

Tools for Fact-Checking in Relation to Disinformation Activities and Their Potential for Social Use

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Abstract

The study focuses on an indicative analysis and critical evaluation of tools and methods used for fact-checking, which represent a key instrument in combating disinformation within the contemporary media environment. In the context of the spread of false or manipulative narratives, particularly through social media and online platforms, systematic fact-checking may be one of the tools for preserving information integrity and protecting the public from harmful content. The aim of the study is to formulate recommendations, based on a constructively critical mapping of the current situation, which can contribute to more effective management of the related agenda.

KEY WORDS: *disinformation, hybrid campaign, media literacy, fact-checking.*

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1. Introduction

Disinformation has become one of the most pressing challenges affecting democratic principles and shaping public opinion worldwide. The spread of false or misleading narratives represents a serious threat to societal stability and to society as a whole. Such content, often propagated through social networks, online platforms, and occasionally even traditional media, has the potential to erode public trust in institutions, destabilize social cohesion, and influence political decision-making processes.

The study presents an indicative analysis and critical evaluation of contemporary tools and methods used for fact-checking, as one of the instruments in countering disinformation in the current media environment. In a context marked by the rapid dissemination of false or manipulative content, particularly through social media and online platforms, systematic fact-checking may play an essential role in safeguarding information integrity and protecting the public from harmful narratives. The primary aim of the study is to formulate recommendations, based on a constructively critical mapping of the present situation that may contribute to more effective management of the agenda related to disinformation prevention and mitigation.

It also considers strategies and policy measures that could enhance efforts to counter disinformation and protect information integrity, using the situation in the Czech Republic as a case study. A potential component of disinformation mitigation is effective fact-checking. Fact-checking involves the systematic verification of claims circulating in the media ecosystem and is crucial for maintaining journalistic standards, protecting public discourse, and preventing the spread of fabricated or distorted information. Its importance has grown in light of the increasing diversity of disinformation sources, which include actors with varied motivations and levels of coordination.

The overarching objective of the study is to formulate recommendations, grounded in a constructive and critical evaluation of the current landscape, that may support a more coherent and effective approach to preventing and combating disinformation.

2. Method of Investigation

The methodological framework of the study is designed to enable a comprehensive and critical evaluation of existing approaches to combating disinformation in both national and international contexts. The analytical procedure is structured into several interconnected phases [3, 57, 58].

1) Mapping and evaluation of existing fact-checking tools and practices: The research began with an indicative mapping of current fact-checking practices, focusing on technological platforms, automated detection systems for content manipulation, and tools aimed at supporting or enhancing media literacy. Selected instruments were assessed according to unified criteria, including functionality, usability, methodological transparency, and accessibility for the general public. Particular attention was given to each tool's practical capacity to identify and mitigate false or misleading information, as well as its suitability for different categories of users. This phase provided a structured overview of the existing technological landscape and highlighted both operational strengths and practical limitations of available solutions [34, 35].

2) Expert-based empirical inquiry and contextual validation: The analytical mapping was complemented by structured interviews with relevant national experts, not limited to the Czech Republic alone. These interviews were designed to capture real-world experiences with fact-checking tools, their practical use in professional environments, and their broader impact on the media and information ecosystem. The qualitative data obtained through this process formed a robust empirical foundation that contextualized the technological assessment and enabled a deeper understanding of how fact-checking tools function beyond their technical specifications.

3) Synthesis of findings and formulation of recommendations: Based on the combined outputs of the technological evaluation and expert consultations, a synthesis method was applied to integrate and critically assess all findings. This process enabled the identification of recurring shortcomings, examples of effective practice, and opportunities for systemic improvement. The resulting recommendations are therefore evidence-based and targeted, focusing on strengthening fact-checking mechanisms, improving practical usability, and enhancing the overall effectiveness of policies and strategies aimed at countering disinformation.

The central research question guiding this study are as follows:

RQ1: What are the weaknesses and the potential of fact-checking tools for achieving greater influence in everyday situations among the general public?

RQ2: What measures would need to be implemented to make fact-checking more effective and its impact tangible in real time?

These questions are addressed throughout the following chapters, each of which examines a specific dimension of the issue.

Although the methodological approach of this study is primarily qualitative and indicative in nature, it was guided by a set of predefined analytical criteria in order to ensure internal coherence and comparability of results. The evaluation of individual fact-checking tools focused on functionality, accessibility, transparency of methodology, scope of applicability, and practical usability for different categories of users. These criteria were not operationalized through quantitative scoring but rather through structured qualitative assessment based on publicly available documentation, observed tool behavior, and expert judgment.

The use of qualitative expert inquiry was deliberately chosen due to the dynamic nature of the disinformation environment, the heterogeneity of analyzed tools, and the limited availability of comparable quantitative performance data. The aim was therefore not statistical generalization, but an in-depth, practice-oriented reflection on current trends, strengths, and limitations of fact-checking instruments.

