanian internet users might become more intense.

Novelty of the topic based on overview of previous researches: The topic is relatively new. Experts have polemized the topic of social media as a tool in cyber warfare in a number of international forums. The interdependence between social media and cyber warfare through the prism of manipulation is just started being researched, with the available literature taking into account the books on this topic, updates in online media recourses, think tanks reviews, publications, scientific articles and online blogs of the experts which will be discussed

[2] Gerasimov V. Задачи Военной Науки, Обзор военно-политической обстановки в мире, http://dokwar.ru/publ/novosti_i_sobytija/mnenie/zadachi_voennoj_nauki/9-1-0-681 (retrieved 02.02.2015)
[3] Tvnet, Article „Балтийский канал на русском: ясность появится в середине года" http://rus.tvnet.lv/novosti/obschjestvo/285396baltiyskiy_kanal_na_russkom_jasnost_pojavitsja_v_sjerjedinje_goda (retrieved 02.02.2015)
[4] Author'sargument

in this study. In order to answer the posed questions, a large amount of material have been collected and analyzed. To build a theoretical framework part, a number of articles and books written by well-known scholars and analysts in the field of social media, propaganda and cyber warfare have been used. One of the main theoretical sources is Jeffrey Carr's book, namely Inside Cyber Warfare (2012). The book is excellent to understand the basics and origins of cyber warfare as well as its development in social media. More sources were made use of in explaining propaganda among which is work by Johnnie Manzaria and Jonathon Bruck, War & Peace: Media and War, Media's Use of Propaganda to Persuade People's Attitude, Beliefs and Behaviors (1998) and Philip M. Taylor "Munitions of the Mind: A History of Propaganda" (2013). Both works provided an insightful description and analysis of propaganda, manipulation and use of aforementioned in social media. Finally, one of the most contributional works for the study both in terms of theory and analysis is Kaplan's work "Users of the world, unite! The challenges and opportunities of social media. Business Horizons" (2010). The book is a recent analysis of social media and the tendencies of propaganda through social media. For method section the basis of the literature consists of a book, namely Qualitative Research from Start to Finish by Robert K. Yin (2011). It provides very good perspectives on case study method.

Object: The object of the study is social media propaganda.

Goal of the study: Assess the methods, approaches and tools used in social media in context of cyber warfare in case of pro-Russian propaganda in Lithuania. Based on that develop the recommendations for Lithuania in order to efficiently manage the aforementioned tools in cyber warfare context.

Objectives of the study:

- Define the tools of pro-Russian social media propaganda used in cyber warfare and draw the analogy with concepts and theories of the social media propaganda in cyber warfare;
- Determine the most popular social media category among Lithuanians and analyze their opinion on pro-Russian propaganda in determined social media category;
- Analyze the legislation concerning social media and propaganda content in social media in case of cyber warfare as well as supporting institutions and their activities in terms of social media propaganda in cyber warfare.

Research questions: Thus, in the paper the social media as a platform for propaganda is scrutinized in the case of Lithuania, focusing on social media propaganda tools and cyber warfare management in social media. The main questions of the paper are:

- What are the tools of Russian social media propaganda in context of cyber warfare?
- What is the opinion and reaction on the pro-Russian propaganda in the most popular social media category among Lithuanian internet users?
- How Lithuania is managing the cyber warfare in particular social media propaganda?

Methodology:

- **Analysis of scientific literature**. Based on the literature analysis develop the coherency and interdependence of the theories and concepts of social media, cyber warfare and propaganda;
- **Case study method**. The case of pro-Russian propaganda in context of cyber warfare in Lithuania is used to analyze the specific tools, approaches and methods of propaganda and test the theories identified in scientific literature analysis;
- **Quantitative data analysis method using SPSS program**. The quantitative research is being used to investigate the public opinion of Lithuanian internet users in terms of age, education and social status regarding pro-Russian propaganda in social media based on the most popular social media platform.

STRUCTURE

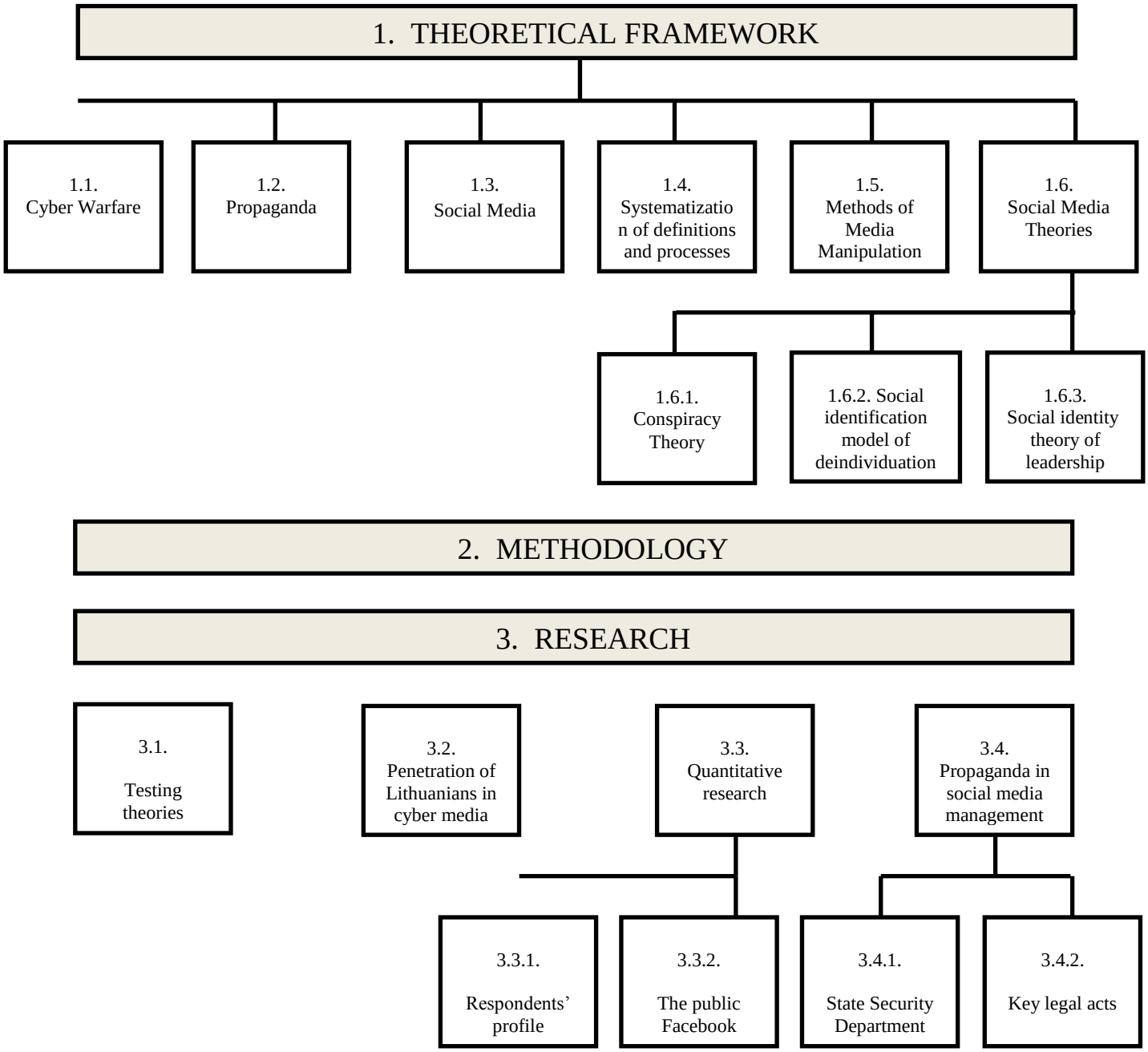


Figure 1. Master's thesis logical structure scheme
Source: Author's created

VOCABULARY OF MAIN CONCEPTS

Social media - a group of Internet based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content.[5]

Social network site (social network) – is a web-based services that allow individuals to:
(1) construct a public or semi-public profile within a bounded system,
(2) articulate a list of other users with whom they share a connection, and
(3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site.[6]

Cyber warfare - malicious cyber activity directly threatening the security, defense capabilities, vital infrastructure or societies of a particular state or region.[7]

Propaganda – spreading and interpretation of theories and ideas. Propaganda creates an information trust, define the way of thinking, the system of values, personal believes and individual identity, seeks to mobilize people for certain actions. Propaganda is the deliberate, systematic and consistent persuasion of people in order to influence them to perform certain actions, to develop their thinking and identity, behavior and values.[8]

Cyber attack – the premeditated use of disruptive activities, or the threat thereof, against computers and/or networks, with the intention to cause harm or to urther social, ideological, religious, political or similar objectives. Or to intimidate any person in furtherance of such objectives. [9]

[5] Kaplan, A. M., Haenlein, M., Users of the world, unite! The challenges and opportunities of social media. Business Horizons. 2010 – p. 52.
6 Boyd, D. M, Ellison, N. B., Social network sites: Definition, history, and scholarship. Journal of Computer-Mediated Communication, article 11, 2007.
[7] Javaid M. A., Member Vendor Advisory Council, CompTIA "Cyber security: challenges ahead", 2012 – p. 11-13.
[8] Mažeikis G., Propaganda, 2006 – p. 4.
[9] Shiller J., Cyber Attacks and Protection: Civilization Depends on Internet and Email, 2010 – p. 20.

1. THEORETICAL FRAMEWORK

In this part the author will assess the scientific literature together with the articles and reports and develop the coherency and interdependence of the theories and concepts of social media, cyber warfare and propaganda in the logical framework.

1.1. Cyber Warfare

There is no universally accepted definition of cyber warfare. Richard A. Clarke, former U.S. National Coordinator for Security, Infrastructure Protection, and Counter-Terrorism and co-author of the best-selling book Cyber War: The Next Threat to National Security and What to Do About It, defines cyber warfare as "actions by a nation-state to penetrate another nation's computers or networks for the purposes of causing damage or disruption.[10] This definition is not pretty concrete though and would include many acts of war cases, which wouldn't be considered as such. An interesting definition is suggested by Peter Sommer and Ian Brown in a comprehensive report written for the OECD Future Global Shocks project in 2011: "A true cyberwar is an event with the characteristics of conventional war but fought exclusively in cyberspace".[11] However the explicit definition is suggested by the Member Vendor Advisory Council, CompTIA, and for the purposes of this paper, cyber warfare will be defined with his definition "malicious cyber activity directly threatening the security, defense capabilities, vital infrastructure or societies of a particular state or region."[12] These acts can be conducted by a foreign state, trans-state actor, or a politically-motivated organization. Cyber warfare lets attackers have plausible deniability, since cyber attacks are highly difficult to track the origin. Even determining the origin of an attack may not help the casualty, since Internet Protocol (IP) addresses may be spoofed, attackers may use remote locations, and traffic can be routed though anonymous servers. Because of this deniability, many states are wary of accusing another country of having conducted a cyber attack without having absolute proof in hand. In addition to plausible deniability, the cyber warfare actions are cheaper therefore more accessible to small nations. According to Amy Chang, a research associate in the technology and national security program at the Center for a New American Security, "cyber warfare is a great alternative to conventional weapons".[13] Investments into cyber warfare programs are much cheaper than investments into military applications. As claimed by Martin Libicki, senior management scientist with the Rand Corporation, the nonprofit global policy think tank, "It is

[10] Clarke R. A, Cyber War. The Next Threat to National Security and What to Do About It, 2010 – p. 6.
[11] Sommer P., Brown I., Reducing Systemic Cybersecurity Risk 2011 - 6 p.
[12] Javaid M. A., Member Vendor Advisory Council, CompTIA "Cyber security: challenges ahead", 2012 – p. 11-13.
[13] Suciu P., Why cyber warfare is so attractive to small nations Article, Fortune, 2014

really a people thing, not a money thing". According to Jeffrey Carr, the specific tools of offensive and defensive information warfare include four tools among which there is psychological manipulation, which is literally propaganda (Figure 1).

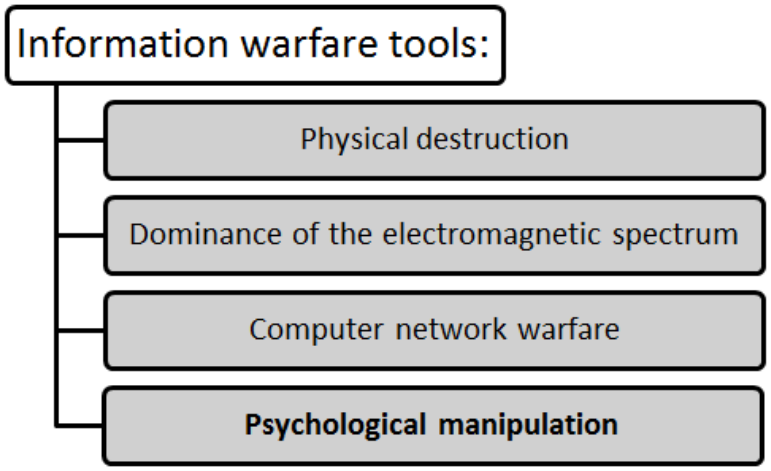


Figure 2. Offensive and defensive information warfare tools
Source: author's created

According to Keneth Geers, a U.S Representative at NCIS and a Cooperative of Cyber Defense, propaganda is a cheap, effective, but not often both the easiest and the most powerful cyber attack.[14] The cyber warfare actions can potentially cause not only damage in cyberspace, but can be used to manipulate processes that transfer in to kinetic effects, possibly inflicting physical, real world damage. As a result of plausible deniability and low cost, more and more countries are engaging into cyber warfare actions.

There are a number of different ways cyber warfare can be used to attack a country. The Center for the Study of Technology and Society identified five methods cyber warfare can be used as a means of military action. These means include the use of cyber warfare to conduct espionage and gain access to critical information, to disrupt enemy military operations, and to attack critical infrastructure, to deface or disrupt websites, and to spread propaganda.[15] Currently, a new trend has been showing a new direction. Transforming from direct attacks to actions against society to attacks intended to persuade. As a result, propaganda is becoming an important element of cyber warfare. There are many researchers who have been studying the cyber threat topic. Recently the studies are going deeper analyzing the correlation of the cyber actions and cyber threats with other studies, political and social included. By US law, covert actions are those activities of the government to influence political, economic, or military

[14] Geers K., Cyberspace and the changing nature of warfare, SC Magazine, 2008
[15] Applegate S.D., "National Security Special Focus: Cyber Warfare." Center for the Study of Technology and Society. Washington D.C., 2001 – p. 10.

conditions abroad, where it is intended that the role of the government will not be apparent or acknowledged publicly.[16] For many years the political arena was built on the covert actions, which meantime have successfully transformed to the cyber space. According to the Jeffrey Karr Covert cyber actions could be of two general types:[17]

- Actions to paralyze the computer networks of target countries or non-state actors supporting the critical elements of the target country;
- Propaganda and disinformation that would come under psychological operations.

