

Media analysis that reflects the spread of anti-Christian opinion

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Abstract— This paper presents an interdisciplinary research on the dissemination of anti-Christian information in Lithuanian media (period: 2016.01.01-2019.01.01). The object of the research is the main directions of expression of anti-Christian verbal aggression. With this study, we analyze the fundamental problem: how to detect and evaluated verbal aggression directed against Christians beliefs. There are two areas of research in this place: computerized data collection, processing and expert of theology evaluation of data and results. Such a study has not been conducted in Lithuanian media so far, it has only a few matches in general as well. The results allowed us to detect a portal and a topic that contained the most aggressive texts.

Keywords— verbal aggression, anti-Christian propaganda, media framing, Lithuanian language media

I. INTRODUCTION

The spread of today's information space has become a major challenge not only in terms of mutual communication. Due to the ever-increasing number of electronic texts, various natural language processing works are becoming increasingly important. Virtual reality, as equivalent to unseen existence, slowly, but surely intrudes into human consciousness and changes a human being and his whole value system, including faith matters. That is why this research becomes very important to Christians community. The problem of work is reflected in the fact that information passed through verbal aggression against faith has become inevitable in the present world. Therefore, having an aspiration of faith, which is inevitably linked to the aspect of personality, the believer may also encounter a rather unfriendly information space, which has an impact on faith and is the object of exploration of this article in the most general sense.

Many researches [1], [2], [3] underline the influence of media aggression on the formation of personal opinion and human behavior. In this context, studies are necessary, on the basis of which the main forms of aggression that arise from virtuality and are directed against faith could be identified. The scheme for achieving this goal is illustrated below (see Figure 1). However, the performance of studies is inseparable from the necessity to identify "reference points". After structured interviews with experts (respondents), topics (areas) affected by verbal aggression are in this order: (1) Ethical aspects of artificial insemination, (2) The ethics of priests and monks (property issues, celibacy, etc.), (3) Influence of the Church on political state processes. The analysis of the resulting material will enable systematic coverage of the totality of approaches that exist in specific

information resources and, after its operationalization, purify the resistance points for the part of empirical research.

The research of the main trends of verbal aggression by impact on the congregation permits to make the following conclusion: verbal aggression is generally expressed indirectly by describing a "hero" by aggressive text author. Usually a churchman becomes a target. According to the areas that face verbal aggression, the relevant keywords were formulated: 2-3 keywords have been assigned to each topic.

The ultimate goal of this research can be achieved by performing the following intermediate tasks: (1) a related work analysis (see Section II), (2) qualitative research (see Section III), (3) a construction of the representative corpus containing Lithuanian texts (see Section IV), (4) an analytical selection of the most promising methods, evaluation of the obtained results (see Section V) (5) conclusions (recommendations) and our further research plans (see Section VI).

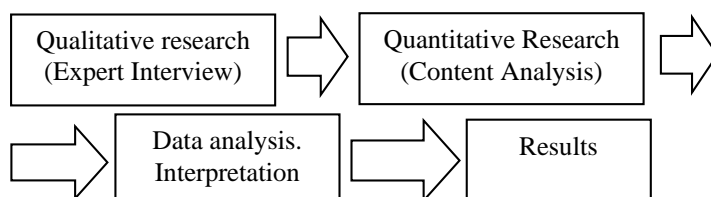


Fig. 1 Visualization of projected directions of analysis

II. RELATED WORKS

Due to the interdisciplinarity of work, any similar study was not identified. However, the basic idea of the work is to find texts in online media that form the reader's opinion. The importance of this topic is justified by several authors [4], [5]. The relevance and impact of the study is justified by the article [6]: "Our findings illuminate how variation in media attentiveness conjoin to determine whether and the degree to which no fundamentalists feel antagonistically toward Christian fundamentalists." Other study [7] on Christian rights talks about morality and identity politics. It becomes clear that the question of the influence of the Church is very important for the state. Under consideration is question how much the Church influenced legislation.

In our study we focus on verbal aggression in Lithuanian media against Christian beliefs. Aggression in the media topic [2], [3] is important for many researches. Some study [8] provides a meta-analysis review of the experimental effects of media violence on viewers' aggression in unstructured social interaction.

Annotated data are required for qualitative media analysis. Text mining methods are specify by several authors in book

[9]. According to our research, we chose to harvest the web. Selected tool simply turns websites into structured data.

