

Vestnik MIRBIS. 2024; 1(37): 173–179.

Вестник МИРБИС. 2024. № 1(37): С. 173–179.

Original article

DOI: 10.25634/MIRBIS.2024.1.19

### Fact-checking tools for Different Countries and Cultures: a Universal Approach

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**Abstract.** This study discusses the effectiveness of fact-checking tools, their advantages and challenges based on the experience of selected fact-checking organizations around the world. The paper discusses the universality of using fact-checking tools for residents of different countries and cultures, and also suggests possible solutions to improve the operation of fact-checking tools and, as a result, reduce the percentage of misinformation and disinformation from the side of media practitioners and journalists after publishing news. The object of research is Fact-checking tools that are being used by modern fact-checking organizations around the world. The subject of this study is the effectiveness of the modern fact-checking tools in combating misleading data in the conditions of different countries.

**Key words:** fact-checking, fake news, misinformation, disinformation, effectiveness, challenges, media literacy, fact-checking speed.

**For citation:** Rybinok E. A. Fact-checking tools for Different Countries and Cultures: a Universal Approach. By E. A. Rybinok, V. L. Muzykant. DOI: 110.25634/MIRBIS.2024.1.19. *Vestnik MIRBIS*. 2024; 1:173–179.

Научная статья

УДК 339.92

### Инструменты проверки фактов для разных стран и культур: универсальный подход

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**Аннотация.** В этом исследовании обсуждается эффективность инструментов проверки фактов, их преимущества и проблемы, основанные на опыте отдельных организаций по проверке фактов по всему миру. В статье рассматривается универсальность использования инструментов фактчекинга для жителей разных стран и культур, а также предлагаются возможные решения по улучшению работы инструментов фактчекинга и, как следствие, снижению процента дезинформации и информации, вводящей читателей в заблуждение со стороны работников СМИ и журналистов после публикации новостей. Объектом исследования являются инструменты фактчекинга, которые используют современные фактчекинговые организации по всему миру. Предметом данного исследования является эффективность современных инструментов фактчекинга в борьбе с вводящими в заблуждение данными в условиях разных стран.

**Ключевые слова:** проверка фактов, фейковые новости, дезинформация, ложная информация, эффективность, проблемы, медиаграмотность, скорость проверки фактов.

**Для цитирования:** Рыбинок Е. А. Fact-checking tools for Different Countries and Cultures: a Universal Approach / Е. А. Рыбинок, В. Л. Музыкант. DOI: 10.25634/MIRBIS.2024.1.19 // Вестник МИРБИС. 2024; 1:173–179.

### Introduction

Considering social media are nowadays where the majority of Internet users obtain their news, there is increasing concern about how to authenticate the information that appears on these

sites. The impact of fact-checking labels (confirmed vs. contested) by source (peer vs. third-party) on the virality, credibility, and information-seeking of news articles shared on social media were examined in two trials. This research is based on recent fact-checking organizations and scholars background from local companies around the world with the aim

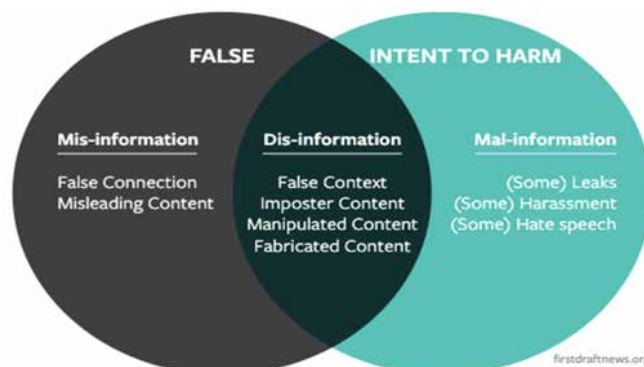
to find out the current effectiveness of fact-checking method, its challenges and opportunities to be optimized. Rather than focus on a specific case, the paper provides an overview of current effectiveness and weight of a fact-checking as a method in the modern conditions of overflowing information. The study presents various fact-checking tools that are considered as the one of the most effective one and provides some examples proving the point further. Following a definition of essential concepts, the article outlines the limitations of fact-checking as a method and the importance of confirming these limitations. The paper highlights the main challenges presented to researchers when trying to use fact-checking tools. The report finishes with providing possible solutions for promoting the popularization of the use of fact-checking, as well as measures to eliminate the challenges of using fact-checking as a method of verifying the reliability of information. The basis for the research includes practitioner interviews, scientific research, questionnaires, and the authors' own firsthand knowledge of the topic.