Stated above proves that propaganda in cyber arena is being used by governments to influence political, economic or military conditions of other countries as a tool in warfare. Governments are engaging in covert online operations that aim to invade, deceive and control through the spread of false information and use of ingenious social-science tactics. The examples of tactics of the social media manipulators are as follows: to inject all sorts of false material onto the social media" and "to use social sciences and other techniques to manipulate online discourse and activism to generate outcomes it considers desirable" the Intercept's Glenn Greenwald reported. This kind of information is confidential however, as an example, and better understanding I will introduce the data, which comes from the Joint Threat Research Intellige Group (JTRIG) of Britain's Government Communications Headquarters (GCHQ), entitled "The Art of Deception: Training for Online Covert Operations". The document outlines the strategies and tactics are being used to achieve the government's main objective. It includes the false flag operations, which means posting data on internet that is falsely attributed to a target, fake victim blog posts, posting negative information wherever relevant online. The propaganda tactics include mass messaging and the manipulation of stories on social media platforms.[18]

1.2. Propaganda

In Latin, propaganda means "to propagate" or "to sow." Words frequently used as synonyms for propaganda are lies, distortion, deceit, manipulation, mind control, psychological warfare, brainwashing, and palaver. According to the Merriam Webster dictionary propaganda is defined as: "ideas, facts, or allegations spread deliberately to further one's cause or to damage an opposing cause; also: a public action having such an effect".[19] My preferred definition is that of

[16]National Security Act of 1947, 50 U.S.C. section 413(b)(e), 2006.
[17]Carr J, Inside Cyber Warfare. Mapping the Cyber Underworld, O'Reilly 2nd edition, 2012.
[18] The Art of Deception, Free Snowden, The Courage Foundation, 2014 https://edwardsnowden.com/wp-content/uploads/2014/02/the-art-of-deception-training-for-a-new.pdf
[19]Merriam Webster Dictionary, http://www.merriam-webster.com/dictionary/propaganda, (retrieved 01.20.2015)

the late Phil Taylor, who wrote that "essentially, propaganda is really no more than the communication of ideas designed to persuade people to think and behave in a desired way."[20] Propaganda has always been common in political context, particularly referring to the interests of governments. In 1927, an American political scientist, Harold D. Lasswell, published a famous book, *Propaganda Technique in the World War*, a great description and analysis of the mass propaganda campaigns conducted by all the main players in World War I. Within a few years, a number of other social scientists, journalists, and psychologists wrote a large number of publications aiming to analyze military and political propaganda of many types. It confirms that propaganda and war is binding together more than one century.

There are different types of propaganda classified by the objectivity, tempo and openness. As per the objectivity classification, propaganda can be white, grey or black according to the degree to which the initiator acknowledges or conceals its involvement (Figure 3).[21]

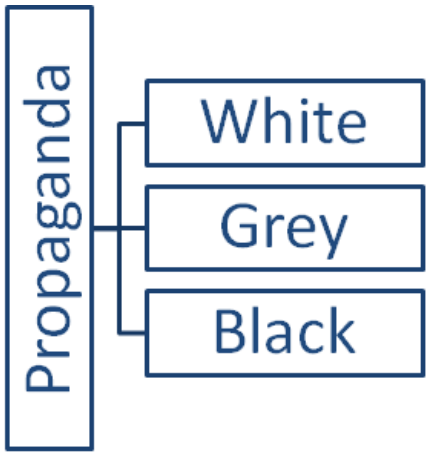


Figure 3. Types of propaganda according to objectivity classification
Source: author's created

- White propaganda is related to the maximum open and transparent presenting of the facts and the positive social programs, which are usually associated with modern social propaganda, social management and social advertising. White propaganda aims to provide conclusions of opinions of independent experts. However, today, it is hard to determine the truth in the opinion meanwhile the opinions of experts are getting more and more diverse. Therefore the white propaganda is considered to be the intention and effort not to distort the facts and to provide the explanations based on the arguments. Usually, white propaganda talks about positive achievements of its country, organizations. Social advertising having positive objectives also can be treated as a white propaganda;

[20] Taylor P. M., Munitions of the Mind: A History of Propaganda, Third Edition, 6, 2013 – p. 28-30.
[21] Mažeikis G., Propaganda, Metodinė priemonė, VšĮ Šiaulių universiteto leidykla, 2006 – p. 9.

- Grey propaganda's initiators purposely link facts with unconfirmed information while presenting the favorable interpretation. It deliberately distort the context of the event. Gray propaganda shapes a one-sided approach to the object avoiding criticism. The representatives of such propaganda avoid open dialogue;
- Black propaganda is based on a deliberate falsification of facts and events and lies. Black propaganda is based on the black technology. Black propaganda and black technologies are persecuted by law in many democratic countries. Black propaganda uses specially designed and highly inaccurate, provocative comparisons. It is usually designed to appear from a hostile source, in order to cause object embarrassment, to damage its prestige, or to provoke to the actions that the object might not do otherwise. Black propaganda is usually designed by secret agents or an intelligence service. If the propaganda would be discovered, it would find the roots to the initiating government. It regularly engages yellow press newspapers, false documents, jokes, slogans, and visual pictures.

Tempo categorization defines "fast" and "slow" propaganda operations, according to the type of media engaged the long-term or short-term outcome desired. Fast propaganda is designed to make a short-term impact on public opinion, while the slow media foster public opinion over the long time. Fast media typically include radio, newspapers, speeches, television, e-mail and the Internet. These forms of communication are able to create almost split-second effect on the target group. Books, cultural exhibitions, and educational exchanges, on the other hand, are slow media that seek to influence ideas and attitudes over time.

Propaganda is also categorized by openness[22] (see Figure 4 below):

- **Open propaganda.** It is similar to the open advertising: special agitation posters, banners, bring together a team of activists, Propaganda Ministries or departments, political PR agencies are being established. Open propaganda can be both white, and black. For example, one of the most famous pro-Russian propaganda, political campaigns and PR company is Nikkolo M.[23] The company shows its activities publically on its website. It provides services for presidential candidates, candidates to regional and local bodies, parliamentarians, tips for the federal and regional authorities, political parties, and public organizations. Moreover, assists in shaping the image during the election campaign, develop the strategies of persuasion, etc.

[22] Mažeikis G., Propaganda, Metodinė priemonė, VšJ Šiaulių universiteto leidykla, 2006- p. 10.
[23] Nikkolo M. http://nikkolom.ru (retrieved 01.04.2015)

- **Hidden propaganda**. Propagandist content is incorporated into the news or propaganda strategy leads to systematic biased information which is being presented to the target group. For example, if one country presents in the news constantly negative information about other country, even though it is a fact, its constant selection proves the propaganda existence.

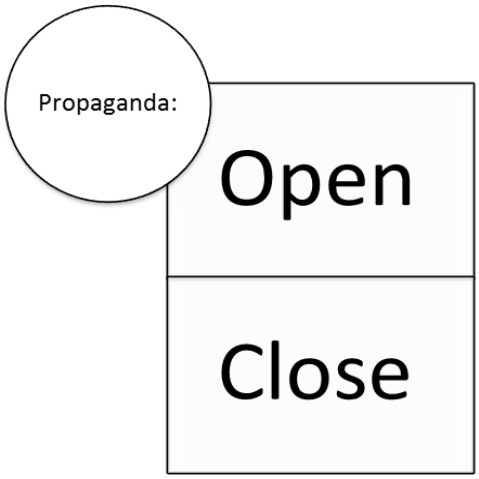


Figure 4. Propaganda types categoryzed by openess
Source: Author's created

Propaganda, in a general knowledge, means to disseminate or promote particular ideas. Cyber technology is perfect to accomplish such a task. Now, with the internet being accessed so easy by the users all over the world, utilizing social media including news information, propaganda can spread fast. At the same time, propaganda is very much connected to media. In fact media is the main tool of propaganda. "Modern propaganda uses all the media available to spread its message, including: press, radio, television, film, computers, fax machines, posters, meetings, door-to-door canvassing, handbills, buttons, billboards, speeches, flags, street names, monuments, coins, stamps, books, plays, comic strips, poetry, music, sporting events, cultural events, company reports, libraries, and awards and prizes".[24]As Anthony Pratkanis and Elliot Aronson point out, "every day we are bombarded with one persuasive communication after another. These appeals persuade not through the give-and-take of argument and debate, but through the manipulation of symbols and of our most basic human emotions. For better or worse, ours is an age of propaganda."[25] Terms that are essential principals of propaganda in action today in the age of propaganda are named spin or news management, which imply amendments to minimize the flow of negative information flow and attempts to maximize its positive effects before it reaches the public. "Spin is often used with

[24]Manzaria J., Bruck J., War & Peace: Media and War, Media's Use of Propaganda to Persuade People's Attitude, Beliefs and Behaviors, 1998 (retrieved 01.18.2015)
http://web.stanford.edu/class/e297c/war_peace/media/hpropaganda.html
[25]Pratkanis A., Arsonson E., Age of Propaganda, 1991 – p. 2-5.

reference to the manipulation of political information; therefore, press secretaries and public relations officers are referred to as spin doctors when they attempt to launder the news".[26] All in all, the state, politicians and military accept the importance of media control very well.

1.3. Social Media

In general, "media" refers to various means of communication. There are three main types of information media: print media, broadcast media, and the Internet (Figure 5).

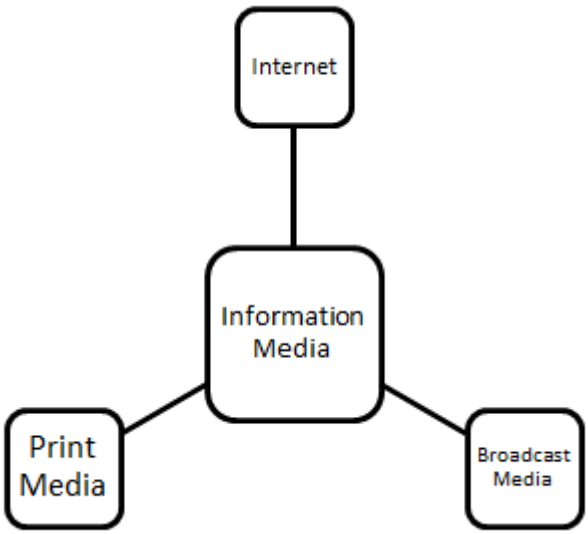


Figure 5. Types of information media
Source: author's created

The Internet is slowly transforming the information media because at the moment people are relying more on the online sources of information instead of traditional print and broadcast media because they believe the traditional print and broadcast media is more affected by the state. Kaplan and Haenlein (2010) describe social media as "a group of Internet based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content."[27] Web 2.0 technologies on the Social Web permit two-way conversations with consumers enabling brands to listen to consumers and respond.[28] Consumers and organizations alike are increasingly using the web to

[26] Kurtz H., Spin cycle: inside the Clinton propaganda machine, 1998 – p. 31.
[27] Kaplan, A. M., Haenlein, M., Users of the world, unite! The challenges and opportunities of social media. Business Horizons. 2010 – p. 52.
[28] Fournier, S., & Avery, J., The uninvited brand. Business Horizons, 2011 – p. 10.

discuss, share, and collaborate.[29] Social media has developed over the years and now includes six primary categories, each with its own unique set of characteristics (Figure 6).



Figure 6. Social media categories
Source: author's created

1. Social networks. Platforms that allow the users of similar interests or background to connect with each other. Examples are Facebook.com and Linkedin.com, academia.edu
2. Bookmarking sites. Platforms that allow users save, organize and manage links of resources in the internet. Example: Pinterest.
3. Social news. Communities that allow the users to create the news content, to submit the news articles, videos, pictures and share with other users. The voting determines which content will be most visible to the users. Example: Digg.com, Snob.ru
4. Media sharing. Services that allow users to upload and share the videos and pictures. Example: Youtube.com and Vimeo.com.
5. Microblogging. Service that provides the platform for short messages, updates that are visible to anyone who subscribed to the sender of the messages. Example: Twitter

[29] Jones, B., Entrepreneurial marketing and the web 2.0 interface. Journal of Research in Marketing and Entrepreneurship, 2010

6. Blog comments and forums. Platform which allows members to create conversation and share opinion around specific subject. Example LiveJournal.com.

Nowadays, social media is in a great request. As an example, Twitter has 288 million monthly active users in 2015. The micro-blogging service 17 hosts roughly 500 million tweets every day.[30] In the end of 2014 Facebook had 1.35 billion monthly active users.[31] Obviously, it is a huge niche to outreach a huge group of people within a short time for political manipulation of the information through social media. A unique role of social media is that enabling users to talk to one another is, in a sense, an extension of traditional word of mouth communication.[32] It makes it easier to spread the information in social media because users themselves spreading the word.

1.4. Systematization of definitions and processes

Referring to the theory analysis above, here is a summary and coherency of the processes analyzed above. Cyber warfare is built on covert cyber actions from one's country side to another. The covert actions could be of two types, the "technical", to paralyze the computer networks and psychological operations. The last means propaganda and disinformation. Moreover, the specific tools of offensive and defensive information warfare include four methods. Psychological manipulation is among them. Psychological manipulation in other words is propaganda therefore cyber warfare's one of the tool is propaganda. All this confirms, that cyber threat or cyber covert actions one of the tools is propaganda. Also, according to the researchers, propaganda online is relatively very new phenomena. The diagram of the processes and their coherence is presented on the Figure 7.

[30] Twitter, https://about.twitter.com/company (retrieved 02.02.2015)
[31] Facebook, https://www.facebook.com/facebook/info?tab=page_info (retrieved 02.02.2015)
[32] Mangold, W. G., Faulds, D. J., Social media: The new hybrid element of the promotion mix. Business Horizons, 2009 – p. 29-30.

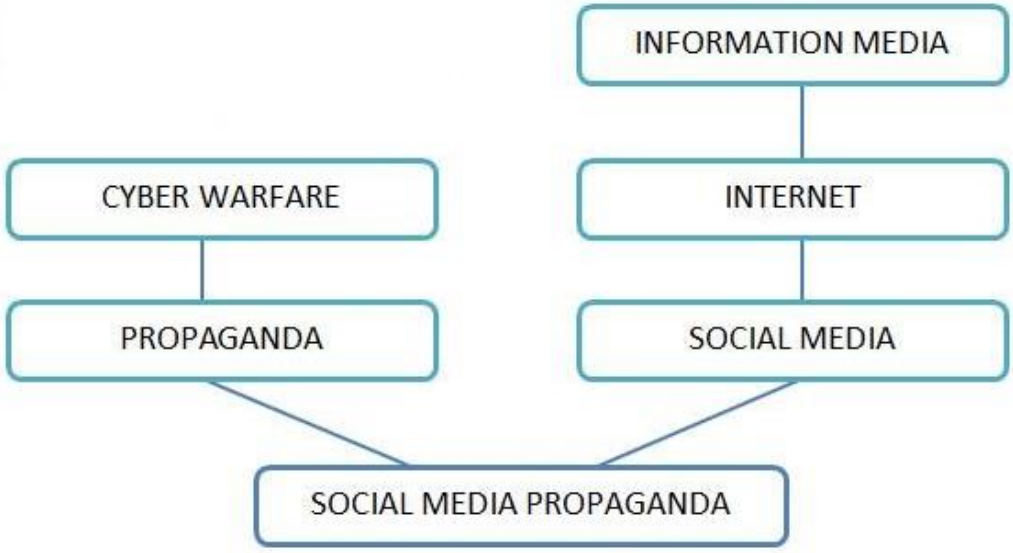


Figure 7. Concepts linking and dependence
Source: author's created

At the same time another block of the theory was analyzed. Information media consists of 3 parts one of them is internet media. And obviously, the social media is one of the types of internet media. And at this stage, after explaining the coherence, the object of the study, social media propaganda is linked.

1.5. Methods of Media Manipulation

Manipulation techniques are constantly being improved. First of all, it does not matter what is being said but how it is being said. Nowadays propaganda does not give straight answers. When people are too straightly imposed someone else's point of view, they resist. Instead social media propaganda pushes people to the conclusions that they thought they made it themselves. Researchers identify the following rules that manipulators are following:

- Introduce the new terms and images that describe what is happening. Propagandists use language techniques (phonetic and lexical), as well as existing in society prejudices and misconceptions, to give a positive or negative effect to some processes or persons or groups of people. In this way it is being exposed the opposite side in a pejorative form - for example, equating to animals or plants.
- Misuse of statistics. In an appropriate context, statistics becomes a powerful weapon - especially sociologic statistics which in addition refers to the opinion of the majority.
- Change agenda of the day. Manipulators are selecting only those events and facts which are the most beneficial for them. During the cyber warfare social media is

filled with false information ignoring ones facts in favor to other beneficial events. Thus, through social media the desired topic is followed by a high degree of tension.