3. Overview of Current Knowledge on the Issue

The chapter focuses on a theoretical review of the discussed topic. Its content provides the initial basis for defining the fundamental framework of the subject under investigation.

Disinformation that evokes fear on other emotions belongs among the most powerful rhetorical tools and has been used in propaganda for centuries. This strategy is effective because emotions often govern decision-making and can lead individuals to accept or further disseminate information without thorough verification.

A very indicative literature (sources of information) review played a springboard role in mapping, interpreting, and critically assessing the current state of knowledge in the fields of disinformation and fact-checking. This review not only systematized key theoretical insights but also established the conceptual and methodological starting points for the analytical part of the study [1, 27, 43].

The spread of disinformation is the result of more general phenomena that often lead to changes in society. These phenomena may include economic insecurity, the rise of extremism, or cultural changes. Various organizations or individuals subject to certain political influences may then resort to disinformation campaigns with the aim of deepening these phenomena within society [9, 20, 24, 44].

The transformation of the media sector has also significantly contributed to the spread of disinformation, as new platforms continue to emerge that serve as communication channels without being associated with editorial teams in the traditional sense. Their basic principle is usually the generation of profit, which requires that their content reach as large an audience as possible [17, p. 4, 53, 56].

Disinformation is often shared by individuals or organizations that possess a certain degree of authority and credibility. This leads readers to trust the presented information and consequently not to verify data sources or individual claims. Such disinformation is not infrequently published by channels that present themselves as news outlets [47, p. 25].

Emotions also have a significant influence on the spread of individual pieces of disinformation, as pointed out by analyst Roman MÁCA. People often evaluate individual messages primarily based on the emotions these messages evoke in them, rather than approaching them with critical distance and verifying the information independently. The power of disinformation does not lie primarily in its factual content, but rather in the emotional response it provokes. Content that evokes strong emotions such as anger, outrage, or a sense of injustice can spread rapidly and shape opinions even when it is not true (see Table 1 and Table 2). Also in Old Testament you can find a verse: “*The prophets prophesy a lie... and my people like it.*” [Jeremiah 5:31].

Table 1. The extent to which a particular narrative resonates with the recipient’s beliefs is perceived as more important than whether it is true or false [30].

		Truthfulness (subjectively and objectively perceived)	
		Narrative perceived as true	Narrative perceived as false
Positive or negative emotional impact	Positive emotional impact	Narrative is actively sought out, followed, and shared	Narrative is actively sought out, followed, and shared
	Negative emotional impact	Narrative is not sought out, followed, or shared	Narrative is not sought out, followed, or shared

Table 2. The extent to which a particular narrative resonates with the recipient’s perception (or attitude) related to the individual speaker or disseminator (own elaboration).

		Attitude toward Speaker	
		Positive	Negative
Handling with the message	Cognitive Processing	Motivated reasoning Generalization Trust-based evaluation	Emotional, biased processing Selective perception Distrust-driven evaluation
	Typical Interpretation of Message	Excuses or justifies inaccuracies Accepts or normalizes misleading statements Message perceived as credible or positive	Interpreted as literal, negative, misleading or false Focus on inconsistencies, errors, or perceived lies Message rejected or criticized

Speed is another important factor. People visit websites that present news, and these sites often compete to publish information more quickly than others, frequently without careful verification. Speed in news reporting thus functions primarily as a marketing tool. Some studies also indicate that people read articles using images and other visual media much more frequently than those without them. **A large proportion of users access disinformation websites through links shared on social networks.** Recent analyses by **Europol**, particularly the *Serious and Organised Crime Threat Assessment 2025*, also emphasize the increasing role of advanced technologies in such activities [46].

It is also possible to talk about so-called authentic attractiveness: For example, Trump voters did not necessarily show agreement with every statement or behavior he made. „*They expressed their opposition to the established order. “When a politician lies about something obvious, the audience knows that it is not true. The politician thereby sets himself against the very norm of truthfulness.” This increases his authenticity and popularity among his base – which is really angry with norms and the establishment in general. His willingness to lie signals to them: “I am not afraid to be an outcast FOR YOU. I am not afraid to break THEIR rules.”* [20, also see 29]

Algorithms display content targeted to individual users in order to maximize the presentation of material perceived as attractive to each specific user. By promoting the distribution of content among like-minded users, these algorithms contribute to increasing polarization and amplifying the effects of disinformation [41].

Echo chambers refer to the influence of algorithms on the narratives shown to users, whereby individuals are exposed primarily to content that confirms their existing views. Alternative content is not displayed because the algorithm considers it irrelevant for the user. This leads individuals to believe that their opinions are universally shared.