III. QUALITATIVE RESEARCH

Expert interviews (qualitative research) are the first stage of empirical research. Its main task is to identify the most vivid forms of verbal aggression and fields by using the data obtained. In subsequent chapters (with specific problem fields that are most attacked in new media) discuss in detail and contextually the frequency, strength, and contextuality of aggression in the new media.

The essential statement that emerged from the first part of the empirical study is that none of the 9 experts (respondents) claimed that the Lithuanian-language news portals dominate the positive attitude towards the Church, faith, and believers.

The focus of this part of the empirical research is on the topics/areas most affected by verbal aggression in the new media. According to the results, after the semi-structured interviews with experts/respondents, the topics/areas affected by verbal aggression were as follows:

- a) Ethical aspects of artificial insemination;
- b) The ethics of priests/monks (property issues, celibacy, etc.);
- c) Influence of the Church on political state processes.

It was found that the first and second for most of the experts were equally important and did not lead to more ambiguity. However, the interlocutors could not clearly agree on the third item and the topic “Influence of the Church on Political State Processes” in the field of research was only a marginal gain

IV. DATA SET

We have performed data analysis of three biggest and most popular (according to total number of real users [10]) online media sources in Lithuania: Delfi (1)¹, Lrytas (2)², 15min.lt (3)³ (selected period: 2016.01.01-2019.01.01). Each case required different approaches and tools, so in this study we use OutWit Hub⁴ for finding, collecting (scrapping) and organizing all necessary data. OutWit Hub [11] dissects web pages into their different elements (contacts, links, images, data, news, etc.). As the program knows how to navigate from page to page in sequences of results, it can automatically extract quantities of information objects and organize them into usable collections. Such a method was used to select the required information: article title, date, number of comments.

The selected data consist of 999 articles and annotated video or reportage (see Figure 2). Some a picturesque examples of selected articles title: “31-year-old priest, known as Ben Lyris in Facebook: my priest's life as an anonymous alcoholic”, “After the sex scandal, the priest offered to address the pope: and it is not clear to the devil where the truth lies”, “Vatican Radio Journalist: The Pope is the best in the world to buy” and etc.

For finding useful articles in web portals we used lexical units selected by the expert of theology: 2-3 keywords were chosen for each of the three topics named above (for accurate distribution see Figure 3 and Figure 4). Firstly, the phrases were used in the form specified by the expert, lately we added

data which was found with modified keywords. Lemmatization, diacritics ignorance and distance size between phrase words were used as methods for modification. It leads to contain data that are more useful.

Next step was data cleaning. There was a part of articles (about 5 %) that overlaps through the same topics several times. To avoid inaccuracies in the final results, such texts have been removed and left only the first option found.

After all data preprocessing, the expert of theology indexed all articles by evaluating relevance by keyword and topic. The use of the Likert scale in this case is not expedient, as it is best suited for exploring a clear object with positive and negative statements. Meanwhile, in this case, we are dealing with much more complicated, multi-faceted, different from conventional marketing research objects.

Low index articles were called inappropriate (see Figure 3). This information influenced the final calculations of the level of aggression. It should be noted that a database gathered with one tool is not suitable for our investigation and needs to be redesigned in a manually.