- Referring to anonymous sources. Manipulators are using leaked information - both true and fake. This is done in order to give some claims more high reliability: leaked information allegedly disclose the information available to small number of people which make the person believe more and be engaged more into the topic. Moreover, people often do not believe the statements made by officials therefore looking everywhere the hidden meaning.
- Refer to the experts' opinion. In the eyes of ordinary readers, listeners and viewers, experts have access to a special, unique knowledge - whoever these experts are. Reference to expert's opinion is another great way to mislead the social media user that the information is reliable.
- Give expressed by the experts. In the eyes of ordinary readers, listeners and viewers experts have access to a special, unique knowledge - whoever these experts are. As a reference to the leakage of information is another way to give greater accuracy of judgment.
- Use sound effects. Sound and video in social media may lull the mind and open the subconscious mind therefore the user ceases to perceive the information critically.
- Intimidate alternative scenario. Sometimes it is easier to use enemy's weaknesses. Obtained partial truth is very effective: "Now it's not very good, but could be worse".

1.6. Social Media Theories

Recently the Computer Mediated Communication which includes social media becomes more and more important and continues to be a topic that is widely researched and theorized. Computer Mediated Communication (CMC) is the process of human communication via computer that occurs in a specific context-related to diverse media to form a goal.[33] The part overviews the theories of its major thinkers on the human behavior influence through computer mediated communication. The theories below focus on the influence on people behavior in online communication. It describes its power structure and the techniques it uses, justifying the process. The social media manipulation overview in the research part will be based on the theories below. Social media provide the means for flows of ideas and opinions and play an increasing role for the transformation and cohesion of society.

[33] Thurlow, C., Lengel, L. and Tomic, A., Computer Mediated Communication: Social Interaction and the Internet. London. Sage, 2004 – p. 34.

After analyzing the theoretical resources, three building blocks of online opinion formation framework of social media are proposed: conspiracy theories, social identification model.

1.6.1. Conspiracy Theory

Conspiracy theories and propaganda tend to go hand in hand, mainly because many conspiracy theories tend to be against something (government, industry, etc.) while at the same time trying to promote something (political beliefs, etc.). Sometimes it's difficult define what is conspiracy and what is propaganda. Usually they are one in the same. Some conspiracy theories are obviously propaganda and are generally not believed by most including those that promote the conspiracy theory. Except for those who are to deluded (or have deluded themselves because of some personal bias against a certain person or group to not accept the conspiracy theory / propaganda, or are not insightful enough to figure out the deference between what is real and what is a lies. Sunstein (2014) identifies conspiracy theory as "an effort to explain some event or practice by referring to the secret machinations of powerful people who have also managed to conceal their role"[34]

Sunstein co-authored a 2008 paper with Adrian Vermeule, titled "Conspiracy Theories," among other tactics they suggest "Government agents (and their allies) might enter chat rooms, online social networks, or even real-space groups and attempt to undermine percolating conspiracy theories by raising doubts about their factual premises, causal logic or implications for political action."[35] Stephen E.M. Marmura emphasizes the two types of conspiracy theory while in the first type conspiracy theory clearly had its origins in "agitation propaganda", namely propaganda designed to instill fear and hostility towards a selected target.[36] In such instances spurious claims may gain acceptance due to their compatibility with longstanding media themes and narratives broadly supportive of existing relations of power; what the French social theorist Jacques Ellul termed "integration propaganda". Another type of conspiracy theory is driven by terrorism fight, civilians; defend their citizens, nation, protection and democracy promotion to be inspired by the government. Despite clear differences, the two types of conspiracy theory referred to above do hold something important in common. Simply put, they suggest a growing awareness amongst the citizenry that the mainstream media do not represent the public sphere of open deliberation and rational debate promoted in democratic

[34] Sunstein C. R. "Conspiracy Theories and Other Dangerous Ideas", 2014 – p. 53.
[35] Sunstein C. R., Vermuele A. Conspiracy Theories, 2008 – p. 10.
[36] Marmura S. M. E., Likely and Unlikely Stories: Conspiracy Theories in an Age of Propaganda, St. Francis Xavier University, Canada, 2014 – p. 84-89.

theory, but rather reflect the interests of powerful entities whose outlines are often difficult to discern.

Social Media Propaganda main conspiratorial mechanisms. After analyzing the theory on the social media propaganda I propose the following conspiratorial tools: (figure 8):

- **Political trolls.** Group of people are engaged into existing social media types for the purpose of gross and overt attacks on opponents, threads forming an opinion that a large number of readers does not approve of the author. They work within social networks and which enables the reader to comment through social networks.
- **Polibots.** This is a relatively new phenomenon. Certain power structures allocate funds, hire a group of people who create plenty of accounts and lead them ostensibly on behalf of ordinary people. They communicate; make friends with each other in order to improve the ranking trustablity of the accounts. The main role is that they post the huge number of different posts where every 5-10th post is of the propaganda content. A number of accounts give the appearance of public opinion, expression of support for the various actions of the customer and the disapproval of the opponents. Such accounts also help put on top of ratings the desired articles and quotations, which are then quoted by the media as public opinion. The main difference from traditional propaganda is visibility of public masses, rather than official statements or individual opinions.
- **Biased articles in social media.** Ordered articles and reports exist in the traditional media. Traditional media and social media are going together in this part. Usually the biased articles are being written for traditional media, but also disseminating in social media by sharing, reposting, liking, tweeting. Spreading is being made by ordinary users by paying them (for example, the system repost in "LiveJournal.com" provides such opportunity). Biased propaganda works as articles of slandering content being massively disseminated. Content usually is sensational, mind-blowing or expose person or situation which is described in the article.
- **Fake Pages.** Fake political pages which enforce hatred towards the country, politician or inspiring people for actions meanwhile having propaganda content. Political trolls are the main actors there while biased articles are the main source of information posted on the fake pages.

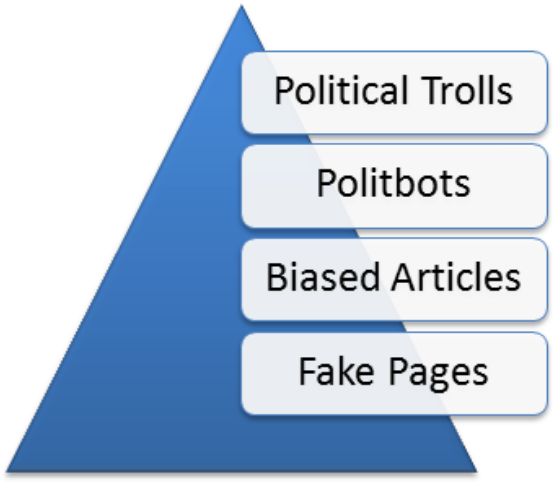


Figure 8. Social Media Propaganda main conspiratorial mechanisms
Source: author's created

1.6.2. Social identification model of deindividuation effects

There are plenty situations in social media engaging anonymity. Nonvisual user identity is usual in computer mediated communication context by hidden photo or pseudonym. Referring to Social identification model of deindividuation effects theory; it explains the effects of anonymity on group behavior. It describes the social effects of computer-mediated communication. The theory suggests that integration in a large group leads to a loss of self-awareness or limitation of self-awareness, excluding the wish and ability to control the individual behavior by the individual. In the context of computer mediated communication, deindividuation is able to manifest in one's behavior that are easily convey many messages of hate and threatening to another person or groups. The theory shows that the user loses individuality and acts on a group norms. There is a strategic effect of the theory which refers to a user's expression ability. From a social identity perspective it shows that being in a group increases the perception of depersonalization, while sharing a common group membership with others. This is especially when dealing with a group of other groups who have greater power and have different norms. Visual anonymity and identifiability build up the strength of the group to express itself so the balance of power between two groups happens.[37]

[37] Postmes, T. & Branscombe, N., "Rediscovering Social Identity", 2010

1.6.3. Social identity theory of leadership

Through Social identification model of deindividuation effects theory prism, Leadership social identity theory explains how the out-group, users, in the theory names as leaders who use social media can influence other users, groups of social media, in internet communication known as followers in social media. This role is determined by how the group formed characteristics considered a leader who is thought to be representing them. An increased feeling as a group is influenced by the extent to which a leader has a prototype in accordance with the group.[38] The main idea of the theory is that group prototypical leaders are better supported and more trusted, and are considered as more efficient and powerful by users than are less prototypical leaders. Core to the social identity theory of leadership is the proposition that leaders are more effective in affecting the followers the more they are seen as group prototypical — to embody what is defining of the group identity. A leader posts the message which is positively evaluated by the followers which defines the followers affirmation to the leader. The affirmation is based on the group behavior and believes conformity. The action of was performed on an unbidden basis and is based on a feeling of pride of the follower. This describes the feeling of personal identity that is represented through group identity. The most important is that the social media messages from the leaders must maintain the attributes of the group's prototype. Leader inconsistencies prototype messages in internet communication channel would cause equivoque of group identity and would lead to rejection of the leader. Leader affects users changing them to depersonalized by sending messages that enhance feelings of groupness. Depersonalization is essential part for creating conformity of the members; therefore the leader will be able to mobilize the action in the future.

Today, social media is the most promising and emerging market for propaganda. The social media is a word-of-mouth which is passing information from person to person, from account to account in social media and this type of sharing information has been known as more effective than the traditional media among modern society. There is a tendency of losing the trust for traditional media such as newspapers and television while social media comes ahead.

[38]Hogg, M.A., A social identity theory of leadership. Personality and Social Psychology Review, 2001

2. METHODOLOGY

Research in the paper is going to be on the basis of the case study method together with the quantitative research. Bennett defines a case study method as the investigation of a well-defined aspect of a historical happening that the investigator selects for analysis, rather than a historical happening itself.[39] Applying this to the given topic – it is not the social media propaganda that is analyzed but the tools of social media propaganda in context of cyber warfare. The method is ideal for testing theories which will be developed in the study. The Conspiracy model in social media, Social identification model of deindividuation effects and Social identity theory of leadership along with the social media propaganda tools will be tested through the case study analysis. Case study method, as pointed out by Bennett, may focus on theory-testing at the expense of theory development.[40] Analysis of the main most popular social media websites accessed by Lithuanian internet users and pro-Russian propaganda models are being used there. The section consists of three subsections. The reason of such a division is three additional research questions posed in the beginning of the paper.

Since the goal of the study is to assess the methods, approaches and tools used in social media in context of cyber warfare in case of pro-Russian propaganda in Lithuania. The author will investigate the public opinion of Lithuania in terms of age, education and social status regarding pro-Russian propaganda in social media based on the most popular social media platform.

Object of the research: pro-Russian social media propaganda

The qualitative and quantitative research methods were used namely the case study along with the questionnaire.

[39] Benntt A.,"Case Study Methods: Design, Use and Comparative Advantages", in Sprinz, Detlef - Wolinsky-Nahmias, Yael (eds.). Models, Numbers & Cases: Methods for Studying International Relations. Ann Arbor: University of Michigan Press, 2004 – p. 19-30.

[40] Benntt, A., "Case Study Methods: Design, Use and Comparative Advantages", in Sprinz, Detlef - Wolinsky-Nahmias, Yael (eds.). Models, Numbers & Cases: Methods for Studying International Relations. Ann Arbor: University of Michigan Press, pp. 2004 – p. 32-53.

The organization of the research: Research phases are shown below:

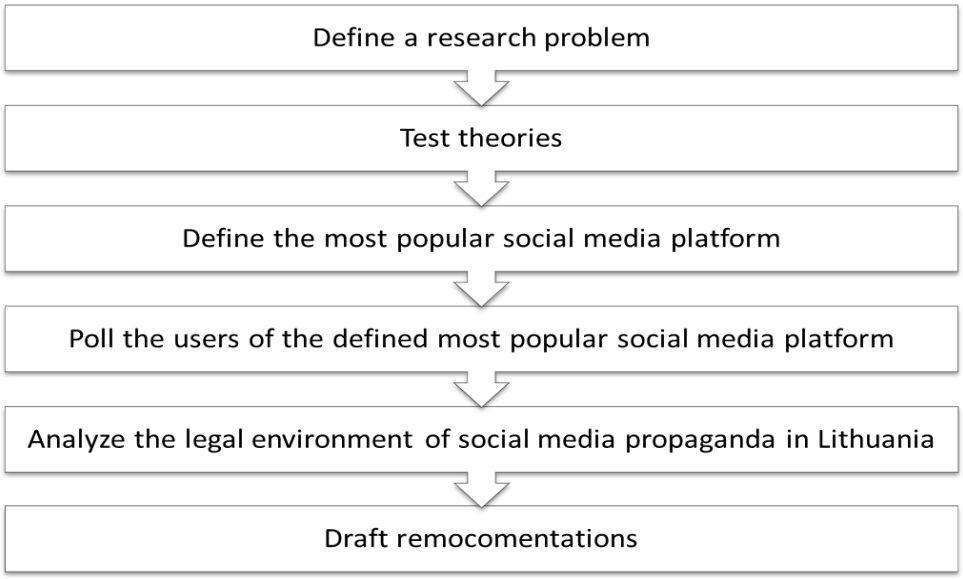


Figure 9. Phases of the research
Source: Author's created

The Likert scale will be used in the quantitative research. The questionnaire includes the statements related to the problem and asked the respondents to answer 18 questions. 3 of the questions are demographical and the last question is qualitative identifying what social media propaganda tools the respondents know. In the survey there were 3 main demographical questions about the respondents – age, social status and education. 14 questions are designed according the Likers scale choosing the answer matching the best to best believes from "strongly disagree" to "strongly agree." The sixth answer could be "hard to say". An example is given in table 1 below.

Table 1. Example of Likert scale

Statements	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Hard to Say
4. *Social network propaganda is a part of cyber warfare*	5	4	4	3	2	1
5. *I feel positive about ongoing pro-Russian political propaganda*	5	4	4	3	2	1

Source: author's created

In order to define the public opinion of Facebook users in correlation with the respondents' age, education and status, first step is to calculate the number of respondents using the formula below:

$$\frac{\frac{z^2 \times p(1-p)}{e^2}}{1+\left(\frac{z^2 \times p(1-p)}{e^2 N}\right)}$$

Figure 10: Sample size calculation
Source: author's created

Table 2. Means of the sample size formula.

Statistic	Description
N	The population size
E	Margin of error (as a decimal)
Z	A z-score measuring the number of standard deviations a given proportion is away from the mean. For a 95% confidence level, use 1.96 as your z-score.

Soruce: Author's created

Population size. In research case the population size is the total number of Facebook users in Lithuania not counting the inactive users and under-age users. According to TNS LT in 2014 the 46% of the internet users in Lithuania used Facebook actively 15% of them are under-aged.[41] Under-aged will not be questioned. Finally, the 31% of Lithuanian internet users are on Facebook which is N=627.706 active Facebook users not including under-aged. Margin of error e=0.05. z=1.96. Therefore, using the formula mentioned above the number of the respondents shall be 384.

Suggested sample sizes. Below is a table with suggested population sizes by margin of error at a 95% confidence level by Survey Monkey.[42] According to Survey Monkey the sample size per 5% margin of error shall be 400 respondents. This will be the target number for the respondents' number (table 3).

[41] TNS research group http://www.tns.lt/ (retrieved 14.4.2015)
[42] Survey Monkey http://surveymonkey.com/

Table 3. Suggested respondent number by margin error at a 95%

Population Size	Sample Size per Margin of Error		
	±3%	±5%	±10%
500	345	220	80
1,000	525	285	90
3,000	810	350	100
5,000	910	370	100
10,000	1,000	385	100
100,000+	1,100	400	100

Source: author's created

In order to reach out the targeted respondents, the poll will be disseminated through the Lithuanian survey website apklausa.lt[43] and posted in the Facebook through the personal account. Another part of the respondents will be reached out through the hotel in Kaunas. The questionnaires will be accessed at the reception of the Apple Economy hotel[44], the main clients of which are Lithuanians.