4. Analysis of the Addressed Issue: Individual Fact-Checking Instruments

This section primarily contains an analysis of individual programs and applications used for fact-checking. Following chapter is trying to assess fact-checking tools and methods, assessing their effectiveness, strengths, and limitations, and identifying areas requiring further research and development.

In recent years, numerous initiatives and projects dedicated to fact-checking have emerged. These initiatives employ a broad spectrum of tools and methodologies, ranging from technologically driven solutions based on artificial intelligence (AI) and machine learning to traditional human-led verification conducted by journalists and analysts. Automated systems,

such as algorithms for detecting disinformation patterns, can process large volumes of data and identify potentially problematic content with high speed. These systems are typically complemented by human experts who provide contextual interpretation and in-depth analysis.

For the purposes of this study, fact-checking is understood narrowly as the verification of specific factual claims against reliable and transparent sources, resulting in an explicit judgment regarding their accuracy. This approach is analytically distinguished from broader forms of disinformation detection, narrative monitoring, or content moderation, which primarily aim to identify patterns, dissemination dynamics, or manipulative framing rather than to verify factual correctness itself.

While these approaches are complementary and often intersect in practice, maintaining this conceptual distinction is essential for analytical clarity and for avoiding conflation of fundamentally different verification functions.

4.1 Google Fact Check Tools

a) Basic description: Google Fact Check Tools is an online platform designed to assist users, journalists, researchers, and the general public in verifying the accuracy of factual claims. It operates as a specialized search interface focused on individual statements that have already been assessed by fact-checking organizations [19].

b) Authoring institution: Developed and maintained by Google, in cooperation with multiple independent fact-checking organizations

c) Year of creation and updates: The platform was launched in 2016. The most significant update occurred in 2023, when capabilities for verifying visual content (images) were integrated.

d) Specifics by type of content: Primarily focused on textual claims and news articles; since 2023, the tool also supports verification related to images. The platform does not directly verify videos but may link to analyses that reference visual material.

e) Verification method: Functions through keyword-based claim search, similar to standard Google Search. It aggregates existing fact-checking assessments and presents them alongside sources, verdict labels, and explanatory summaries. No direct fact-checking is performed by Google itself.

f) Existing feedback, awards, or criticism: The tool has received positive feedback from journalists and researchers, who value its efficiency and centralized access to verified claims. However, criticism has focused on the limitations of Google's algorithmic ranking, potential bias toward larger media organizations, and weaker coverage in regions with fewer fact-checking partners.

g) User friendliness: Highly user-friendly; no registration or login is required. The interface is intuitive and resembles Google's standard search environment. Accessibility is broad, though the depth of results varies by language and region, see Fig. 1.

h) Price: Free of charge.

i) Usability for Central European audiences: The platform is usable for Central European users and supports the Czech language. It integrates outputs from regional fact-checking organizations, although coverage remains more limited compared to English-language environments.

j) Contact link: <https://toolbox.google.com/factcheck/explorer/search/list:recent;hl=en>.

k) Other relevant activities or notes: Google Fact Check Tools is part of the broader Google News Initiative and has been used as a subject of academic research on the reliability and impact of fact-checking platforms, including studies conducted by institutions such as the University of Florida.

4.2 Verifée

a) Basic description: Verifée is an AI-based project developed by several Czech students. It evaluates articles by analyzing how their content is framed rather than directly verifying factual accuracy. The system assesses emotional tone, presence of an author, degree of sensationalism, and the use of clickbait techniques, ultimately assigning a credibility score from 0 to 100, where 100 represents the highest level of credibility [55].

b) Authoring institution: The project was developed by its founders in cooperation with the company Dataclaire.ai, which contributed to the development of the AI model.

c) Year of creation and updates: Verifée was launched in 2021.

d) Specifics by type of content: The tool operates only on a predefined list of Czech-language news websites. It does not analyze content outside this set of domains, all of which publish primarily in Czech.

e) Verification method: Articles are evaluated using AI that analyzes multiple stylistic and structural indicators. The tool does not check factual correctness against external sources, but instead measures persuasive and emotional characteristics of the text.

f) Existing feedback, awards, or criticism: In 2024, Verifée received an AI Awards prize in the category "AI and Social Impact." Criticism from some users has questioned whether the AI implicitly evaluates content based on the source domain; the developers state that the assessment is based exclusively on textual features, not on publisher identity.

g) User friendliness: The tool can be used directly on the website or installed as a browser extension. Interaction is quick and intuitive, requiring minimal user effort, see Fig. 2.

- h) Price:** Free of charge; no registration is required and no features are behind a paywall.
- i) Usability for Central European audiences:** Highly relevant for the Czech Republic, although functionality is limited to a fixed number of Czech-language domains.
- j) Contact link:** <https://www.veriffee.ai/#4>
- k) Other relevant activities or notes:** The project operates in partnership with Central European Digital Media Observatory (CEDMO) and Charles University and is involved in ongoing research on fact-checking and disinformation.