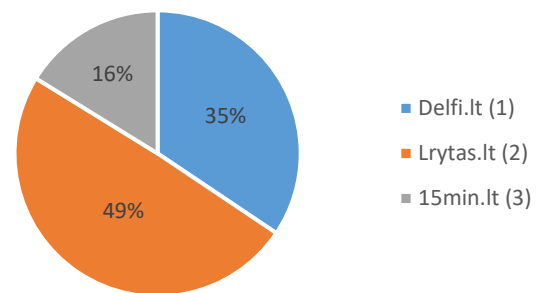


Fig. 2 Distribution of articles between portals

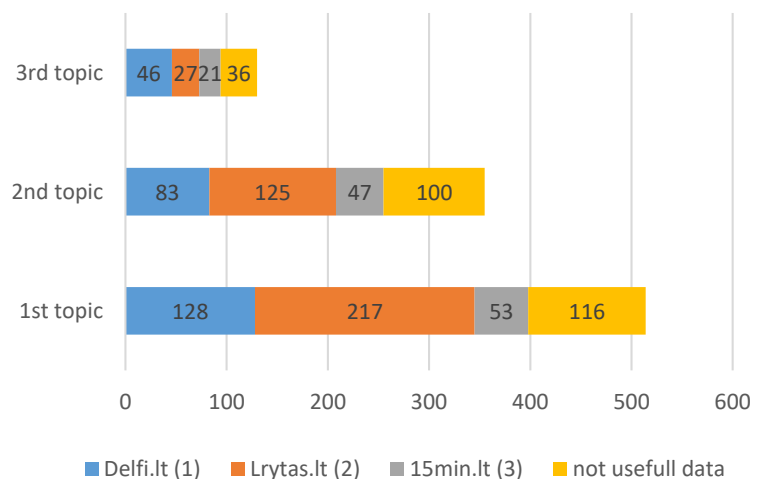


Fig. 3 Number of articles in topics by portal

¹ <https://www.delfi.lt>
² <https://www.lrytas.lt>

³ <https://www.15min.lt>
⁴ Downloaded from <https://www.outwit.com/>

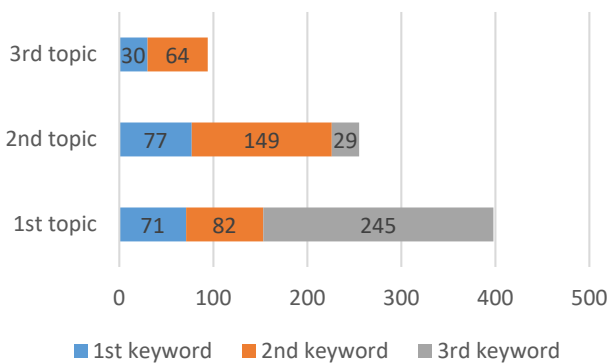


Fig. 4 Number of articles by topic founded by different keywords

V. METHODOLOGY, EXPERIMENTS AND RESULTS

We have conducted qualitative and quantitative content analysis. Researchers [12] most often analyze patterns of content quantitatively using statistical methods, also use qualitative methods to analyze meanings of content within texts. The combination of methods is particularly common in interdisciplinary research; this study is not an exception either.

Research on the dissemination of anti-Christian information was done with prepared set of collected data. Necessary data was analyzed with R⁵ program [13]. The same tool was used for graphical analysis, too.

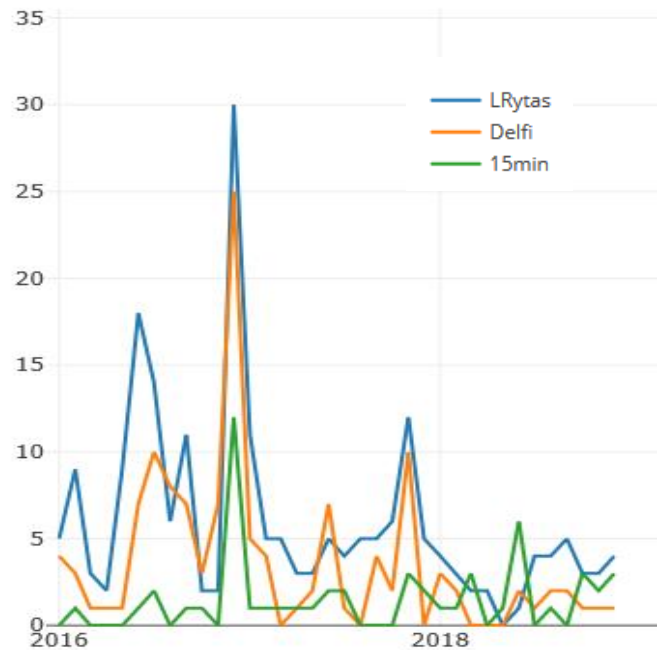
Our results answer to the question: what is seen from the main Lithuanian media in a particular topic by ordering results by time scale (see Figure 5, Figure 6, Figure 7). Most of the information is reflected in the spikes in articles discussing certain topic. After collecting all of these spikes (periods of interests), they can be compared to the available context data. Relevant context was identified by experts of theology. Certain world events are repeating every year or are recurring periodically, others are one-off but significant.

There were two context data lists made: one for the first topic and another for the second and the third topics together. The data representing the first thesis (Ethical aspects of artificial insemination) shows that the largest number of articles against Christians was written in December 2016. At that time, topics of artificial insemination, embryo storage and donation were actively discussed in Lithuania, and the Seimas of the Republic of Lithuania adopted new legislation. Other articles frequency overlaps in web portals are also strongly related to political situation. In this way, the opinion of the community is strongly forming, influencing the opinion of the individual. The data about the second and third topics is very similar (see Figure 8). Most articles were published in September 2018 - at that time Pope visited Lithuania. Other coincidence is June 2016: these facts supported the theory that at the beginning of the admission to the seminary, the number of articles directed against Christians is increasing.