### The effectiveness of fact-checking and measuring the long-term reduction of misinformation and disinformation that it provides

The main criterion for determining the effectiveness of the fact of checking is not only the dynamics of reducing the level of disinformation, which is described in the work of A. Oeldorf-Hirsch in co-authorship, but also the long-term effect of reducing the level of disinformation of the audience. It is a crucial to clarify and see, if the Fact-checking is a relevant and useful method for reducing the level of misinformation among media audience in a long-term perspective [Oeldorf-Hirsch 2020].

The extent to which fact-checking could reduce the number of misrepresentations by conducting parallel experiments in four different countries has been recently discussed in the study by E. Porter and T. J. Wood. According to the results fact-checking reduced the level of misconceptions in all directions, with a surprisingly small country-to-country differences, and most of the benefits become apparent after more than two weeks. The meta analytic procedure shows that fact-checking has reduced belief in misleading data by at least 0.59 on a 5-point scale. However, the impact of disinformation only increased false beliefs by less than 0.07 on the same scale [Porter 2021]. On different continents,

fact-checking reduces confidence in disinformation, often for a long time. The data highlights the importance of combating false information as a tool for verification of facts.



**Chart 1.** Fakes paradigm: from satire and parody to fabricated content  
*Sours: (Information Disorder. Claire Warden and Hossein Derakhshan)*

### Modern fact-checking tools and their features

Fact-checking includes many different ways to confirm the veracity of information, which allows whether it will be a media specialist or layman to select a specific tool for certain situations. For example, artificial intelligence has become a good fact-checking tool today. With its help, it becomes possible to determine graphic image adjustments that are invisible to the human eye. There are many utilities and browser extensions, both paid and free, that help media professionals check the accuracy of data. Visualizers include such a program as INVID<sup>1</sup>. When activating the program, the method of so-called visual noise analysis is used. Homogeneous layers of pixels are darkened in the image, while the edited parts are highlighted.

The second program was a reverse image search, which allowed us to determine who actually owned the face depicted in the photo of the «Ghost of Kiev». a content-based image search technique wherein the system is given an example image to work with as the foundation for the search [McCoy 2022]. With the help of this program, the myth of the «Ghost of Kiev» about the Ukrainian fighter of Russian jets, whose photo was walking in the vastness of Twitter, was exposed<sup>2</sup>. Years ago, the same image surfaced

1 Center for Research and Technology Hellas – Information Technologies Institute. European Union's Horizon, 2020. InVID. Available at <https://www.invid-project.eu/> (accessed 17.11.2023).

2 Ukrainian pilots in the tactical aviation brigade are testing a French helmet in the Kyiv region [Tweet]: Official page of the Ministry of Defense of Ukrain [@DefenceU] in Twitter. Available at <https://twitter.com/DefenceU/status/1121409549662138369>. Publ. 25.04.2019.

online, except the soldier had a different head, an alternate arm badge, and no background flag. A gray maple leaf, which is an emblem of the Royal Canadian Air Force, can be seen if you examine the aircraft attentively behind the pilot. This was probably overlooked during photo manipulation, and it clearly identifies the image as coming from Canada. The man whose face has been cropped into other photographs and is supposedly «Vladimir Abdonov» is actually an Argentine lawyer from Buenos Aires. He tweeted about his newfound hero status and expressed amusement about it<sup>3</sup>. Thus, from the example of non-existent Ukrainian pilots, it follows that technology is a good help to journalists in fact-checking before publication.