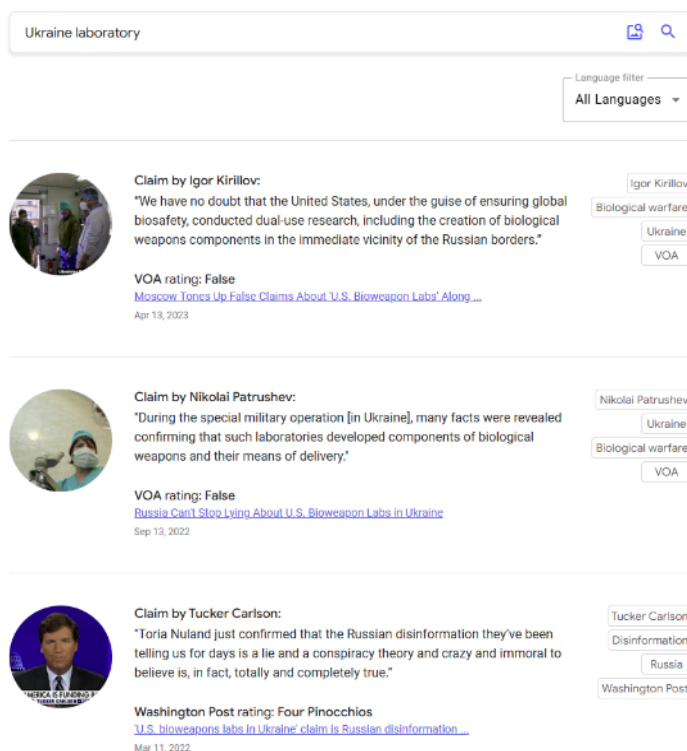


Fig. 1. Example of a result using Google Fact Check Tools ("Laboratories in Ukraine", left) [19].

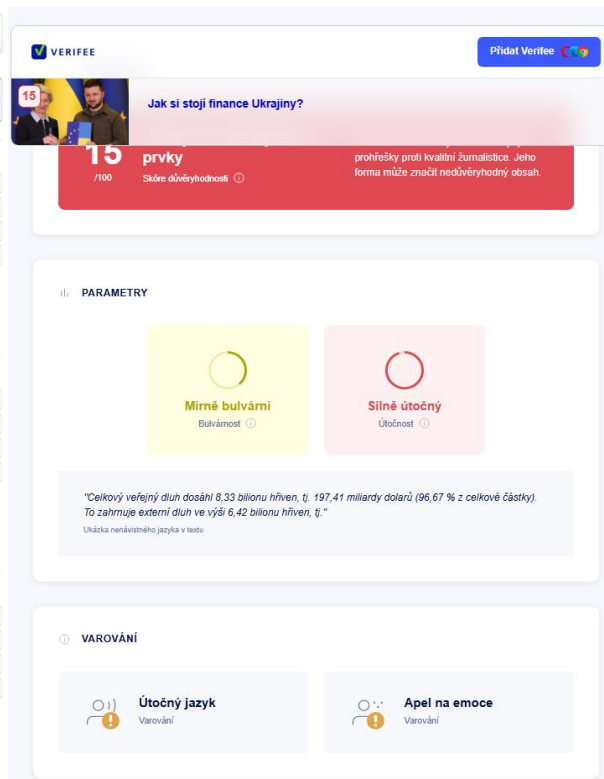


Fig. 2. Example of a result using Veriffee ("Ukraine's Debt", right) [55].

4.3 Factfully.ai

a) Basic description: Factfully.ai is an AI-driven fact-checking tool designed to assess the truthfulness of individual claims by comparing them with verified data sources. It focuses on claim-level verification rather than full article analysis [16].

b) Authoring institution: Developed and operated by Factfully Industries.

c) Year of creation and updates: The project was officially launched on 2024.

d) Specifics by type of content: The platform analyzes only individual claims entered by the user. Full articles are not processed, and all claims must be submitted in English.

e) Verification method: The AI system evaluates the claim against available sources and classifies it as True or False. Results are accompanied by written explanations and direct links to supporting sources. Additional qualitative indicators include ambiguity, humor, and objectivity, each with separate commentary.

f) Existing feedback, awards, or criticism: Due to the project's recent launch, no significant external feedback, awards, or sustained criticism have yet been recorded.

g) User friendliness: No registration is required, and the tool responds relatively quickly. It can be used via the website or as a browser extension for greater convenience, see Fig. 3.

h) Price: Completely free; no paid features or subscription tiers.

i) Usability for Central European audiences: Currently limited, as the interface functions only in English. Simple claims related to the Czech Republic can be entered, but verification coverage is inconsistent and error messages are common.

j) Contact link: <https://factfully.ai/>.

k) Other relevant activities or notes: No publicly available information indicates additional research, educational activities, or institutional partnerships.