The data will be analyzed by using SPSS 20.0 program. To evaluate the difference between the age, social status and education groups with continuous data. One-way ANOVA Post-Hoc Bonferroni method will be used. The simplest and most conservative approach is the Bonferroni correction. "The Bonferroni correction is a multiple-comparison correction used when several independent statistical tests are being performed simultaneously (since while a given alpha value α may be appropriate for each individual comparison, it is not for the set of all comparisons). In order to avoid a lot of spurious positives, the alpha value needs to be lowered to account for the number of comparisons being performed".[45] The simplest correction sets the alpha value for the entire set of n comparisons equal to α by taking the alpha value for each comparison equal to α/n. Another correction instead uses $1 - (1 - \alpha)\ 1/n$; while this choice is applicable for two-sided hypotheses, multivariate normal statistics, and positive orthant dependent statistics, it is not, in general, correct.[46] Statistically reliable data at $p \leq 0.05$.

[43] www.apklausa.lt
[44] http://www.applehotel.lt/
[45] Bonferroni C. E. Il calcolo delle assicurazioni su gruppi di teste, Roma, 1935 – p. 13-60.
[46] Shaffer J. P., Multiple Hypothesis Testing, Department of Statistics, University of California, Berkeley, California 94720, 1995 – p. 10.

3. RESEARCH

3.1. Testing theories: conspiracy model in social media, social identification model of deindividuation effects and, social identity theory of leadership

Research question 1: *What are the possible tools of pro-Russian social media propaganda in context of cyber warfare in Lithuania?*

Fake page. In January 2015 a provocative Lithuanian page in Facebook most likely backing the routes to conflict in Ukraine and the self-created "Doneck People's Republic" has been created. The names are as follows "Vilnius people's Republic" (orig. Wileńska Republika Ludowa)[47] around the capital of Lithuania. The page creates serious problems for Lithuania. First, it bursts nationalist feelings among the society as well as sharpens the relations between ethnic groups of those countries. It is almost certain that the page was launched not as a local initiative which may see the Donetsk and Luhansk People's Republics as a model they would like to live in but Moscow who sees it as a means to destabilize the neighbor because:

- Edgar Trusevic, a leader of the Polish community of Lithuania in the name of which the "Wileńska Republika Ludowa" site has been launched, views this site as "Russian provocation with which no one in Lithuania would have anything to do".
- Another proof that the page may be initiated from Russia is that Russian media is watching the reaction of Lithuanian government. It proves the publications in Russian media at the same time when the site was launched (end of January 2015). The articles are describing the reactions of the Baltic States governments as well as justifying and giving as model the Doneck People's Republic for other regions to separate.[48] *In online propaganda there is never a certain proof of the propaganda source, therefore the conclusion about the source is based on analytical analysis.*

Another analyzed Facebook page is namely Referendum against Dalia Grybauskaite (orig. "Referendumas prieš Dalią Grybauskaitę").[49] The page was created in March

[47] Vilnius people's Republic https://www.facebook.com/pages/Wile%C5%84ska-Republika-Ludowa-%D0%92%D0%B8%D0%BB%D0%B5%D0%BD%D1%81%D0%BA%D0%B0%D1%8F-%D0%9D%D0%B0%D1%80%D0%BE%D0%B4%D0%BD%D0%B0%D1%8F-%D0%A0%D0%B5%D1%81%D0%BF%D1%83%D0%B1%D0%BB%D0%B8%D0%BA%D0%B0/1017190118295964 (retrieved 28.02.2015)

[48] http://politobzor.net/show-43230-v-socsetyah-obsuzhdayut-narodnye-respubliki-v-latvii-i-litve.html; http://news.rambler.ru/28931637/ (retrieved 03.01.2015)

[49] Facebook Page https://www.facebook.com/ReferendumasPriesPrezidente (retrieved 23.04.2015)

2015 and at the moment has 9,347 likes. The likes could not be analyzed on the matter of politbots as they are hidden by Facebook.

Aim of the group is to collect 300,000 signatures of persons who have the right to vote and initiate the referendum to suspend the president of Lithuania from her duties. The page has the political propaganda nature because:

- It seems the aim of the site is not important for the initiators. The most important is content here. The stated aim would not be possible because of the Constituiton of Lithuania which doesn't afford the suspension of presidency through referendum. The initiators post all kind of propaganda content including president's quotes, comments, videos, reports and articles about Lithuania's actions which are contrary to site's beliefs.
- On this page another page was promoted namely Lithuanian media spreads the propaganda (orig. "Lietuvos žiniasklaida skleidžia propaganda"). Assumingly, both sites are coming from the same source. The second page posts the similar content as the first one. The page is not popular, just 411 likes. The page was created also in March 2015. This kind of pages does not show the creator of the page as well as don't show the accounts of people who like the page. It allows users comment and talk under each post of propaganda article, post or video therefore stimulate people to be engaged.

All aforementioned coheres with the conspiracy theory as well as the Identification model of deindividuation effects. Fake pages engage anonymity, initiated not by the society but by the interested party. Integration of the user in a large group leads to loss of self-awareness giving the possibility to control or influence the user's behavior. The theory shows that the user loses individuality and acts on a group norms. This can explain the number of likes of the page and users commenting and also give voice to hatred and take the group's opinion.

Political trolls. Already in beginning of 2012 the Guardian reported:[50] "A pro-Kremlin group runs a network of internet trolls, seeks to buy flattering coverage of Vladimir Putin and hatches plans to discredit opposition activists and media, according to private emails allegedly hacked by a group calling itself the Russian arm of Anonymous". Mentioning the headquarters in Saint-Petersburg, the Guardian was being able to talk to "troll army" former employees. Trolls worked in teams of about 20 persons, each supervised by three editors. The

[50] The Guardin, Article Emails give insight into Kremlin youth group's priorities, means and concerns, 2012 http://www.theguardian.com/world/2012/feb/07/nashi-emails-insight-kremlin-groups-priorities (retrieved 20.3.2015)

LiveJournal.com blogger who worked in total for about two months until mid-March 2015 was paid around 720 Euro a month, to run a number of accounts on the social media website. The person was writing ordinary posts under pseudonym accounts about making cooking or music videos, but after a number of postings write a political post criticizing European Union, Western society etc.. Instructions for the political posts were coming in "technical task" that the trolls received every morning; on the other hand the non-political topics had to be thought up on their own. "First thing in the morning, we'd come in, turn on a proxy server to hide our real location, and then read the technical tasks we had been sent,"[51] said the former troll. Illustrations and pictures the trolls have been taken from special websites. Images or comics[52] were mainly about European leaders among them Lithuanian President. The images contain the offensive comments, sometimes photo-shopped incidents or showing Russian ruling regime in a winning position. The main website for the facts and history to use is namely "patriotic Russian Wikipedia", content of which support the ideological system of modern Russia. According to the Guardian the most prestigious and wanted job in this agency is to be an English-language troll, working for abroad, this position gets 65,000 roubles. Last year, the Guardian's readers' editor said he believed there was an "orchestrated pro-Kremlin campaign" on the newspaper's comment boards. "When I got the job there in 2013 it was a small building, I was working in the basement, and it was clear they didn't have enough space,"[53] said Andrei Soshnikov, a St. Petersburg journalist who infiltrated the company two years ago and has continued to cover it.

The conspiracy theory described in the theoretical part coincides with analysis of the trolls work. The political trolls are working exactly according the conspiracy theory principles and methods.

Politbots. Global Voice website reports that total amount of the accounts which are bots are more than 20.000. The social media analyst Lourens Alexandr conducted a research of the connections and accounts in Twitter social network which spread the pro-Russian propaganda messages.[54] He analyzed the complete list of accounts that posted the same message about the latest event in Russia as well as account's friends and readers. Thus he found out that these accounts were linked between each other in a number of 2,900 profiles. The researcher also made a chart of the links between accounts in the group. Most of the politbots follows the other

[51] The Guardin, Article Emails give insight into Kremlin youth group's priorities, means and concerns, 2012
[52] example internet source: http://xn--80acbo6d9a.xn--p1ai/index.php (retrieved 22.03.2015)
[53] The Guardian, Article: Salutin' Putin: inside a Russian troll house http://www.theguardian.com/world/2015/apr/02/putin-kremlin-inside-russian-troll-house (retrieved 04.02.2015)
[54] Alexandr L., Анализ социальной сети раскрывает полный масштаб кампании кремлёвских ботов в Twitter, http://ru.globalvoicesonline.org/2015/04/03/36169/ (retrieved 03.02.2015)

accounts from the analyzed group, giving each other high ranking of readership. On the countryside there were several “rings” less associated with other accounts that may indicate that the bots network continued to "grow" at the time of data collection. He also found out whether the owners of these accounts are real people. He found out that 87% of profiles in the aforementioned group do not have time zone information, and 92% never added anything to the "favorites", which. These characteristics can prove the "human" behavior in social media. Finally, the analyst analyzed other four groups of politbots filtered by the same propagandist topics. As a result, the number of such bots was 17,590 accounts. The fact that it was politbots indicated the absence of a location in the profiles, no time zone information and records in the "Favorites". In addition, despite the fact that each account has published an average of 2,830 tweets, they almost never interacted through @mentions or @replies. In addition, the researcher proved that all four groups have also been linked between each other. Among the accounts was no isolated individual or group from the drop-down communication users. This fact is a serious support for the idea that the politbots were created by one agency – and the evidence roots go to Russia.

Analyzing the twitter, accounts which are tweeting the same messages at exactly the same time such as “Lithuanian Government told the information about president of Lithuania is provocation” with no source. The post has a mistake which is very obvious for a Russian speaker however it anyway allowed the politbots to copy-paste the same post with a mistake (Annex 1). It shows that politbots are working not on a quality but on the quantity basis. Next day and after a month hitting in the search box one of the surname of the aforementioned politbot and copying the tweet (which has a propaganda nature), the same all aforementioned accounts keep tweeting the same messages. (Annex 2).

After checking all aforementioned accounts which posted the same tweets at the same time, it appeared that they all have the common pattern:

- the hashtags #ВзаимныйФолловинг #followback and similar which means they are interested to collect as many followers;
- illustration or cartoon image instead of the real profile photo;
- most of them writes about themselves in “description” section that they like travelling, do sports and support healthy lifestyle;
- all of them are open accounts which any user can access;
- some of the tweets are of political content, others many simple topics not related to account’s hobbies (according to description);
- tweets don’t have a source.

It is obvious that many accounts are being managed by one source as the copy-paste absolutely the same new posts appears every 5-7 minutes from aforementioned example of accounts. Moreover, it can be assumed that accounts are being launched by the program, not the person who is tweeting them.

Meanwhile, while the politbots are trying to pretend that they are the simple user of social network, it is a fact, that their conspiracy is built on a fast trail. The politbots try to create the image of long-term user, however they all have not hidden common patterns and doing the simple check it becomes obvious. The analysis above can prove that there is a pro-Russian propaganda in social media using the tool "politbot".

Biased article in social media. In 2015 so far the consistent pro-Russian propaganda is mentioning Lithuanian president. Thousands of biased articles posted in the social media and reposts of those articles by trolls and politbots contains a slandering content about the president. This is where traditional media and social media are going hand to hand. Traditional propaganda is doing its own job while trolls and politbots are taking this information and bringing it to the social media and spreading it around. The content of such articles is usually US, NATO, Ukraine, Baltic States including Lithuania. Likely, because of the Lithuania's harsh comments about Russia, Lithuania is in a "daily technical tasks" list of pro-Russian propagandists. While analyzing the aforementioned accounts in Twitter, all of them had slandering tweets about Lithuanian president. Russian media prepares the articles and spread it through traditional and social media. A conspirational nature of such articles would always have the non-existing reference or not clear reference or no reference to the source at all as it is in the analyzed examples below.

This method used by pro-Russian propaganda in social media is known as traditional propaganda method in media while it has been injected in social media as well. The analysis proves that the method is working according the traditional social media conspiracy theory using the tool of biased articles.

The social identity theory of leadership in case of pro-Russian propaganda was not detected while analyzing the social media websites in regards to pro-Russian propaganda tools. The social media group prototypical leaders are better supported and more trusted, and are considered as more efficient and powerful by users. A leader posts the message which is positively evaluated by the followers which defines the followers affirmation to the leader. The affirmation is based on the group behavior and believes conformity. The social identity theory of

leadership may appear in the future through cultural and social tools. The famous sportsman, singer, painter or any other cultural or social group representative may become a leader for the group which any Lithuanian can join in social media tool. While the followers take the creator of the account as a leader, according to the theory, the leader may easier influence the group behavior and way of thinking.

3.2. Penetration of Lithuanians in cyber media

Research question 2: *What is the opinion and reaction on the pro-Russian propaganda in the most popular social media category among Lithuanian internet users?*

In this section the author is analyzing the most popular social media categories, where the significant part of content may be defined as potential pro-Russian propaganda. Meanwhile based on the Lithuanian users social media penetration analysis the author will define the most valuable categories, where propaganda can be applied in terms of popularity.

The following most popular social media of pro-Russian propaganda will be analyzed:

- Vkontakte.ru (VK.ru)
- LiveJournal.com
- Facebook.com
- Twitter.com

Vkontakte.com (VK.com) social network. Vkontakte.com, now known as VK .com, is Russia's most popular social network by far with 67 million monthly users as of January 2015, according to LiveInternet,[55] a third-party website that does website analytics. It surpassed both Facebook and Twitter in Russia. According to the statistics of 2013 year, there are 96,000 users from Lithuania in VK.com which makes 3 % of total population of Lithuania (figure 11).

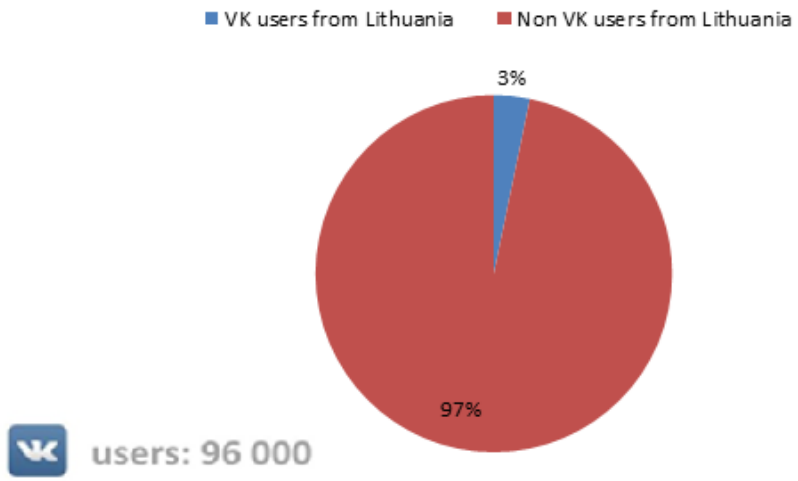


Figure 11. Population of Lithuania Penetration in VK
Source: authors created

[55] Liveinternet.ru website statistics http://www.liveinternet.ru/stat/vkontakte.ru/index.html?period=month (retrieved 12.04.2015)

Moreover it makes 5 % of total internet users of Lithuania (figure 12). Based on this numbers, it can be assumed that 5 % of Lithuanian internet users can be named as pro-Russian propaganda potential consumers through VK.com.

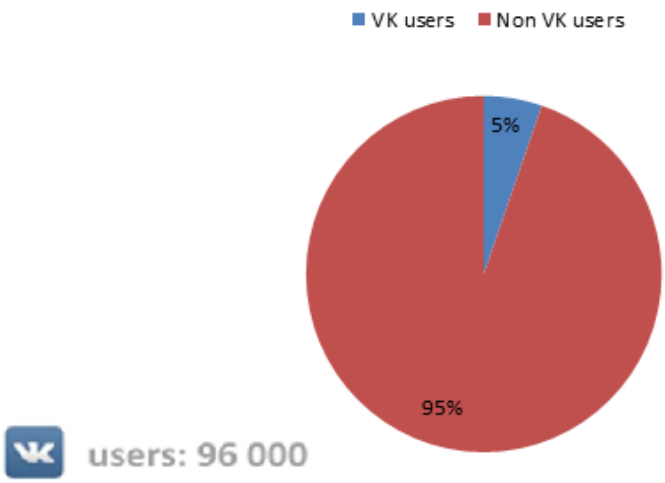


Figure 12. Internet Users of Lithuania Penetration in VK.ru[56]
Source: author's created

Pro-Russian propaganda is not only outreaching Russian speaking social media users. Pro-Russian propaganda no longer speaks in Russian, it speaks in language of the auditory it outreaching. The website is basically Russian speaking however it is acting very welcoming to other nationalities, as users can navigate in different languages, among them Lithuanian language interface as well. This means not only Russian speaking Lithuanian population is able to access the website but the Lithuanian speakers can navigate there. What can attract the Lithuanian to register in Vkontake.ru? Vkontake.ru is famous about its unlawful distribution of music, videos and movies which can be accessed only by registered Vkontakte.ru user.