Nevertheless, it is important to mention that analytical skills and a trained eye of a specialist are also considered as a fact-checking tools. Going deeper into the analytical methods of determining false information, it is worth mentioning to possess skills in detecting generated images, that are produced by image generators based on artificial intelligence. For example, there are neural networks that create the faces of non-existent people. One of these is the This-person-does-not-exist neural network<sup>4</sup>. Faces look very natural, but artificial intelligence still makes mistakes in the image of people, often it can be minor details or subtle distortions. Often in the images generated by the neural network, the hair lines merge with the skin, the iris of the eyes is not perfectly round. It can also be disproportionate limbs, an excessive number of fingers on the hands, or the merging of objects with the skin.

Elements of critical thinking should also be applied in fact-checking before publication. This includes checking the so-called land marks and geolocation checking. The infrastructure elements depicted in the photo or video and their location relative to each other will help to verify the truth of the claimed fact<sup>5</sup>. Overall, fact-checking can be conducted by

a journalist using both analytical techniques and neural networks and other technologies.

An example of such a fake is a video published by the «White Helmets» organization in April 2018. The video shows how a group of people from the «White Helmets» runs into the room and pours water on the victims to wash their eyes and airways from the allegedly used gas. The video spread quickly, and later another video appeared with a 7-year-old boy, Hassan Diab, to whom one of the members of the White Helmets organization washed his eyes. Later it turns out that the video is staged, and the child was promised sweets. The falsity of the event is evidenced by the testimony of many eyewitnesses, as well as the boy himself. After the incident, the Russian correspondent E. Poddubny was able to interview the boy and his family, in which they talk about the fake footage. Thus, the fake was exposed<sup>6</sup>.

In this case, it is almost impossible for the viewer to determine the falsity of the video, as for example it was in the example with objects moving relative to the location and the possibility of comparing maps. In this case, critical thinking can help. Looking at the situation globally, it becomes clear to whom and for what it was beneficial to accuse Bashar al-Assad and Russia of using banned chemical weapons. It is important to note that Syria has never concealed the presence of chemical weapons stockpiles<sup>7</sup>.

#### **Fact-checking tools usage challenges. Time-consuming process**

Despite the fact that researchers are inclined to the effectiveness of fact-checking to consolidate the long-term action against false information and large set of tools, the fact-checking also has some limitations. One of the most serious constraints is the time spent verifying the facts. The problem is that because of the high competitiveness of the media, journalists try to publish the material as quickly as possible. So, is it the choice to be first or to be the

3 Eisele I., Fact check: The 'Ghost of Kyiv' fighter pilot, 2022. Available at <https://www.dw.com/en/fact-check-ukraines-ghost-of-kyiv-fighter-pilot/a-60951825> <https://www.dw.com/en/fact-check-ukraines-ghost-of-kyiv-fighter-pilot/a-60951825> (accessed 17.11.2023).

4 Available at <https://this-person-does-not-exist.com/ru> (accessed 17.11.2023).

5 Trewinnard T. Slide deck three for the module verification of digital sources and content – Verifying visual content. Available at [https://en.unesco.org/sites/default/files/module\\_6\\_1.pdf4re5d](https://en.unesco.org/sites/default/files/module_6_1.pdf4re5d) (accessed 17.11.2023).

6 Siriyskiy mal'chik rasskazal, chto khimicheskaya ataka v Dume byla postanovochnoy [A Syrian boy said that the chemical attack in Douma was staged]. TengriNews : website. Available at [https://tengrinews.kz/world\\_news/siriyskiy-malchik-rasskazal-himicheskaya-ataka-dume-342420/](https://tengrinews.kz/world_news/siriyskiy-malchik-rasskazal-himicheskaya-ataka-dume-342420/). Publ. 04/19/2018 (in Russ.).

7 Vopros khimicheskogo oruzhiya Sirii iskusstvenno obostryayetsya [Syria's chemical weapons issue is artificially escalating]. By V. V. Popov. MGIMO Univercity : website. Available at [https://mgimo.ru/about/news/experts/233794/?utm\\_source=google.com&utm\\_medium=organic&utm\\_campaign=google.com&utm\\_referrer=google.com](https://mgimo.ru/about/news/experts/233794/?utm_source=google.com&utm_medium=organic&utm_campaign=google.com&utm_referrer=google.com). Publ. 12/11/2012 (in Russ.).

best. To sacrifice time to verify the fact or to publish to remain popular in the media space? In part, this issue can be considered as ethical.