4.4 Snopes

a) Basic description: Snopes is a long-established fact-checking platform that verifies a wide range of claims using journalistic standards. Verification is carried out by professional journalists and subject-matter experts, with transparent citation of sources to enable independent evaluation by readers [48].

b) Authoring institution: Snopes operates as an independent organization without a formal parent institution, guided by journalistic ethics and editorial standards.

c) Year of creation and updates: Founded in 1994 by David and Barbara Mikkelsen. On 10 July 2024, AI-assisted claim analysis features were introduced as a supplementary tool.

d) Specifics by type of content: Snopes verifies user-submitted claims rather than full articles. Claims must be submitted in English via the “Submit a Rumor” feature.

e) Verification method: Claims are investigated manually by journalists and experts. Verdicts are expressed using detailed rating labels such as True, Mostly True, False, Mostly False, Scam, and others. Verification capacity is limited by human resources, especially for repetitive or high-volume claims.

f) Existing feedback, awards, or criticism: Snopes is widely praised for credibility, transparency, and its long-standing role in combating misinformation. Criticism has focused on internal financial disputes, governance conflicts involving the founder, and allegations of political bias. The platform acknowledges the possibility of errors and maintains a correction process.

g) User friendliness: While general access does not require registration, users must provide an email address to submit claims. Paid membership is optional and offers additional benefits, see Fig. 4.

h) Price: Fact-checking content is freely accessible. Membership, which removes advertisements and provides extra services, is paid.

i) Usability for Central European audiences: Limited applicability, as only English-language claims are supported and verification relies on sources familiar to Snopes’ editorial staff, which restricts coverage of specific media content.

j) Contact link: <https://www.snopes.com/>.

k) Other relevant activities or notes: Snopes publishes a regular newsletter, collaborates with academic institutions, and engages in media-literacy and public-education initiatives.

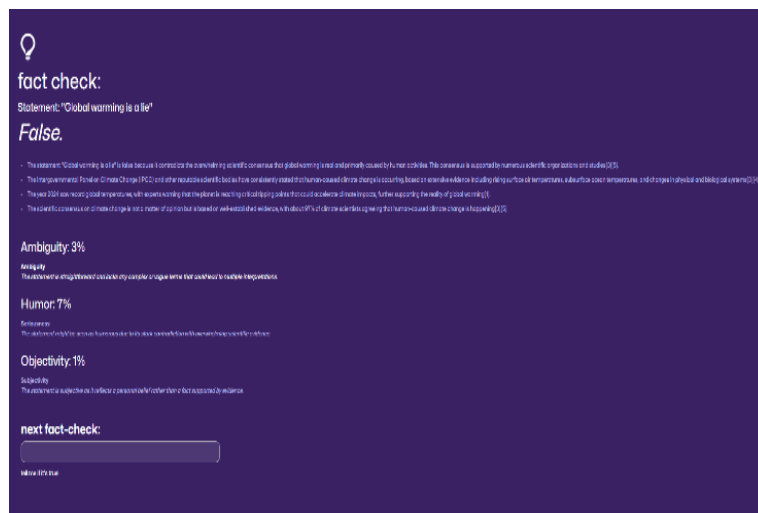


Fig. 3. Example of a result using Factfully (“Global Warming”, left) [16].



Fig. 4. Example of a result using Snopes (“Case of Arminas Pileckas, a citizen of Lithuania, killed in Sweden”, right) [48].

4.5 FactBot by Snopes

a) Basic description: FactBot is an AI-assisted fact-checking tool developed by Snopes. Unlike the traditional Snopes platform, which relies on human journalists, FactBot enables significantly faster verification of individual claims using AI. Due to its relatively recent introduction, the tool is currently labeled as a beta version [14].

b) Authoring institution: The tool is developed and operated by Snopes.

c) Year of creation and updates: Introduced as part of a platform update on July 2024.

d) Specifics by type of content: Only individual claims submitted by users are verified. Users cannot view claims submitted by others, nor the results of their verifications.

e) Verification method: AI evaluates user-submitted claims using Snopes’ internal archive of previously verified content. Unlike traditional Snopes articles, results are delivered as descriptive textual explanations rather than categorical verdict labels. Each output includes links to relevant Snopes articles.

f) Existing feedback, awards, or criticism: Given the short operational history, feedback remains limited. Initial responses have been largely positive, particularly regarding the speed and perceived accuracy of the verification results.