Among those 5% of internet users in VK, 55% of them are Lithuanians between 12 and 24 years old. (Figure 13).

[56] Liveinternet.ru website statistics http://www.liveinternet.ru/stat/vkontakte.ru/index.html?period=month (retrieved 12.04.2015)

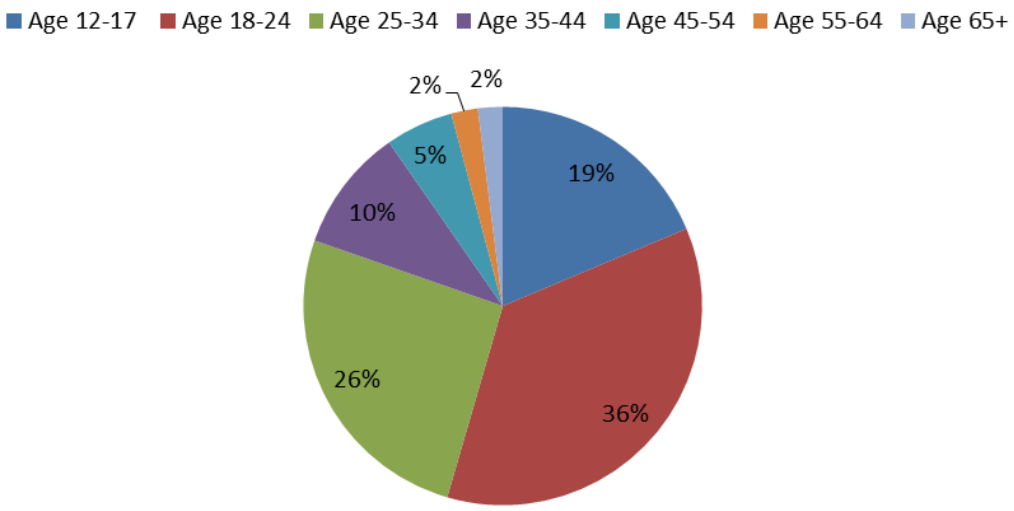


Figure 13. Lithuanian Users Age Distribution in VK.com 2013
Source: authors created

Livejournal.com. Talking about LiveJournal.com blogging and news platform, by 2013 year only 9.908 accounts from Lithuania were registered which makes 0.49% of all internet users but this number cannot show the real picture of the readers of the blog as the blog is fully accessible to any unregistered user. Therefore the number of the readers of LiveJournal.com from Lithuania can be higher.

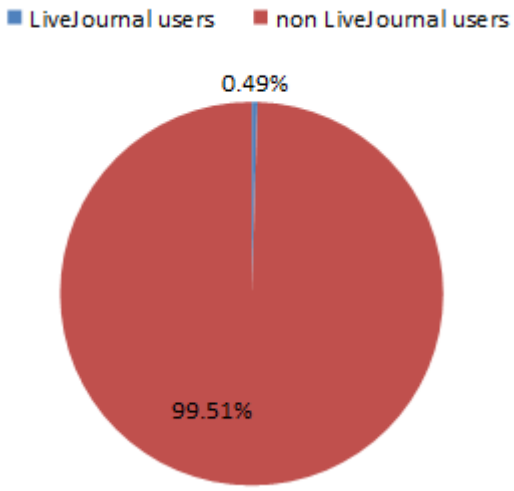


Figure 14. Internet Users of Lithuania Penetration in LiveJournal 2013[57]
Source: author's created

[57] Live Journal Statistics 2013 http://www.livejournal.com/stats/stats.txt (retrieved 20.02.2015)

Facebook. Facebook is a social network launched in US in 2004. Facebook is the most popular social network in Lithuania, used by 68 percent of all internet users in the country (Figure 15).

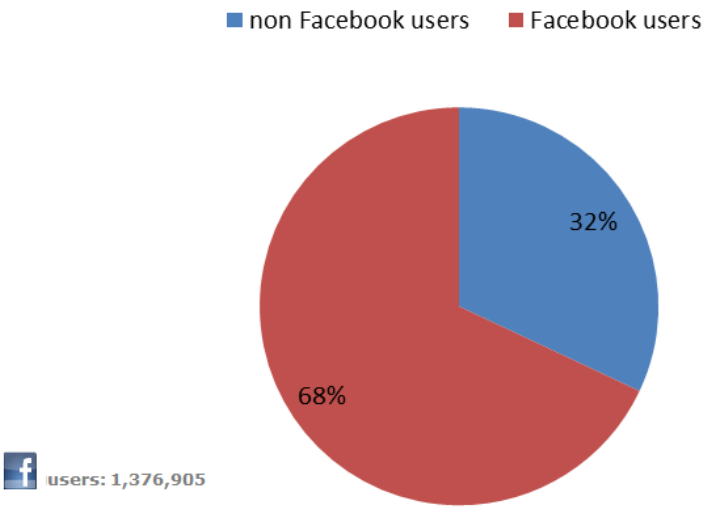


Figure 15. Internet users of Lithuania penetration in Facebook 2013[58]
Source: author's created

This means the outreach of the pro-Russian propaganda in this social media type can be the highest. Also, 60% of Facebook users are between 18 and 34 years old therefore the outreach of the young population is very high as well (figure 16 below).

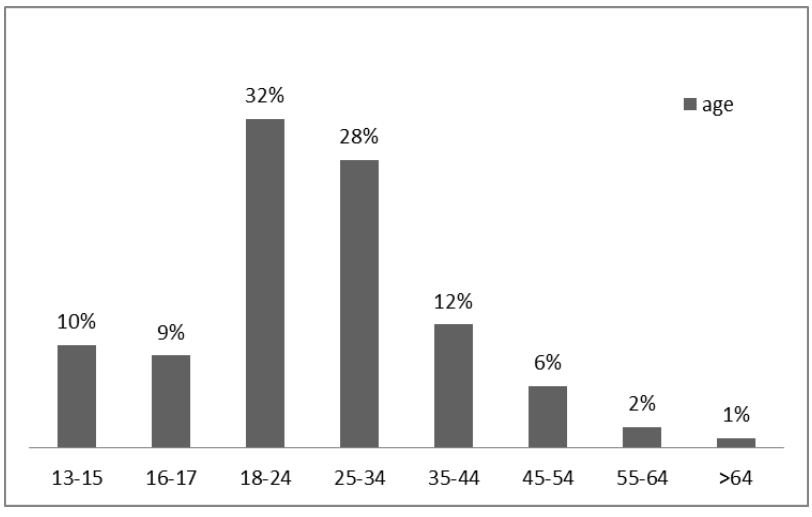


Figure 16. Age distribution of Lithuanians in Facebook 2012[59]
Source: author's created

[58] TNS LT market research company http://www.tns.lt/
[59] TNS LT market research company http://www.tns.lt/

Moreover, in February 2015 Facebook has introduced the report false news story which is used to flag content that is incorrect (Figure 17). After a number of people report the same article, flagged story will also come with a warning to the readers: "Many people have reported that this story contains false information."

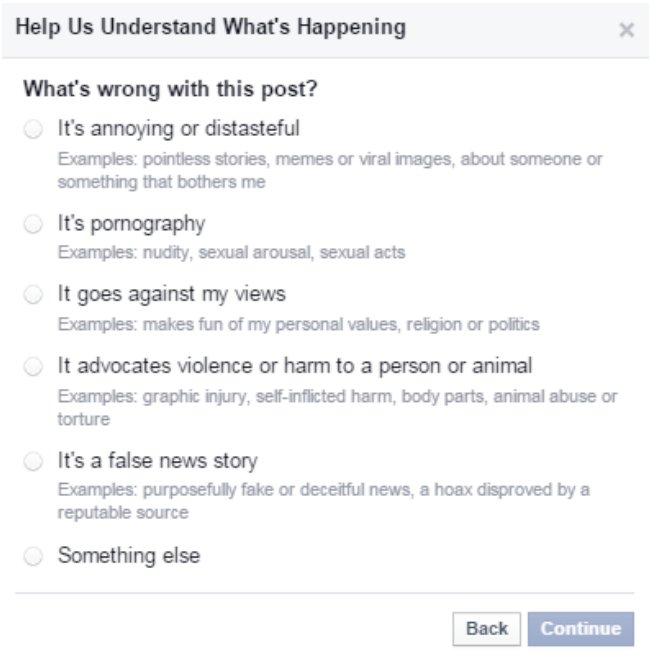


Figure 17. Report a false news story on Facebook
Source: Facebook.com

Besides, this reporting system is not working well in cyber warfare using Facebook. The button is designed to protect Facebook users from the false information but that protection can also be used as a tool for stifling dissent. The strategy is simple — rack up enough abuse reports to knock the site off Facebook, effectively cutting it off from the audience. It means the pro-Russian propaganda with its trolls and politbots warriors can easily spread the propaganda without any limitations, moreover can block the opponents by reporting them many times from different accounts.

Twitter. Twitter is an online social network and micro-blogging service that enables users to send and read short messages called tweets. Registered users can read and post tweets. Meanwhile, unregistered users can only read them. Below there is a figure 18 which shows the internet users of Lithuania penetration in Twitter in 2013. Twitter was created in 2006

and by as of December 2014, Twitter has more than 500 million users, out of which more than 284 million are active users.[60]

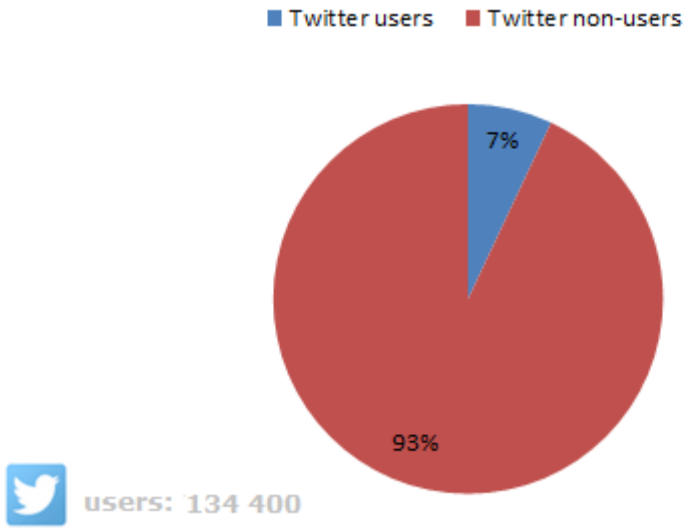


Figure 18. Internet users of Lithuania penetration in Facebook 2013[61]
Source: author's created

Based on the aforementioned analysis of the most popular social media categories among Lithuanians, the most popular is Facebook, where 68 percent of Lithuanians are registered. On the second place the Twitter with 7 percent of Lithuanian internet users and Vkontakte.ru with 5 percent of Lithuanian internet users. In order to find out the opinion and reaction of Lithuanians in social media, Facebook, as the most popular social media will be used as a platform. The questionnaire will be designed for Facebook users aiming to answer the following questions and compare the opinions by age, education and social status:

- Do Facebook users consider social media propaganda as a tool of cyber warfare?
- Do Facebook users realize the pro-Russian propaganda in Facebook?
- Do Facebook users think there is pro-Russian propaganda in Facebook?
- Do Facebook users trust the information they read in Facebook?
- Fo Facebook users think Russia uses special tools to conduct propaganda in Facebook?
- How Facebook users react on pro-Russian propaganda if there is such?
- Do Facebook users get enough information on what propaganda is and its tools?

[60] Article "Instagram now has more users than Twitter]", 2014. http://www.trustedreviews.com/news/instagram-now-has-more-users-than-twitter (retrieved 14.4.2015)
[61] TNS LT research group http://www.tns.lt/ (retrieved 14.4.2015)

3.3. Quantitative Research: Public Facebook users' opinion on the pro-Russian propaganda in social media as a part of cyber warfare

3.3.1. Respondents' profile

In the survey there were 3 main demographical questions about the respondents – age, social status and education. The total respondents number is N=406. As figure 19 shows, the main respondents of the survey were 18-35 years old Lithuanians. Together they made 79 percent of the respondents. The rest 21 percent are respondents from 36 years old. Such distribution can be explained by the age distribution in Facebook. The main population of Facebook users is under age of 35. (Figure 19)

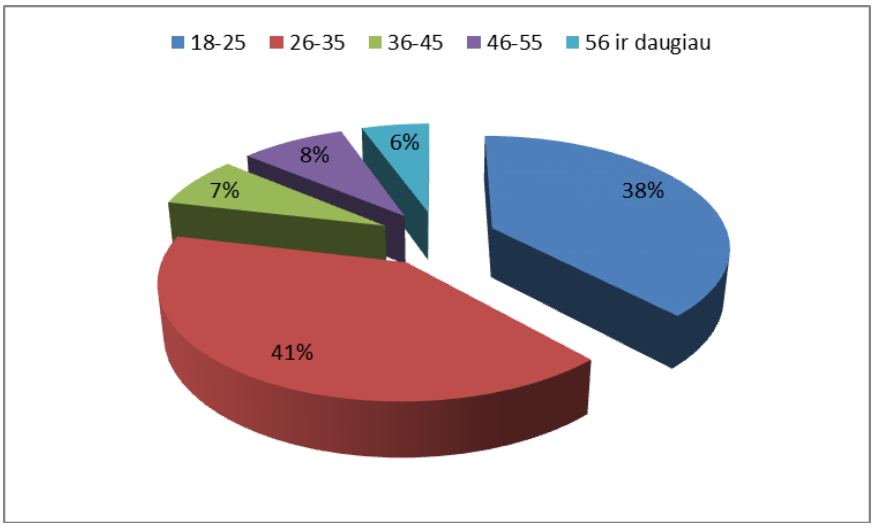


Figure 19. Age distribution among respondents
Source: author's created

Second demographical factor is education. The main part of the respondents are hold a higher education diploma (78 percent), meanwhile college graduated are 6 percent and therefore secondary school finished 12 percent and not yet finished 4 percent. For the purpose of the study, the higher education and college graduates will be united under one category and make 84 percent. Meanwhile second category with the secondary degree and incomplete secondary degree will make 16 percent of the respondents.

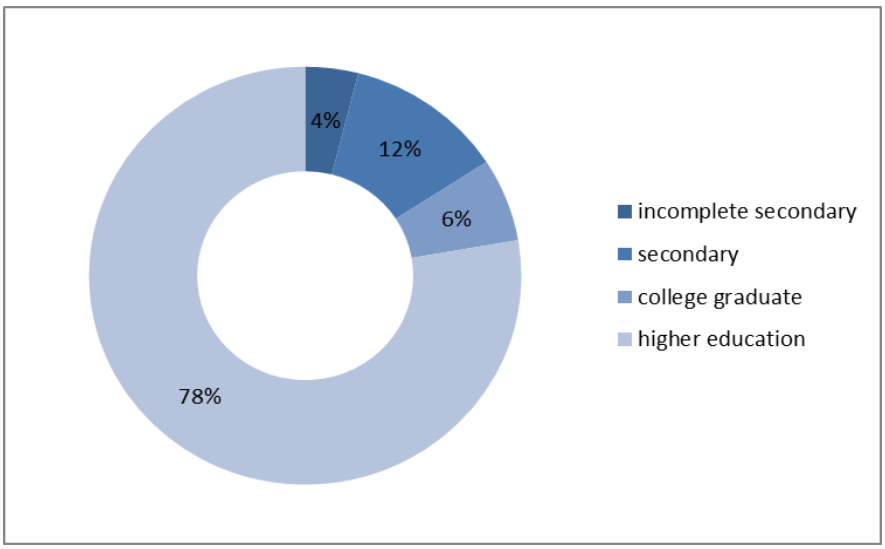


Figure 20. Education type distribution among respondents
Source: author's created

The last demographic indicator is social status of the 406 respondents. There were 7 categories among which the highest value have student (20.20 %), entrepreneur (17.73 %), official (21.67 %) and employee (31.53 %). The minor values have an unemployed, retired and a farmer. For the purpose of this study, the aforementioned three categories will be taken as "others" making 8.86 % in total.