The intenseness of the impact of verbal aggression depends on the attitudes of the acceptor, but the publishing frequency of articles remains important. Statistical analysis

has shown that aggressive texts are presented to readers more than every two days (see Figure 9).

The level of aggression in the articles was evaluated by an expert of theology. After analyzing the data, it is determined that the most aggressive texts are written by web portal Lrytas (see Figure 10), the most aggressive topic is Ethical aspects of artificial insemination.



⁵ Downloaded from <https://www.r-project.org/>

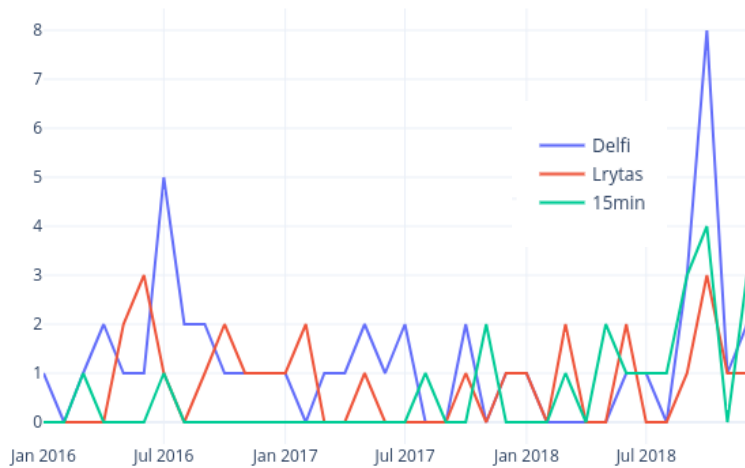


Fig. 5 Number of articles in the first topic by portals

Fig. 6 Number of articles in the second topic by portals

Fig. 7 Number of articles in the third topic by portals

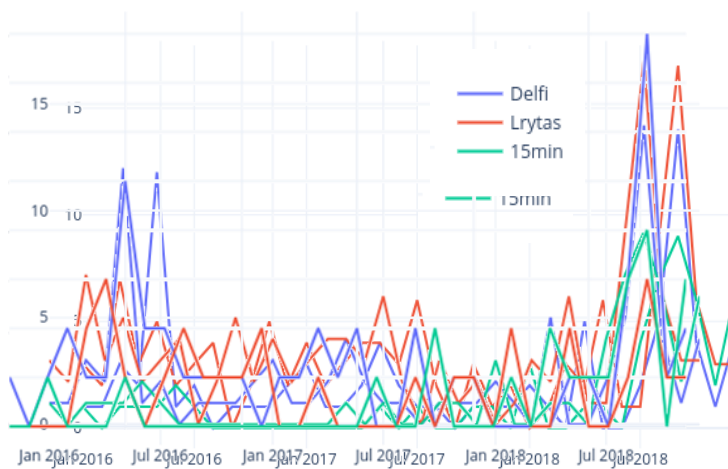


Fig. 8 Data similarity between the second and third topics

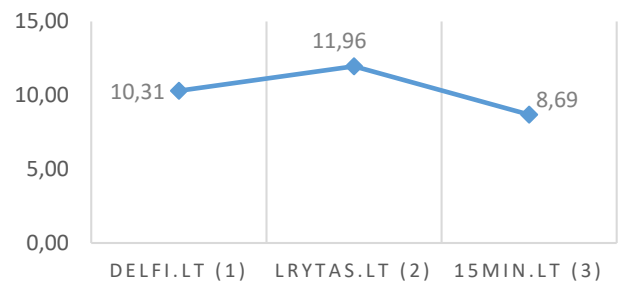
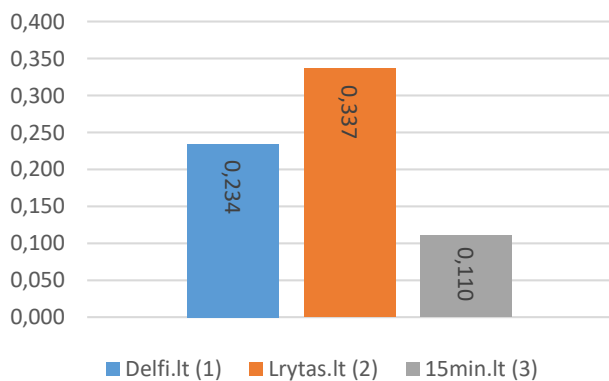


Fig. 9 Frequency of portals writing during the period

Fig. 10 Average of aggression levels in articles

VI. CONCLUSION AND FUTURE WORKS

After all investigations done, we can assert that (1) the most aggressive texts are written by web portal Lrytas (<https://www.lrytas.lt>), (2) the most aggressive topic in Lithuanian media is Ethical aspects of artificial insemination, (3) aggressive texts are presented to readers more than every two days, (4) articles frequency overlaps in web portals are also strongly related to political phenomena.