- g) User friendliness:** No installation or login is required. At present, FactBot is accessible only through the Snopes website and is not available as a browser extension, see Fig. 5.
- h) Price:** Free to use; paid Snopes membership applies only to additional platform-wide benefits.
- i) Usability for Central European audiences:** Currently limited, as verification is available only in English and depends on Snopes' archive, which contains relatively little content related specifically to Czech domestic issues. Some internationally relevant security or geopolitical topics may nevertheless be verified.
- j) Contact link:** <https://www.snopes.com/factbot/>.
- k) Other relevant activities or notes:** Snopes continues to publish regular newsletters that include updates on FactBot and broader fact-checking developments.

4.6 FactCheck.org

- a) Basic description:** FactCheck.org is a nonprofit fact-checking organization dedicated to combating misinformation, with a primary focus on verifying statements made by public officials in the United States. Although centered on United States politics, individual readers may also submit questions for verification. The organization aims to foster critical thinking and public media literacy [15].
- b) Authoring institution:** Created under the Annenberg Public Policy Center, affiliated with the University of Pennsylvania; FactCheck.org itself operates independently of the university.
- c) Year of creation and updates:** Founded in 2003. Initially funded entirely by the Annenberg Public Policy Center until 2010; since then, funding has included private donations and contributions from technology companies.
- d) Specifics by type of content:** Covers a wide range of topics, including healthcare, economics, immigration, climate change, and foreign policy, primarily through the lens of United States political discourse.
- e) Verification method:** Claims must be submitted via email (Editor@FactCheck.org) in English. Submissions are reviewed by editorial staff and may result in a published article; verification is not guaranteed.
- f) Existing feedback, awards, or criticism:** Widely recognized for credibility and objectivity in United States political fact-checking and frequently cited by major media outlets. Praised for initiatives such as SciCheck, which addresses scientific and medical misinformation. Criticism includes alleged political bias and claims by extremist groups that controversial topics are selectively ignored.
- g) User friendliness:** No registration or installation is required. Users must submit claims via email, see Fig. 6.
- h) Price:** Free of charge; donations are voluntary and do not confer additional user privileges.
- i) Usability for Central European audiences:** Limited, as submissions must be in English and the majority of content focuses on United States politics.
- j) Contact link:** <https://www.factcheck.org/>.
- k) Other relevant activities or notes:** Publishes regular newsletters and collaborates with universities on research and educational initiatives aimed at strengthening media literacy.

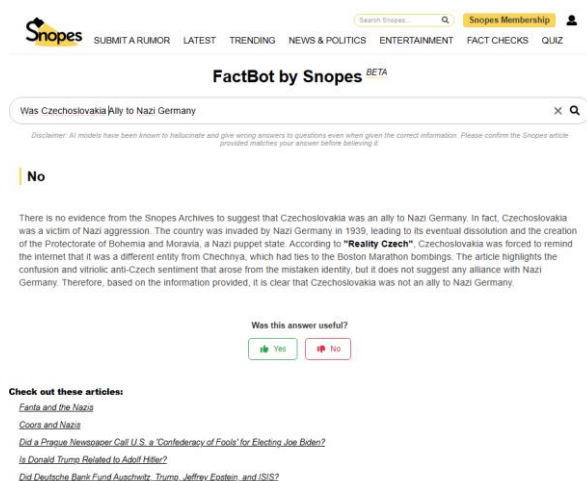


Fig. 5. Example of a result using FactBot by Snopes (“Czechoslovakia as Ally of Nazi Germany”, left) [14].



Fig. 6. Example of a result using FactCheck.org (“United States Insolvency”, right) [15].

4.7 Full Fact

- a) Basic description:** Full Fact is a United Kingdom based nonprofit organization focused on fact-checking and countering misinformation, primarily within British political discourse. It also develops AI-driven tools for automated fact-checking and collaborates with major technology companies such as Meta and Google [18].
- b) Authoring institution:** Established as an independent charitable organization under United Kingdom law.

- c) **Year of creation and updates:** Founded in 2010.
- d) **Specifics by type of content:** While primarily focused on United Kingdom political statements, the organization also verifies selected claims related to global events.
- e) **Verification method:** Claims are submitted via an online contact form and reviewed by editorial staff. Submissions must be in English, and verification is not guaranteed.
- f) **Existing feedback, awards, or criticism:** Highly regarded for transparency, independence, and methodological rigor. A member of the International Fact-Checking Network (IFCN) and recipient of multiple journalism awards. Criticism mainly concerns potential conflicts of interest arising from funding by technology companies [23].
- g) **User friendliness:** No login required; submitting claims requires providing an email address, see Fig. 7.
- h) **Price:** Free to use; funded through voluntary donations and institutional support.
- j) **Usability for Central European audiences:** Limited, due to English-language requirements and a strong focus on United Kingdom political issues.
- k) **Contact link:** <https://fullfact.org/>.
- l) **Other relevant activities or notes:** Publishes newsletters, tracks misinformation trends, and conducts research on AI-based real-time misinformation detection.