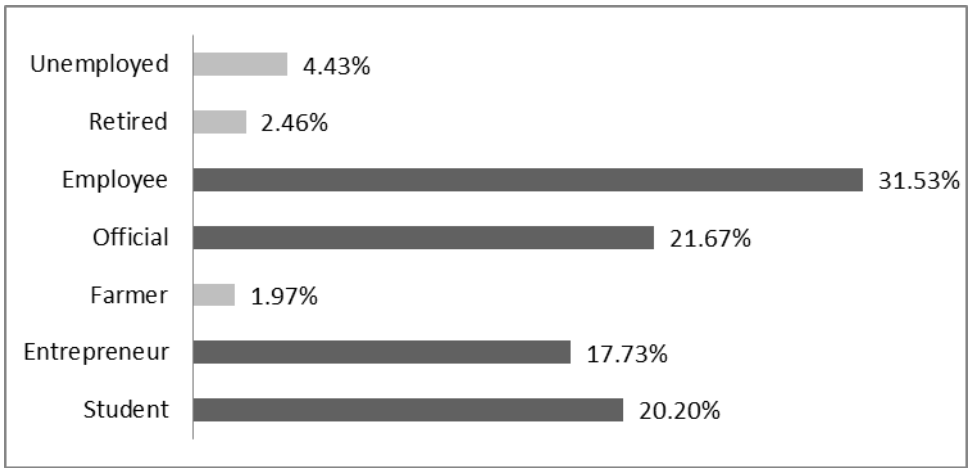


Figure 21: Social status type distribution among respondents
Source: author's created

Out of 406 respondents who completed the survey, a majority of respondents reported they are between age of 26 and 35. The majority have higher degree diploma (M = 3.58; SD = 0.849) and works as employees (M = 4; SD = 1.77). The next step is to measure the reliability of the questionnaire. For this questionnaire, the overall Cronbach's Alpha is 0.849

(table 4), which is an excellent score, indicating that the reliability of the scale used in this research is acceptable (0.849>0.7).

Table 4. Cronbach's Alpha Reliability

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.849	.822	19

Source: SPSS

The Likert scale has 4 general questions about social media propaganda and 10 specific questions about pro-Russian propaganda in Facebook.

3.3.2. The public Facebook users' opinion regarding the propaganda in social media as a part of cyber warfare

The table below (table 5) shows the percentage of the positive and negatives reactions on the statement. Analyzing the general questions about the political propaganda in social network, the statement 4 *"Social network propaganda is a part of cyber warfare"*. 73,9% of the respondents agrees and totally agrees with the statement (M = 3.9, SD=1.335).

Table 5. *"Social network propaganda is a part of cyber warfare"*

	Disagree and totally disagree	I am not sure and hard to say	Agree and totally agree		
	Row N%	Row N %	Row N%	Mean	Std. Deviation
Q4	12.8%	13.3%	73.9%	3.9	1.335

Source: SPSS

The 12th statement: *"Dissemination of political information in social media should be regulated by the law"*. Table 6 below shows that almost half of the respondents do not agree with this statement. (M = 3.3; SD = 1.501).

Table 6. *"Dissemination of political information in social media should be regulated by the law"*

	Disagree and totally disagree	I am not sure and hard to say	Agree and totally agree		
	Row N%	Row N %	Row N%	Mean	Std. Deviation
Q12	23.2%	29.1%	47.8%	3.3	1.501

Source: SPSS

13th statement: "*I know that I can inform the State Security Department of any perceived intentional pro-Russian propaganda actions"* (table 7) 37,8 % does not know about this possibility and 27,6 % could not answer. It clearly show the lack of communication from State Security Department as well as lack of educational programs.

Table 7 "*I know that I can inform the State Security Department of any perceived intentional pro-Russian propaganda actions"*

	Disagree and totally disagree	I am not sure and hard to say	Agree and totally agree		
	Row N%	Row N %	Row N%	Mean	Std. Deviation
Q13	37.9%	27.6%	34.5%	2.9	1.577

Source: SPSS

The 16th statement: "*There are enough public educational programs in Lithuania which provide information on propaganda in social media and internet"*. The majority of the respondents are lack of the educational programs. Also a huge part of them (36 %) doesn't have opinion about it.

Table 8. "*There are enough public educational programs in Lithuania which provide information on propaganda in social media and internet"*

	Disagree and totally disagree	I am not sure and hard to say	Agree and totally agree		
	Row N%	Row N %	Row N%	Mean	Std. Deviation
Q16	47.3%	36.0%	16.7%	2.5	1.488

Source: SPSS

All other statements are related to the most popular social media category in Lithuania – Facebook. The statements were designed in a way to find out the Facebook users' perception on propaganda and pro-Russian propaganda through social media.

The 5th statement: *"I feel positive about ongoing pro-Russian political propaganda"*. The majority of users doesn't agree with a statement, but 6,9 % of the users feel positive about propaganda. Statistically the number is very low. However it is quite strong number to support the Russian ruling regime.

Table 9. *"I feel positive about ongoing pro-Russian political propaganda"*

	Disagree and totally disagree	I am not sure and hard to say	Agree and totally agree		
	Row N%	Row N %	Row N%	Mean	Std. Deviation
Q5	79.8%	13.3%	6.9%	1.6	1.522

Source: SPSS

The 6th statement: *"The user can trust the posted in Facebook information about political-economic situation in Lithuania and in the world"*. 44.3 % of the respondents do not agree with the statement. However 34.5 % is not sure if they can trust the information. There is a huge part of Facebook users who are in doubts at the moment if they can trust social network Facebook (M = 2.7; SD = 1.510).

Table 10. *"I can trust the posted in Facebook information about political-economic situation in Lithuania and in the world"*

	Disagree and totally disagree	I am not sure and hard to say	Agree and totally agree		
	Row N%	Row N %	Row N%	Mean	Std. Deviation
Q6	44.3%	34.5%	21.2%	2.7	1.510

Source: SPSS

The 7th, 8th and 9th statements: *"Russian government launches the intentional pro-Russian propaganda actions in social network Facebook"; "Russian authorities use tools to spread political propaganda in Lithuania through social network Facebook"; "I have seen*

pages or accounts that promote pro-Russian ideology on Facebook". Majority of respondents agree with above mentioned statements. However there is a big part of respondents who are not decided. Also, the percentage who disagrees with the statements is quite high (~21%).

Table 11. *7th, 8th and 9th statements*

	Disagree and totally disagree	I am not sure and hard to say	Agree and totally agree		
	Row N%	Row N %	Row N%	Mean	Std. Deviation
Q7	14.8%	30.5%	54.7%	3.5	1.387
Q8	19.2%	30.0%	50.7%	3.4	1.482
Q9	30.0%	23.2%	46.8%	3.2	1.620

Source: SPSS

The 10th statement: *"I saw possible pro-Russian government biased political articles on Facebook"*. 1/3 has not seen, 1/3 does not know and 1/3 has seen. (M = 2.9; SD = 1.586). It may be assumed that Facebook users cannot recognize the propaganda or they cannot believe that countries can use such tools. They assume that Facebook is a trustable source to get information.

Table 12. *"I saw possible pro-Russian government biased political articles on Facebook"*

	Disagree and totally disagree	I am not sure and hard to say	Agree and totally agree		
	Row N%	Row N %	Row N%	Mean	Std. Deviation
Q10	34.0%	33.0%	33.0%	2.9	1.586

Source: SPSS

11th statement: *"Initiators of pro-Russian propaganda in Facebook receive remuneration for it".* 42,2 % of the respondents could not agree or disagree while 22,2 % does not agree with this statement (M = 3.1; SD = 1.45). This shows the possible internet user's lack of education in the matter of propaganda operations.

Table 13. *"Initiators of pro-Russian propaganda on Facebook receive remuneration for it"*

	Disagree and totally disagree	I am not sure and hard to say	Agree and totally agree		
	Row N%	Row N %	Row N%	Mean	Std. Deviation
Q11	22.2%	42.4%	35.5%	3.1	1.450

Source: SPSS

The last 14th, 15th and 17th statements (table 14): "*I have noted and informed the relevant authorities about the intentional pro-Russian propaganda actions on Facebook"; "I share the political-economic information read on Facebook with my friends"; "I am engaged into discussions about the current Lithuanian and Russian political relations on Facebook"*. The last statements show that majority of the respondents are not involved into political discussions on Facebook as well as they are not active in terms of disseminating further the political information. Also, the majority have never informed about any possible pro-Russian propaganda actions on Facebook. In general, this means the majority of the respondents are not active citizens in social media.

Table 14. *14th, 15th and 17th statements*

	Disagree and totally disagree	I am not sure and hard to say	Agree and totally agree		
	Row N%	Row N %	Row N%	Mean	Std. Deviation
Q14	82.8%	10.8%	6.4%	1.7	1.482
Q15	67.5%	13.8%	18.7%	2.2	1.618
Q17	79.3%	9.9%	10.8%	1.8	1.535

Source: SPSS

H0: $\mu Q4 = \mu Q5 = \mu 6 = \mu 7 = \mu 8 = \mu 9 = \mu 10 = \mu 11 = \mu 12 = \mu 13 = \mu 14 = \mu 15 = \mu 16 = \mu 17$
H1: not H0
$\alpha = .05$

Table 15. ANOVA table

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
Q4	Between Groups	24.102	4	6.025	5.224	.000
	Within Groups	448.670	389	1.153		
	Total	472.772	393			
Q5	Between Groups	10.072	4	2.518	2.573	.037
	Within Groups	374.804	383	.979		
	Total	384.876	387			
Q6	Between Groups	41.921	4	10.480	9.085	.000
	Within Groups	441.801	383	1.154		
	Total	483.722	387			
Q7	Between Groups	1.927	4	.482	.434	.784
	Within Groups	427.509	385	1.110		
	Total	429.436	389			
Q8	Between Groups	6.477	4	1.619	1.188	.315
	Within Groups	524.559	385	1.362		
	Total	531.036	389			
Q9	Between Groups	4.525	4	1.131	.650	.627
	Within Groups	666.702	383	1.741		
	Total	671.227	387			
Q10	Between Groups	1.211	4	.303	.183	.947
	Within Groups	641.768	387	1.658		
	Total	642.980	391			
Q11	Between Groups	12.773	4	3.193	2.614	.035
	Within Groups	472.727	387	1.222		
	Total	485.500	391			
Q12	Between Groups	17.112	4	4.278	3.119	.015
	Within Groups	528.077	385	1.372		
	Total	545.190	389			
Q13	Between Groups	26.535	4	6.634	4.405	.002
	Within Groups	579.763	385	1.506		
	Total	606.297	389			
Q14	Between Groups	14.185	4	3.546	4.013	.003
	Within Groups	342.009	387	.884		
	Total	356.194	391			
Q15	Between Groups	15.435	4	3.859	2.601	.036
	Within Groups	574.116	387	1.484		
	Total	589.551	391			
Q16	Between Groups	13.384	4	3.346	2.752	.028
	Within Groups	472.992	389	1.216		
	Total	486.376	393			
Q17	Between Groups	8.301	4	2.075	1.818	.124
	Within Groups	443.963	389	1.141		
	Total	452.264	393			

Source: SPSS

Of all the information presented in the ANOVA table (table 15), the major interest will be focused on the value located in the "Sig." column, because this is the exact significance level of the ANOVA. If the numbers found in this column are less than the critical value of alpha (α =0.05), then the effect is said to be significant. Therefore, values Q4, Q5, Q6, Q11, Q12, Q13, Q14, Q15, Q16 are less than the critical value of alpha (α =0.05) and will result in significant effects. While Q7, Q8, Q9, Q10, Q17 are greater than alpha (α =0.05) and will result in non-significant effects. Using this procedure, finding significant effects implies that the means differ

more than would be expected by chance alone. This table below (table 15) does not tell anything about what the effects were, just that there most likely were real effects.

Some of the effects were significant, that means the data will be examined with the Bonferroni correction in order to determine the nature of the effects. Bonferroni calculated a new pairwise alpha to keep the familywise alpha value at 0.05. The formula for doing this is as follows:

$$\alpha_B = \frac{\alpha_{FWE}}{c}$$

Figure 22. Formula of new alpha based on the Bonferroni test
Source: book[62]

where α_B is the new alpha based on the Bonferroni correction that should be used to evaluate each comparison or significance test, α_{FWE} is the familywise error rate as computed in the first formula, and *c* is the number of comparisons (statistical tests). The Bonferroni is probably the most commonly used post hoc test, because it is highly flexible, very simple to compute, and can be used with any type of statistical test.[63] The table below (table 17) shows column comparisons testing for differences in opinions for statements Q4-Q17 amongst different age groups. Test assigns a subscript letter to the categories of the column variable. For each pair of columns, the column proportions are compared using a z test. If a pair of values is significantly different, the values have different subscript letters assigned to them. Means with the same letter are not significantly different according to Bonferroni test.

Pairwise comparison of column proportions. Indicates which pairs of columns (for a given row) are significantly different. Significant differences (at the 0.05 level) are indicated with APA-style formatting using subscript letters.

Pairwise comparison of column proportions using the Bonferroni correction in regards of age groups. In the statement 4 (table 16) *"Social network propaganda is a part of cyber warfare"* there is a significant difference between 18-35 and 56 and more age group and 46-55. The 18-35 year old Facebook users statistically significantly agree less with that statement than 46-55 group of age.

[62] Olejnik,S., Li, J., Supattathum, S., and Huberty, C.J., Multiple testing and statistical power with modified Bonferroni procedures, 1997 – p. 5.
[63] Newson J., Post Hoc Tests, Portland State University, 2006 – p. 1.

In the statement 5 (table 16) *"I feel positive about ongoing pro-Russian political propaganda"*. The significant correlation is observed between the youngest group and the oldest group. The youngest group statistically significantly agree less with the statement (M = 1.5) than 56 and more group (M = 2.2). This result could be expected though.

In the statement 6 (table 16) *"The user can trust the posted in Facebook information about political-economic situation in Lithuania and in the world".* Again there is a significant difference in opinion between the 26-35 age group and youngest group together with the group from 46 years old. The age group 26-35 statistically significantly agrees less with the statement than the youngest group together with 46 years old and more group.

In the statements Q7-Q11 and Q15 there was no statistically significant difference between different groups of age among respondents. However in the statement Q12 *"Dissemination of political information in social media should be regulated by the law"* there is a statistically significant difference between the opinions of the 26-35 and 46-55 ages. The younger group agrees more (M = 3.4) with the statement than the older group (M = 2.8). Similar is with statement Q13 *"I know that I can inform the State Security Department of any perceived intentional pro-Russian propaganda actions"*. There is a statistically significant difference between the younger groups 18-35 of age and the older group 46-55. The younger group agrees more with the statement 13 (M = 3.1; 3.0) rather than the older (M = 2.2).

The respondents of the age 56 and more showed the statistically significant difference regarding to compare with the age groups 26-35 and 36-45 upon the statement 14 (table 16) "*I have noted and informed the relevant authorities about the intentional pro-Russian propaganda actions on Facebook".* The age group 56 and more agrees statistically significantly agrees with the statement more (M = 2.2) than the age groups 26-35 and 36-45 (M = 1.5; 1.4).