### **Bubbles and post-truth communities**

The second problem is the existence of information bubbles and post-truth communities. It is known that the phenomenon of post-truth implies a person's unconditional faith in the information that is easier to accept, since it corresponds to his beliefs and values. Jayson Harsin deepens the concept of post-truth (PT) as follows "PT is actually a breakdown of social trust, which encompasses what was formerly the major institutional truth-teller or publicist—the news media" [Harsin 2018]. Based on this, it follows that the media is obviously losing the trust of the audience. Moreover, the emerging post-truth societies form dense information bubbles, into which it is very difficult to penetrate in order to convey factually verified information. In fact, post-truth communities' representatives do not need to verify the information – they are convinced in advance that it is correct.

### **Social media algorithms unintentional provocation of false information spread**

The topic of information bubbles is closely related to the peculiarities of social networks, which are a popular source of news and their exchange. Social media algorithms indirectly sparks off the false information spread. Social media rewards content that goes viral. In this regard, false information spreads way faster. Taking into account the post-truth, this phenomenon is in a vicious circle. At the moment, this level of cooperation and accountability that exists between the state and the developers of social networks is insufficient to carry out an active fight against fakes. It is important to understand that in the case of spreading false information, credibility must go beyond profit.

### **Solutions**

Speaking about possible solutions to this issue, important to mention, that that technological progress is the key to acceleration in fact-checking. Choosing between the quality of content and the speed of providing information, of course, the media should choose quality. At the moment, a neural network based on Geometric Deep Learning is being developed that can detect false information in the coming hours after publication. The program is trained on CNN publications and is already able to become a good tool at hand [Fake

News Detection... 2019].

The problem of authority and trust should also be approached from the side of government: owing to the unique features of Chinese law, such as specific regulations governing the subjects on which bloggers may discuss (such as a prohibition on remarks concerning medical and finance made by those without a university degree), it was possible to control the dissemination of false information throughout the epidemic. As a result, there were significant swings in the Russian media landscape in addition to the rise of fake news.

Post-truth communities' issue might be resolved by two measures that should be taken. Firstly, misleading data can be combated by raising Media-information literacy among citizens. The implementation of obligatory Media-information literacy education programs should be started from elementary school. Special trainings for the teachers should be organized too. This approach will make the invasion of informational bubbles and post-truth communities possible.

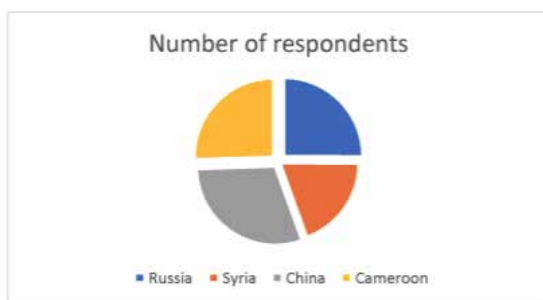
### **Results**

The purpose of this survey was to find out how respondents explain the phenomenon of fake news and how to deal with it. The main question is whether it is possible to choose a universal set of fact-checking tools to provide them to the younger generation for minimizing the perception of disinformation among non-media specialists. To answer the main question, the remaining research questions were divided into three categories. The first category includes questions 1 to 11. They are focused on determining how respondents define fake news for themselves as a phenomenon. The second group of questions from 12 to 17 examines the level of respondents' ability to assess the falsity of the news. The third category of questions from 18 to 20 is focused on finding solutions, which respondents see as a possible way to reduce the spread of disinformation, as well as awareness of responsibility for it. The tables show the results of the survey with the most popular responses from respondents.

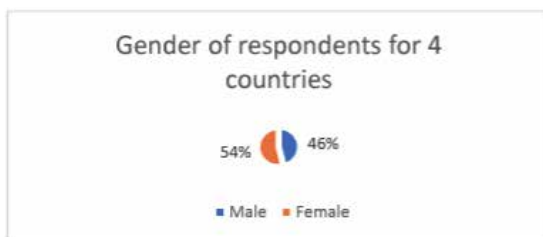
A questionnaire was distributed among young people aged 18 to 35 from Russia, Syria, China, Cameroon. Most of the respondents are in the status of a student and have a master's degree or higher in various fields. 54% of the respondents are women and 46% are men (Table 1).