4.8 Lead Stories

- a) **Basic description:** Lead Stories is an independent fact-checking platform specializing in debunking misinformation circulating on social media. It utilizes both human analysts and proprietary AI tools, notably the Trendolizer engine, to detect emerging disinformation trends [6, 28].
- b) **Authoring institution:** An independent organization collaborating with technology companies such as Meta, ByteDance, and Google.
- c) **Year of creation and updates:** Founded in 2015.
- d) **Specifics by type of content:** Focuses on viral trends and content circulating widely on social media platforms. Topics are selected editorially based on perceived impact.
- e) **Verification method:** Claims are submitted via email (tips@leadstories.com). Editorial staff verify selected claims using human analysis supported by AI tools. Verification priority depends on the claim's social media reach.
- f) **Existing feedback, awards, or criticism:** Praised for rapid responses to viral misinformation and IFCN certification. Recognized for its role in Meta's fact-checking program. Criticism concerns funding sources and perceived lack of independence, as well as occasional ambiguity in explanations.
- g) **User friendliness:** No registration required; submissions must be emailed and are usually expected in English, see Fig. 8.
- h) **Price:** Free of charge; funded through donations and institutional partnerships.
- i) **Usability for Central European audiences:** Moderately relevant, as social media trends verified by Lead Stories often affect users in the Czech Republic, though focus remains primarily on English-language content.
- j) **Contact link:** <https://leadstories.com/elections/>.
- k) **Other relevant activities or notes:** No regular newsletters; research efforts focus on further development of the Trendolizer system.

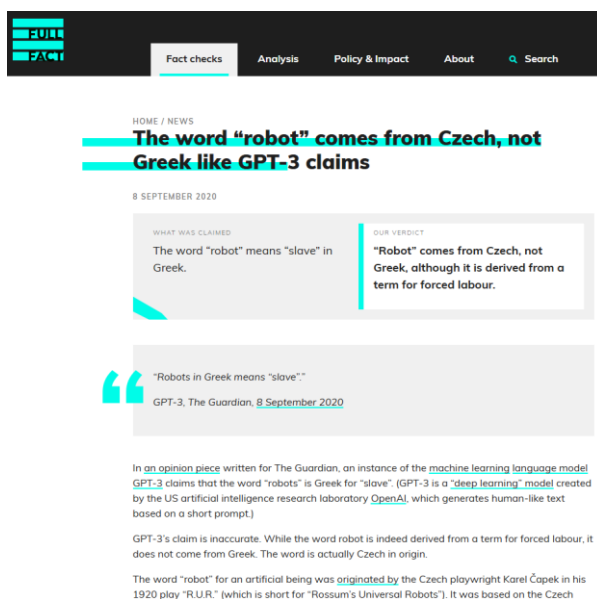


Fig. 7. Example of a result using Full Fact (“Origins of Word Robot”, left) [18].

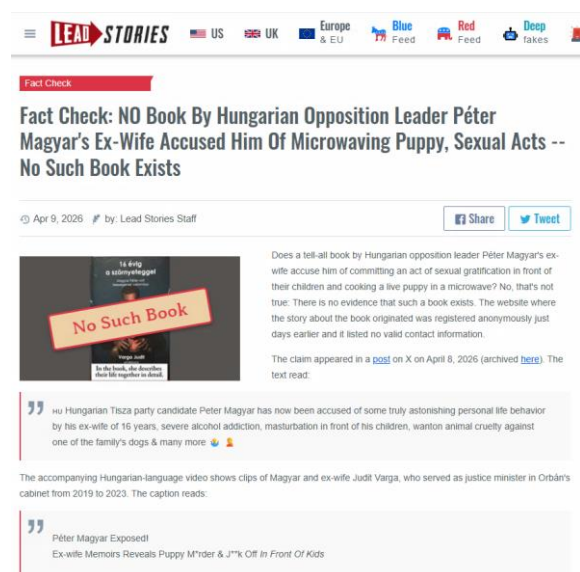


Fig. 8. Example of a result using Lead Stories (“Accusations Regarding Péter Magyar”, right) [28].

4.9 Deepfake Detector

- a) **Basic description:** Deepfake Detector is a technological tool designed to identify AI-manipulated audiovisual content. It employs machine-learning algorithms trained on large datasets of authentic and manipulated media to determine whether content has likely been altered [10].
- b) **Authoring institution:** The tool appears to integrate technologies associated with major companies such as Google, Meta, and Microsoft; however, no single institution publicly claims responsibility for its development or operation.
- c) **Year of creation and updates:** No publicly available information on launch date or update history.
- d) **Specifics by type of content:** Specialized exclusively in audiovisual deepfake detection; cannot be applied to text-based content.
- e) **Verification method:** Usage requires user registration and a paid subscription. Verification is performed using proprietary AI models analyzing audiovisual input.
- f) **Existing feedback, awards, or criticism:** The provider claims over 1,000 users and more than 15,000 verifications, but these figures cannot be independently verified. Transparency regarding methodology and funding is limited.
- g) **User friendliness:** Monthly subscription required. The tool can be used via the website or as a browser extension, see Fig. 9.
- h) **Price:** 16.80 USD per month.
- i) **Usability for Central European audiences:** Potentially high, as detection is independent of language or geographic origin and applicable to domestic political or disinformation contexts.
- j) **Contact link:** <https://deepfakedetector.ai/>.
- k) **Other relevant activities or notes:** No evidence of published research activities or regular newsletters.