Finally, there is a statistically significant difference in the opinions of the 46-55 and 56 and more age groups regarding the statement 16 (table 16) *"There are enough public educational programs in Lithuania which provide information on propaganda in social media and internet".* The age group 56 and more agrees with the statement statistically significantly more (M = 3.0) than the 46-55 age group (M = 2.1).

Table 16. Bonferroni Correction „Multiple Comparisons" in regards of age. The statements can be found on annex 8.

Statements	Age				
	18-25	26-35	36-45	46-55	56 and more
	Mean	Mean	Mean	Mean	Mean
Q4	3.8a	3.9a	4.2a,b	4.6b	3.6a
Q5	1.5a	1.6a,b	1.6a,b	1.8a,b	2.2b
Q6	2.7a	2.3b	2.9a,b	3.2a	3.4a
Q7	3.6a	3.5a	3.4a	3.5a	3.3a
Q8	3.4a	3.4a	3.7a	3.7a	3.3a
Q9	3.3a	3.3a	3.3a	3.2a	2.8a
Q10	2.9a	2.9a	3.1a	3.0a	3.1a
Q11	3.3a	3.0a	2.7a	2.9a	3.1a
Q12	3.3a,b	3.4a	2.9a,b	2.8b	3.2a,b
Q13	3.1a	3.0a	2.6a,b	2.2b	2.5a,b
Q14	1.8a,b	1.5a	1.8a,b	1.4a	2.2b
Q15	2.1a	2.0a	2.6a	2.5a	2.5a
Q16	2.6a,b	2.4a,b	2.7a,b	2.1a	3.0b
Q17	1.9a	1.7a	2.1a	1.6a	2.2a

Note: Values in the same row and subtable not sharing the same subscript are significantly different at $p < 0.05$ in the two-sided test of equality for column means. Cells with no subscript are not included in the test. Tests assume equal variances.(1)
Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.
Source: SPSS

Pairwise comparison of column proportions using the Bonferroni correction in regards of education. The statistically significant difference in the opinions in regards of education is determined regarding the Q4 and Q11 statements *"Social network propaganda is a part of cyber warfare"* and *"Initiators of pro-Russian propaganda in Facebook receive remuneration for it".* The university degree holders statistically significantly agree (M = 4.1; 3.2) more with the aforementioned statements that the non-university holders (M = 3.4; 2.8). (Table 17).

Table 17. Bonferroni Correction „Multiple Comparisons" in regards of education. The statements can be found on annex 8.

Statements	Non-university	University
	Mean	Mean
Q4	3.4a	4.1b
Q5	1.9a	1.5b
Q6	2.9a	2.6a
Q7	3.4a	3.6a
Q8	3.1a	3.5b
Q9	3.0a	3.3a
Q10	2.9a	3.0a
Q11	2.8a	3.2b
Q12	3.2a	3.3a
Q13	2.9a	2.9a
Q14	1.8a	1.6a
Q15	2.4a	2.1a
Q16	2.7a	2.5a
Q17	2.0a	1.8a

Note: Values in the same row and subtable not sharing the same subscript are significantly different at p< 0.05 in the two-sided test of equality for column means. Cells with no subscript are not included in the test. Tests assume equal variances.(1)
Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.
Source: SPSS

Pairwise comparison of column proportions using the Bonferroni correction in regards of social status. There is a statistically significant difference in opinions of the "students", "others" and employees. Students and others (unemployed, retired, farmers) statistically significantly agrees less (M = 3.6; 3.5) with the Q4 statement *"Social network propaganda is a part of cyber warfare"* than the employees (M = 4.1) (Table 18).

There is no statistically significant difference in opinions regarding the statements Q5, Q9, Q14, Q16 as follows *"I feel positive about ongoing pro-Russian political propaganda", "I have seen pages or accounts that promote pro-Russian ideology", "I have noted and informed the relevant authorities about the intentional pro-Russian propaganda actions on Facebook" and "There are enough public educational programs in Lithuania which provide information on propaganda in social media and internet".*

There is statistically significant difference in opinions of the “entrepreneurs” and “others”. Q6 statement *“The user can trust the posted in Facebook information about political-economic situation in Lithuania and in the world”* (table 18). Entrepreneurs agree with the statement less (M = 2.4) than the others (M = 3.1).

Q7 statement *“Russian government launches the intentional pro-Russian propaganda actions in social network Facebook”* where statistically significant difference in opinions was of entrepreneurs (M=3.2), officials (3.8) and others (3.1). Officials statistically significantly agree more with the statement than the entrepreneurs and others.

Same is with the statement Q8 *"Russian authorities use tools to spread political propaganda in Lithuania through social network Facebook".* Officials statistically significantly agree more with the statement than students, entrepreneurs and others.

However the statement Q10 *“I saw possible pro-Russian government biased political articles on Facebook”* has a statistically significant correlation between the opinions of entrepreneurs and officials. Officials statistically significantly more agree on the statement than entrepreneurs. Similar situation is with the Q11 statement *“Initiators of pro-Russian propaganda in Facebook receive remuneration for it”*. There is a statistically significant correlation in the opinions between entrepreneurs, officials and employees. Officials and employees statistically significantly agree more (M = 3.3; 3.3) than employees (M = 2.6).

The statement Q12 *"Dissemination of political information in social media should be regulated by the law”* has a significant correlation of the opinions between entrepreneurs and employees. The employees statistically significantly agree more with the statement (M = 3.5) than entrepreneurs (M = 2.8). On the statement Q13 *“I know that I can inform the State Security Department of any perceived intentional pro-Russian propaganda actions”* the employees also statistically significantly agree more with the statement (M = 3.1) than “others” (M = 2.4).

The statement 15 *“I share the political-economic information read on Facebook with my friends”* has a statistically significant difference in the opinions. Officials statistically significantly agree more with the statement than entrepreneurs.

Finally the statement 17 *"I am engaged into discussions about the current Lithuanian and Russian political relations on Facebook"* has a statistically significant difference between the opinions of entrepreneurs and “others”. “Others” are statistically significantly more engaged in discussions (M = 2.3) than entrepreneurs (M = 1.7).

Table 18. Bonferroni Correction „Multiple Comparisons" in regards of social status. The statements can be found on annex 8.

Statements	Student	Entrepreneur	Official	Employee	Others (unemployed, retired, farmer)
	Mean	Mean	Mean	Mean	Mean
Q4	3.6a	3.8a,b	4.3b	4.1b,c	3.5a
Q5	1.6a	1.4a	1.6a	1.6a	1.9a
Q6	2.6a,b	2.4a	2.7a,b	2.7a,b	3.1b
Q7	3.6a,c,d	3.2a,b	3.8c	3.6a,c,d	3.1b,d
Q8	3.2a	3.1a	3.8b	3.5a,b	3.2a
Q9	3.3a	2.9a	3.3a	3.5a	2.8a
Q10	2.7a,b	2.6a	3.3b	3.0a,b	3.1a,b
Q11	3.1a,b	2.6a	3.3b	3.3b,c	2.9a,b
Q12	3.4a,b	2.8a	3.3a,b	3.5b	3.1a,b
Q13	2.9a,b	2.8a,b	2.9a,b	3.1a	2.4b
Q14	1.7a	1.6a	1.5a	1.7a	1.8a
Q15	2.0a,b	1.9a	2.5b	2.1a,b	2.2a,b
Q16	2.6a	2.5a	2.5a	2.5a	2.4a
Q17	1.8a,b	1.7a	1.8a,b	1.8a,b	2.3b

Note: Values in the same row and subtable not sharing the same subscript are significantly different at $p < 0.05$ in the two-sided test of equality for column means. Cells with no subscript are not included in the test. Tests assume equal variances.(1)
Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.
Source: SPSS

With reference to the statistical analysis of the respondents' opinion on the social media propaganda in Facebook taking the example of pro-Russian propaganda, the following conclusions can be summarized:

- 46-55 years old are the most sure that social media propaganda is a part of cyber warfare;
- 26-35 years old trust the information on Facebook the least to compare with other respondents of different age;
- The same 26-35 year old respondents believe the dissemination of information in social media shall be regulated by the law;
- The 18-35 year old are better informed about the possibility to report the propaganda case in social media to the State Security Department than other age groups;

- 46-55 year old respondents are lack of educational programs informing about propaganda in social media and its operating principles;
- Respondents holding the university diploma access social media propaganda as a cyber warfare tools as well as they know about the social media propaganda tools comparing the non-university degree;
- The group of unemployed, retired and farmers trust information in the social media more than other social status groups as well as they believe less that there might be a intentional actions of propaganda in social media;
- Officials are the most informed group in regards of social media propaganda and its tools in general and in case of pro-Russian propaganda;
- Employees know the most in comparison with other social status groups about the State Security Department practices and possibility to report the possible propaganda in social media;
- Entrepreneurs are the most active social status group in Facebook in regards engagement in discussions about the current Lithuanian and Russian political relations on Facebook.

3.4. Propaganda in social media as a part of cyber warfare management by Lithuania

Research question 3: *How Lithuania is managing the cyber warfare in particular social media propaganda?*

3.4.1. State Security Department

The main aim of activities of the State Security Department is to strengthen national security of the Republic of Lithuania by collecting information on risks, dangers and threats, providing it to institutions ensuring national security and eliminating these risks, dangers and threats. The objective of intelligence is to forecast and identify risks, dangers and threats arising from abroad and capable of affecting the sovereignty of the State, inviolability and integrity of its territory, constitutional order, interests of the State and its defense and economic power. [64]

The objectives of counter-intelligence: [65]

- to forecast, identify and eliminate risks, dangers and threats arising within the Republic of Lithuania and capable of affecting public political and economic processes, also capable of impairing the sovereignty of the State, inviolability and integrity of its territory, constitutional order, interests of the State and its defense and economic power;
- to identify the activities of foreign intelligence and security institutions and related persons capable of impairing the sovereignty of the State, inviolability and integrity of its territory, constitutional order, interests of the State and its defense and economic power, and eliminate these risks, dangers and threats;
- to organize and implement the protection of information compromising a state secret or an official secret and control the protection of such information within the Republic of Lithuania and at institutions of the Republic of Lithuania abroad.

After an overview of the key legal acts regulating the activity of State Security Department, the main law bearing on the social media is not found in the list of department (The Law on Provision of Information to the Public) however the Department's annual review 2014

[64] State Security Department internet http://www.vsd.lt/PageEN.aspx?pageID=169 (retrieved 15.4.2015)
[65] State Security Department internet http://www.vsd.lt/PageEN.aspx?pageID=169 (retrieved 15.4.2015)

have the report on information security. The third objective describes the information security of state secrets or official secrets meanwhile the report of 2014 also presents the information of Russian social network propaganda targeting Lithuania which is a part of information security section. Moreover, in the analysis for the national security threats written by the Department in 2015, the information propaganda policy of Russia is stated as one of the threats for Lithuanian national security. According to the report, "it should be noted that pro-Russian propaganda in social networks constantly a few hundred of accounts are actively manifesting. The followers of the groups are usually passive. These followers are being treated as consumers of the information, but not the creators.[66]

3.4.2. Key legal acts regulating social media propaganda in cyber warfare

The Law on Provision of Information to the Public. In order to overview the legal environment of Social Media Propaganda in Lithuania the Law on Provision of Information to the Public will be taken first. The article 19 is applying to content published in media. (The article 19 can be found in Annex 6). The legislation defines the "the media" as "means newspapers, journals, bulletins or other publications, books, television and radio programmes, film or other sound and visual studio productions, the Information Society media, and other means of public dissemination of information. In accordance with this Law, official, technical and office documents as well as securities are not ascribed to the media".[67] The definition does not clearly determine the social media as "the media". Therefore the information society media is "means the media, which render "information society services" by disseminating public information".[68] Referring to this law social networks and media sharing internet website can be treated as "other means of public dissemination of information". "Information Society service" means a service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of an Information Society service.[69] Taking into consideration the aforementioned definition information society services which according to the on Provision of Information to the Public means "a service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of an Information Society service". In respect to Lithuanian social media users, the social media service users

[66] State Security Department, Annual Threat Assessment 2015, http://www.vsd.lt/Files/Documents/635633000992101250.pdf (retrieved 15.4.2015)
[67] Lietuvos Respublikos Seimas http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=280580&p_query=&p_tr2= (retrieved 14.4.2015)
[68] Lietuvos Respublikos Seimas http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=280580&p_query=&p_tr2= (retrieved 14.4.2015)
[69] http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=286382

receive without cost or payment and information they get for free there. In many cases now the „individual request“ is not working and the posts are usually appearing themselves unless the user starts to control the feed.

There is also a Law of Information Society Services. The provisions of the Information Society Services Law of the Republic of Lithuania:

- monitors the compliance of information society service providers with the Law and its implementing regulations;
- cooperates with the European Commission and the authorities of relevant EU Member States, providing them with information and other necessary assistance;
- provides general information about the rights and responsibilities of information society service providers and information society services recipients associated with contracts made using electronic means. Information is also available about possible resolutions for disputes between service providers and service recipients, as well as means of redress and the practical aspects of their applications and information on state and municipal institutions or agencies that can provide additional informatikon and (or) practical assistance.[70]

In many cases the service provider, which is the owner of the social media platform, is a global organization and it becomes not possible to make the social media service provider to comply the legislation of one country. Therefore, it is very essential to participate in international initiatives and engage the country into international cooperation further in order to develop the common practices and agree on the legislation.

Notwithstanding in 2013 Lithuanian Journalists and Publishers Ethics Commission decided that some social network accounts will be considered as media. The chairman of the Lithuanian Journalists and Publishers Ethics Comission informed that the Commission considers not all profiles as media, but only those which are open and can be followed. While Comission is having the disputes related to public information in social networks, they treat it as untraditional media. However taking into account the information technology development, and change of social relations, account in social network by the disclosure of information, dissemination, availability, methods of operation and the ability to control the information, complies with criteria of media. According to the Commission, even though the legal status of the account and the actions of its owner is not specifically defined in the Law on Provision of Information to the Public, this does not mean that the owner and its activities in social network are eliminated from

[70] http://www3.lrs.lt/cgi-bin/getfmt?C1=e&C2=277491

the legislatively regulated. Consequently, the owner of the account is complying with the provisions of the Public Information Act. In 2013 first time the Commission had the case with social networks and concluded that social network's open and followed profile is an analogue to the blogs. Meanwhile, in 2009, the blogs were recognized as a media according to the Lithuanian Supreme Court interpretation.

Based on the aforementioned analysis it can be stated that the law covers social media by the common practice and agreements, but the definitions of social media, cyber warfare, cyber covert actions are not clearly defined in the law itself. The law of Provision of Information to the Public shall be amended defining social media as an information society media. Recommendation to the Lithuanian Journalists and Publishers Ethics Commission would be to lobby the Law amendment.

CONCLUSIONS

Since internet and information technology have progressed to such an extent that they appear to be fundamental of a national power now, cyber warfare is developing the new tools of information technology. Now, by no doubt, social media propaganda is being considered as a new tool of cyber warfare. Therefore, using analysis of scientific literature, case study method, quantitative data analysis method, the study examined the case of pro-Russian propaganda in social media in cyber warfare context in regards to Lithuanian internet users. The aim was not to define the nature and source of propaganda, but to define the infrastructure of practically used means of propaganda in social media, test the theories and concepts on the case of pro-Russian propaganda in social media in regards to Lithuanian internet users. And, finally, based on the research findings develop the recommendations for Lithuania to successfully manage it. The research findings are as such:

- The cyber warfare case of pro-Russian social media propaganda in Lithuania, the conspiracy model in social media, social identification model of deindividuation effects and social identity theory of leadership have been tested. The conspiracy model in social media and social identification model of deindividuation effects theories have been confirmed through the analysis of the tools of pro-Russian propaganda upon Lithuania in social media. The following tools have been proved to be in line with scientific theories and methods: politbot, political troll, biased article. The social identity theory of leadership was rejected in case of pro-Russian social media propaganda as a tool of cyber warfare because it did not fit the empirical findings.
- The most popular social media category among Lithuanians, where pro-Russian propaganda is potentially active, is social network Facebook with 68 percent of Lithuanian internet users there. With reference to the statistical analysis of the public opinion on the social media propaganda in Facebook taking the example of pro-Russian propaganda, the following conclusions can be summarized: grant majority of the Lithuanian Facebook users think that social network propaganda is a part of cyber warfare moreover half of Lithuanian Facebook users think that dissemination of political information in social media should be regulated by the law. For almost half of the Facebook users there are not enough public educational programs in Lithuania which provide information on propaganda in social media and internet. The same part of the Facebook users agree that there is intentional pro-Russian propaganda actions as well as they have seen the pro-Russian propaganda actions using aforementioned analyzed social media propaganda tools in Facebook.