**Table 1. General portrait of the respondents**

Gender	F 54% M 46%
Age	18-35
Education	Masters and higher
Professional status	Student
Number of respondents	Russia 257 Syria 200 China 308 Cameroon 262



**Chart 2.** Number of respondents divided in four groups



**Chart 3.** General percentage of participants per gender for Russia, Syria, China and Cameroon

According to survey results for respondents from Syria, Russia and Cameroon the main source of news is Social media, however for Chinese users' as well newspapers serve as an important source. The definition of fake news diverse between two groups of countries: Russian and Syrian respondents believe that fake news can be defined as Deliberate disinformation, while Chinese and Cameroonian participants had chosen "Inaccurate" in their majority. According to 52,9% of Russian and 39,2% of Chinese respondents the main form of the fake news that is witnessed is photos with fake captions. For Syria the leading position takes fake videos/ dubbing of the real video (12,9%) and similar answers has given Cameroonian respondents – 39,9% of respondents had chosen the video cut into pieces. The majority of 3 countries respondents (Russia, Syria and Cameroon) noted that fake content comes with political news, while Chinese respondents choose "Sad news" as the main false information source. The same group of three countries (Russia, Syria < Cameroon) receives most of fake news via Social Media, while Chinese respondents experience false information in open internet sources mostly. According to the frequency of fake news in all countries, the indicators are different. If the frequency of fakes is high enough in Syria, the majority of Syrian respondents' face disinformation on a daily basis. In Russia, fakes are found once a week, and in Cameroon and China, fakes are noticed once a month. (Table 2.)

**Table 2. Frequency of received fakes**

	Where do you get news from usually?	How do you define fake news?	Forms of fake news you receive	What is the content of fake news you often receive?	On what channels do you detect fake news?	How often do you receive fake news?
<b>Russia</b>	Social media 82,4%	Deliberate 47,1%	Photos with Fake captions 52,9% Captions	Politics 70,6%	Social media 82,4%	Once a week 52,9%
<b>Syria</b>	Social media 54,8%	Deliberate 25,8%	Fake Videos/ Dubbing of the real video 12,9%	Politics 41,9%	Social media 71%	Every day 35,5%
<b>China</b>	Newspapers 18,83	Inaccurate 51%	Photos with Fake captions 39,2%	Sad news 12,9%	Internet sources 58%	Once a month 30,6%
<b>Cameroon</b>	Social media 82,2%	Inaccurate news 54%	The Video is cut into pieces 39,9%	Politics 57,2%	Social media 84,9%	Once a month 32,9%

From the second group of questions it is seen that and excitement, gossip are the main reason for the spread of fake news for three out of four countries at it is not posted by Mass Media. Syrian respondents once (Syria, China, Cameroon). Russian respondents believe that suspicious source of news is one of the main fake news signs. News that arouses interest managing society. The absolute majority of the

survey participants are more or less confident in their ability to identify fake news. Chinese respondents find recognizing fake news easy. However, the results are diametrically opposed as to how easy it is to identify fakes for the respondents' environment. Russian and Chinese respondents believe that it is harder for their friends and relatives to recognize fakes, while Syrian and Cameroonian respondents believe that it is difficult for the environment to recognize fakes.

It is essential, 89% of Russian respondents are convinced of the need to introduce special courses on media education and fact-checking in particular. Syria is next in terms of conviction (62%), followed by Cameroon (51%), and respondents from China showed 41%, while the second most popular answer is «not sure» (30%).

### Discussion

From the results of the survey, it can be concluded that social networks are the most popular source of information in most countries, and most false information is also found in it. Fake news is most often found in news about politics. Opinions about the reasons for the origin of fake news vary depending on the country. For example, for Russian and Syrian respondents, fake news is deliberately distorted information, while for Cameroon and China it is only inaccurate. This can be explained by the current political instability of the situation in Syria and Russia. This is also the reason for the relative frequency of fake news in the news space of respondents from Syria and Russia. The high level of oversight over the publication of information in China explains the respondents' answers about the inaccuracy of the information. This means that if false information gets into the news space, it arises as a result of inaccuracy, and not intentional distortion.