In this work we offer and test the chosen methods for a specific field of research. This media analysis reflects the spread of anti-Christian opinion in 2016-2018 years in three most popular Lithuanian web portals. These research findings are the result of knowledge generated through multiple theological research and data science methods. These methods are not entirely new, but the application is very specific and quite unique in this position.

In principle, the proposed method is also applicable to other (non) denominations of faith, but the basic condition for

choosing it should be related to the amount of material and a certain rule in the new media for the type of verbal aggression under investigation.

Evaluation of the theoretical possibilities of overcoming the aforementioned aggression trends is not the main objective of this paper. It is rather implied trend of further studies. On the other hand, having considered the fact that the positivity of media is related with its contribution to the common goodness, spiritual rest, education, the formation of the strategy of aggression overcoming is undoubtedly an important task nowadays.

Our future plans are to develop another data collection method that will reduce manual work. Also create an automatic tool for evaluating aggression in the media is important. Another important area is the automatic detection of verbal aggression against Christians in the online media.

REFERENCES

- [1] C. A. Anderson, K. Suzuki, E. L. Swing, Ch. L. Groves, D. A. Gentile, S. Prot, Ch. Pan Lam, A. Sakamoto, Y. Horiuchi, B. Krahe, M. Jelic, W. Liuqing, R. Toma, W. A. Warburton, Xue-Min Zhang, S. Tajima, F. Qing, P. Petrescu, "Media Violence and Other Aggression Risk Factors in Seven Nations," *Personality and Social Psychology Bulletin*, vol. 43, no. 7, pp. 986-998, 2017.
- [2] J. Cantor, B. J. Wilson, "Media and Violence: Intervention Strategies for Reducing Aggression," *Media Psychology*, vol. 5, no. 4, pp. 363-403, 2009.
- [3] S. M. Coyne, J. Archer, "Indirect aggression in the media: A content analysis of british television programs," *Aggressive behavior*, vol. 30, no. 3, 2004.
- [4] M. C. Nisbet, T. P. Newman, *Framing, the Media, and Environmental Communication*, The Routledge Handbook Of Environment And Communication, 2015.
- [5] D. Scheufele, "Framing as a theory of media effects," *Journal of Communication*, vol. 49, no. 1, pp. 103-122, 1999.
- [6] L. Bolce, G. De Maio, "A Prejudice for the Thinking Classes: Media Exposure, Political Sophistication, and the Anti-Christian Fundamentalist," *American Politics Research*, vol. 36, no. 2, 2008.
- [7] M. S. Miceli, "Morality Politics vs. Identity Politics: Framing Processes and Competition Among Christian Right and Gay Social Movement Organizations," *Sociological Forum*, vol. 20, no. 4, p. 589-612, 2005.
- [8] W. Wood, F. Y. Wong, J. G. Chachere, "Effects of media violence on viewers' aggression in unconstrained social interaction," *Psychological Bulletin*, vol. 109, no. 3, pp. 371-383, 1991.
- [9] C.C. Aggarwal, C.X. Zhai, *Mining text data*, Springer, 2012.
- [10] "Gemius Baltic," 2017 m. pradžia augino svetainių populiarumą, 15 02 2017. [Online]. Available: <https://www.gemius.lt/visos-naujienos/id-2017-m-pradzia-augino-svetainiu-populiaruma.html>. [Accessed 01 03 2019].
- [11] W. t. O. H. H. Center, "OutWit Hub Light, Pro, Expert & Enterprise Editions v7.x," 30 01 2018. [Online]. Available: <https://www.outwit.com/downloads/release/7.0/outwit-hub-help%20v7.0.pdf>. [Accessed 01 03 2019].
- [12] S. C. Woolley, P. N. Howard, "Computational propaganda worldwide: Executive summary," *Working Paper No. 2017.11*, 2017.
- [13] R. C. Team, "R: A language and environment for statistical," R Foundation for Statistical Computing, Vienna, Austria, 2013.