- The analysis does not show a consistent trend of the opinions or social media propaganda knowledge within the increasing age. There is no clear difference in the opinions comparing the age groups, however there is a clear difference comparing education holders. The university degree diploma holders clearly see the pro-Russian social media propaganda as a cyber warfare tool and proceeding intentional actions using specific tools. Analyzing the social status, officials are the most informed group in Lithuania in regards of social media propaganda and precisely pro-Russian social media propaganda in Lithuania. Finally, the general observation is because of a high number of respondents could not tell opinion on the statements, therefore it became more difficult to separate facts from propaganda and lies if it is reiterating frequently.
- Overviewing the State's actions to withstand the propaganda in social media and a new phenomena namely cyber warfare, the State Security department has been creating its strategies and making assessments taking into account one of the treats namely social media propaganda as a part of cyber warfare. However the department has not been listed the main social media propaganda law in its list. Moreover in social media case the law is not clearly defined what social media is. However, Lithuania already has the common practice by Lithuanian Journalists and Publishers Ethics Commission and Lithuanian Supreme Court interpretation to recognize social networks and blogs as media.

RECOMMENDATIONS FOR THE LITHUANIAN GOVERNMENT TO MANAGE THE PRO-RUSSIAN PROPAGANDA IN SOCIAL MEDIA AS A PART OF CYBER WARFARE

1. **Social media incident response team establishment on the basis of State Security Department.** A strategic program contains incident management capabilities on state level. The team of specialists would coordinate response and disseminate information to all relevant stakeholders;
2. **Social media propaganda and cyber warfare public awareness and education**. Create a social media propaganda awareness and education national program to raise awareness about propaganda in social media and cyber warfare threats;
3. **Social media propaganda and cyber warfare skills and training program**. A program shall help train social media propaganda professionals;
4. **Public-Private sector partnership** regarding social media propaganda in cyber warfare. Lithuanian government shall engage IT private sector in order to develop the software in order to counter the cyber warfare in particular propaganda in social media;
5. **Adjust the legislation**. The Law on Provision of Information to the Public does not define the social media as an information society media therefore propaganda in social media is not clearly complies to the Law on Provision of Information to the Public;
6. **International Cooperation**. Cooperation is vital due to pro-Russian propaganda outreach through social media to many countries.

SUMMARY

Kižina S. Social Media Propaganda as a new means of Cyber Warfare/ Master's thesis. Supervisor prof. D. Štitilis. – Vilnius: Mykolas Romeris University, the Faculty of Social Technology; Porto: University of Fernando Pessoa, 2015 – 76 p.

Master thesis is analyzing the tools, approached and methods of social media propaganda in context of cyber warfare in the case of pro-Russian propaganda in social media targeting Lithuanian internet users. The research was conducted performing the analysis of scientific literature, case study and quantitative data analysis.

The goal of the study is to assess the methods, approaches and tools used in social media in context of cyber warfare in case of pro-Russian propaganda in Lithuania. Based on that develop the recommendations for Lithuania in order to efficiently manage the aforementioned tools in cyber warfare context. Therefore the objectives of the study:

- Define the tools of pro-Russian social media propaganda used in cyber warfare and draw the analogy with concepts and theories of the social media propaganda in cyber warfare;
- Determine the most popular social media category among Lithuanians and analyze their opinion on pro-Russian propaganda in determined social media category;
- Analyze the legislation concerning social media and propaganda content in social media in case of cyber warfare as well as supporting institutions and their activities in terms of social media propaganda in cyber warfare.

The object of the study is social media propaganda. The main idea is not to define the nature and source of propaganda, but to investigate the infrastructure of practically used means of propaganda. The thesis is not stating that pro-Russian propaganda is coming from the one centralized source but concentrating on the pro-Russian content in social media in context of cyber warfare.

The master thesis forms three parts:

- In the first part the author assesses the scientific literature together with the articles, reports and develops the coherency and interdependence of the theories and concepts of social media, cyber warfare and propaganda in the logical framework.
- In the second part the methodology of the study has been described.
- In the third part the theories of conspiracy model in social media, social identification model of deindividuation effects and, social identity theory of leadership were tested as well as the tools of social media propaganda used in cyber warfare context were defined drew the analogy with concepts and theories of the social media propaganda in cyber warfare.

Keywords: *social media, social network site, social network, cyber warfare, propaganda, propaganda tools*

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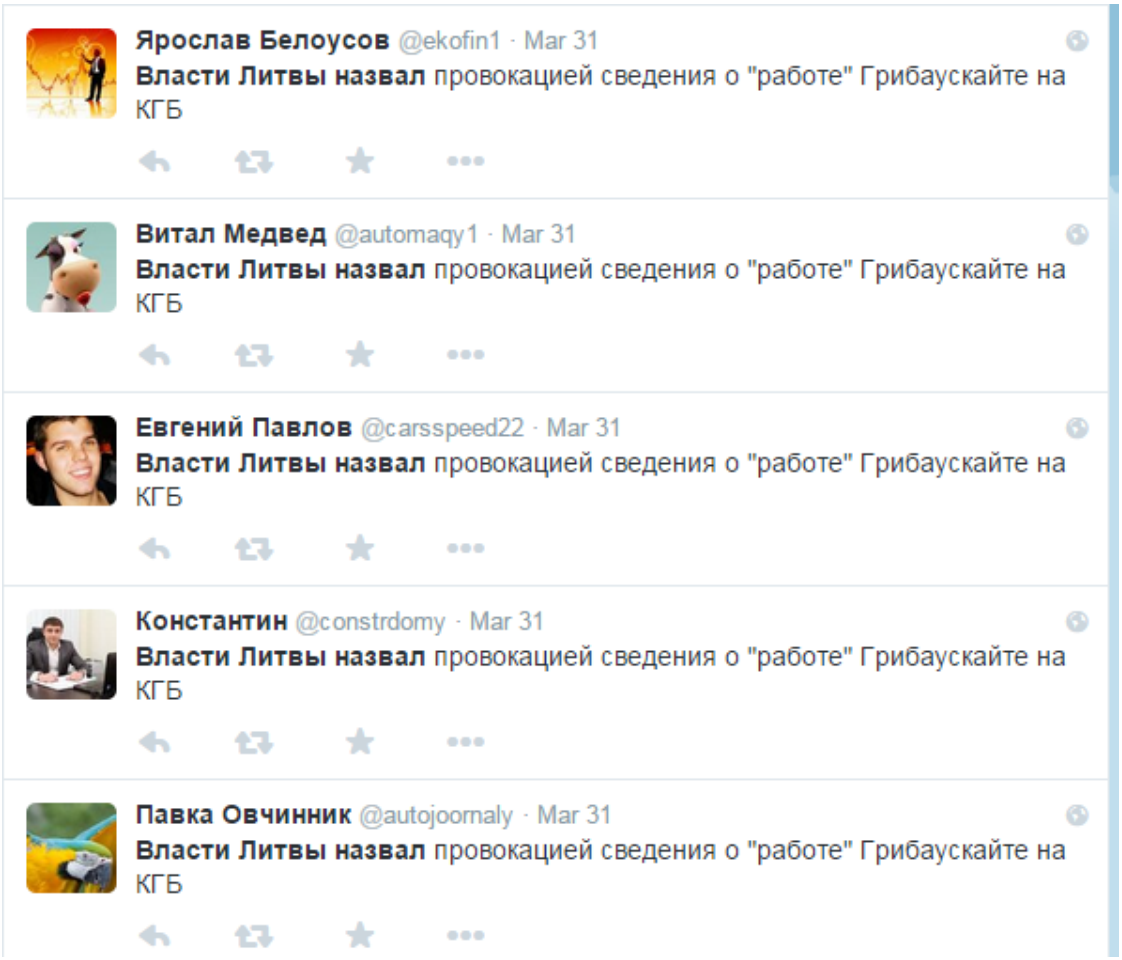
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ANNEX

Annex 1

Screenshot of politbots in Twitter



Screenshot of politbots in Twitter



Screenshot of politbot in Twitter



Screenshot of politbot in Twitter



Screenshot of politbot in Twitter



ARTICLE 19. Information not to be Published

1. It shall be prohibited to publish information in the media which:

1) incites to change the constitutional order of the Republic of Lithuania through the use of force;

2) instigates attempts against the sovereignty of the Republic of Lithuania, its territorial integrity, political independence;

3) instigates war or hatred, sneer, scorn, instigates discrimination, violence, harsh treatment of a group of people or a person belonging to it on the basis of gender, sexual orientation, race, nationality, language, origins, social status, religion, beliefs or standpoints;

4) disseminates, propagates or advertises pornography as well as propagates and/or advertises sexual services and paraphilias;

5) propagates and/or advertises addictions and narcotic or psychotropic substances.

2. It shall be prohibited to disseminate disinformation and information which is slanderous and offensive to a person or degrades human dignity and honour.

3. It shall be prohibited to disseminate information which violates the presumption of innocence or which may obstruct the impartiality of judicial authorities.

4. The Government shall lay down the procedure for disseminating press publications, audio, audiovisual works, radio and television programmes, the Information Society media and other public information ascribed to erotic, pornographic, violent or other restricted public information.

Source: Lietuvos Respublikos Seimas http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=280580&p_query=&p_tr2= (retrieved 14.4.2015)

Questionnaire

Propagandos skleidimo veiksmai Facebook socialiniame tinkle ir jos vertinimo anketa

Mieli respondentai, esu Mykolo Romerio universiteto Socialinių technologijų valdymo studijų programos studentė. Šiuo metu rašau magistrinį darbą tema „Propaganda socialiniuose tinkluose kaip naujas įrankis kibernetiniame kare" Rusijos propagandos Lietuvoje atveju. Norėčiau sužinoti, kaip Jūs vertinate Rusijos propagandos reiškinį socialiniame tinkle. Ši apklausa skirta tik Facebook socialinio tinklo naudotojams. Jūsų atsakymai yra anoniminiai ir skirti tik tyrimo tikslui pasiekti.

Propagandos sąvoka:
Teorijų, idėjų skleidimas ir aiškinimas. Propaganda formuoja informacinį pasitikėjimą, apibrėžtą mąstymo būdą, vertybių sistemą, asmeninius įsitikinimus ir individo tapatumą, siekia mobilizuoti asmenis tam tikriems veiksmams. Propaganda yra sąmoningas, metodiškas ir nuoseklus asmenų įtikinėjimas siekiant juos priversti atlikti tam tikrus veiksmus, ugdyti jų mąstymą ir tapatybę, elgesio formas ir vertybes. (Gintautas Mažeikis, 2006)

1. **Jūsų amžius:**
   - 18-25
   - 26-35
   - 36-45
   - 46-55
   - 56 ir daugiau

2. **Jūsų išsilavinimas:**
   - Nebaigtas vidurinis
   - Vidurinis
   - Aukštesnysis
   - Aukštasis

3. **Jūsų socialinis statusas:**
   - Moksleisvis/studentas
   - Verslininkas
   - Ūkininkas
   - Tarnautojas
   - Darbininkas
   - Pensininkas
   - Bedarbis

Prašome įvertinti savo požiūrį apie Rusijos valdžios propagandos skleidimą

	Visiškai nesutinku	Nesutinku	Nesu tikras	Sutinku	Visiškai sutinku	Visiškai sutinku
4. Politinė propaganda socialiniame tinkle yra kibernetinio karo dalis	☒	☒	☒	☒	☒	☒
5. Vykdoma Rusijos valdžios politinė propaganda man kelia teigiamus jausmus ir asociacijas	☒	☒	☒	☒	☒	☒
6. Socialiniame tinkle Facebook publikuojama informacija apie dabartinę politinę-ekonominę situaciją Lietuvoje ir pasaulyje galima pasitikėti	☒	☒	☒	☒	☒	☒
7. Socialiniame tinkle Facebook vykdomi tyčiniai Rusijos valdžios propagandos skleidimo veiksmai	☒	☒	☒	☒	☒	☒

	Visiškai nesutinku	Nesutinku	Nesu tikras	Sutinku	Visiškai sutinku	Visiškai sutinku
8. Rusijos valdžia naudoja įrankius skleisti politinę propagandą Lietuvoje per socialinį tinklą Facebook	☒	☒	☒	☒	☒	☒
9. Aš mačiau puslapius arba paskyras, kurios propaguoja Rusijos politinę ideologiją socialiniame tinkle Facebook	☒	☒	☒	☒	☒	☒
10. Aš mačiau galimai Rusijos valdžios užsakytus politinius straipsnius socialiniame tinkle Facebook	☒	☒	☒	☒	☒	☒
11. Rusijos valdžios propagandos skleidimo veiksmus vykdantys žmonės Facebook socialiniame tinkle gauna už tai atlygį	☒	☒	☒	☒	☒	☒
12. Politinės informacijos skleidimas socialiniuose tinkluose turi būti reglamentuotas įstatymu	☒	☒	☒	☒	☒	☒
13. Aš žinau, kad galima informuoti Valstybės Saugumo Departamentą (VSD) apie pastebėtus tyčinius Rusijos valdžios propagandos skleidimo veiksmus	☒	☒	☒	☒	☒	☒
14. Aš esu pastebėjęs ir informavęs atitinkamą instituciją apie tyčinius Rusijos valdžios propagandos skleidimo veiksmus socialiniame tinkle Facebook	☒	☒	☒	☒	☒	☒
15. Socialiniame tinkle Facebook perskaityta politine-ekonomine informacija aš dalinuosi su draugais	☒	☒	☒	☒	☒	☒
16. Lietuvoje yra pakankamai visuomenės švietimo programų teikiančių informaciją apie propagandos veikimą	☒	☒	☒	☒	☒	☒
17. Socialiniame tinkle Facebook aš dalyvauju diskusijose apie dabartinius Lietuvos ir Rusijos politinius santykius	☒	☒	☒	☒	☒	☒

18. Politinės propagandos įrankiai socialiniame tinkle yra:

- Užsakomasis straipsnis
- Dirbtinai sukurta paskyra
- Atvira grupė ar puslapis propagandine tema
- Politiniai troliai (asmenys, kurie skleidžia propagandą egzistuojančiuose bendruomenėse)
- Kita (įrašykite)

Annex 8

Questionnaire statements in English

Q4	*“Social network propaganda is a part of cyber warfare”*
Q5	*"I feel positive about ongoing pro-Russian political propaganda”*
Q6	*“I can trust the posted in Facebook information about political-economic situation in Lithuania and in the world”*
Q7	*"Russian government launches the intentional pro-Russian propaganda actions in social network Facebook"*
Q8	*"Russian authorities use tools to spread political propaganda in Lithuania through social network Facebook"*
Q9	*"I have seen pages or accounts that promote pro-Russian ideology on Facebook"*
Q10	*“I saw possible pro-Russian government biased political articles on Facebook”*
Q11	*“Initiators of pro-Russian propaganda on Facebook receive remuneration for it”*
Q12	*"Dissemination of political information in social media should be regulated by the law”*
Q13	*“I know that I can inform the State Security Department of any perceived intentional pro-Russian propaganda actions”*
Q14	*“I have noted and informed the relevant authorities about the intentional pro-Russian propaganda actions on Facebook”*
Q15	*“I share the political-economic information read on Facebook with my friends”*
Q16	*“There are enough public educational programs in Lithuania which provide information on propaganda in social media and internet”*
Q17	*"I am engaged into discussions about the current Lithuanian and Russian political relations on Facebook"*