It can be seen from the survey that the majority of respondents in 4 countries are guided by the mass media to make sure that the news is true. If reputable mass media publish something, then it can be considered credible. A very significant correlation is the respondents' assessment of their own subjective ability to identify fake news and their opinion about the ability of the environment to identify fake news. In both cases, the answers are close to neutral, but in assessing one's own abilities, the assessment tends to be positive (more easy than difficult), and in assessing the abilities of the environment to be more negative (More difficult than easy). Thus, it

is obvious that there is a mass misconception that can be formulated as follows: «I can distinguish truth from lies, but my environment does not.» The answers to the question of the veracity of the headline can serve as proof of this. If you follow the basic rules of fact-checking, then you can say that the title cannot be called truthful, since there is no accurate information in it. It is not a fact, but only a statement that is subject to verification. Regardless of the answer to this question, the absolute majority of respondents could not explain their statement about the truthfulness or falsity of the headline. It follows that respondents rely on their inner feelings about truthfulness or falsity and do not appeal with specific facts. Thus, there is a general misconception about the ability of respondents to determine the truthfulness of news and calls it into question.

### Conclusion

The effectiveness of fact-checking tools, as well as their benefits and drawbacks, have been covered in this paper. Based on the experiences of some global fact-checking organizations, potential solutions to enhance the functionality of fact-checking tools and lower the proportion of false and misleading information have also been suggested.

Fact-checking is an actual method of combating disinformation and out of information and contributes to a long-term reduction of its level.

Technological progress makes it possible to combine the analytical tools of fact-checking journalists, for example, their ability to think critically with the capabilities of artificial intelligence

Such problems of using fact-checking tools as time-consuming, the formation of information bubbles and the confrontation of post-truth societies, as well as the independent work of social networks and the orientation of its algorithms to the dissemination of more popular content were discussed.

According to research, the key to improving the effectiveness of fact-checking in the long term lies in the coordinated work of social network developers with the state, improving the technological characteristics of artificial intelligence in addition to the critical thinking of journalists, as well as increasing the level of media information literacy through the introduction of compulsory media information education, starting from elementary schools.

## References

1. Fake News Detection 2019 — *Fake News Detection on Social Media using Geometric Deep Learning*. By F. Monti & F. Frasca & D. Eynard [et.al.], 2019. Available at [https://www.researchgate.net/publication/331195263\\_Fake\\_News\\_Detection\\_on\\_Social\\_Media\\_using\\_Geometric\\_Deep\\_Learning](https://www.researchgate.net/publication/331195263_Fake_News_Detection_on_Social_Media_using_Geometric_Deep_Learning) (accessed 11/17/2023).
2. Harsin 2018 — Harsin J. Post-Truth and Critical Communication Studies, 2018. DOI: 10.1093/acrefore/9780190228613.013.757.
3. McCoy 2022 — McCoy J. Reverse Image Search: Everything You Need To Know. *SearchEngineJournal* : website. Available at <https://www.searchenginejournal.com/reverse-image-search-complete-guide/370012/>. Publ. 05/26/2022.
4. Oeldorf-Hirsch 2020 — Oeldorf-Hirsch A., Schmierbach M., Appelman A. & Boyle M.P. The Ineffectiveness of Fact-Checking Labels on News Memes and Articles DOI:10.1080/15205436.2020.1733613. *Mass Communication and Society*. 2020; 23(3).
5. Porter 2021 — Porter E., Wood T. J. The global effectiveness of fact-checking: Evidence from simultaneous experiments in Argentina, Nigeria, South Africa, and the United Kingdom. DOI:10.1073/pnas.2104235118. *Proceedings of the National Academy of Sciences*. 2021; 118(37).

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*The article was submitted 12/12/2023; approved after reviewing 03/01/2024; accepted for publication 03/01/2024.*

*Статья поступила в редакцию 12.12.2023; одобрена после рецензирования 01.03.2023; принята к публикации 01.03.2024.*