4.10 PolitiFact

- a) **Basic description:** PolitiFact is a fact-checking organization focused primarily on statements made by politicians and public officials in the United States. It relies on publicly available data, expert studies, government sources, and statistics [42].
- b) **Authoring institution:** Originally operated by the Tampa Bay Times; since 2018, PolitiFact has functioned independently under the nonprofit Poynter Institute.
- c) **Year of creation and updates:** Founded in 2007.
- d) **Specifics by type of content:** Verifies statements from political speeches, interviews, press conferences, social media posts, and official documents related to employment, inflation, healthcare, and similar topics.
- e) **Verification method:** Claims are submitted via an online form. Verification is conducted by editorial staff, who assign ratings such as True, Mostly True, Half True, Mostly False, False, and Pants on Fire. No installation is required.
- f) **Existing feedback, awards, or criticism:** Recognized for transparency, methodological rigor, and International Fact-Checking Network membership. Criticism centers on alleged political bias and concerns regarding funding from technology companies such as Meta and TikTok.
- g) **User friendliness:** No installation required; users must provide basic contextual information and an email address when submitting claims, see Fig. 10.
- h) **Price:** Free of charge; funded through voluntary donations.
- i) **Usability for Central European audiences:** Limited, due to focus on United States political discourse and English-language submission requirements.
- j) **Contact link:** <https://www.politifact.com/>.
- k) **Other relevant activities or notes:** Publishes multiple specialized newsletters and collaborates with universities on research and media-literacy initiatives.

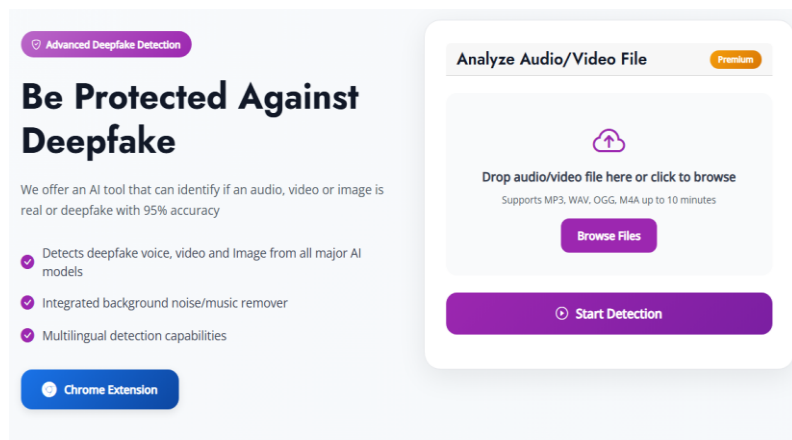


Fig. 9. Example of a result using Deepfake Detector (“Webpage Itself”, left) [10].

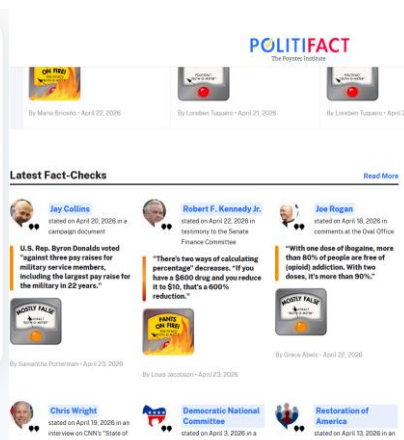


Fig. 10. Example of a result using PolitiFact (“Set of Political Proclamations”, right) [42].

Table 2. Strengths, Limitations, and Intended Target Groups of Selected Fact-Checking Tools (own elaboration on the basis of sources, mentioned in the chapter 4).

Tool	Primary Function	Main Strengths	Key Limitations	Target Users
Google Fact Check Tools	Aggregation of existing fact-checks	Centralized access to verified claims; high usability; multilingual support	Dependent on availability of partner fact-checkers; limited depth of analysis; uneven regional coverage	Journalists; researchers; informed general public
Verifree.ai	Framing and credibility assessment (AI-based)	Fast automated analysis; low entry barrier; tailored to Czech-language content	Does not verify factual accuracy; limited to predefined domains; possible misinterpretation of satire or context	General public; students; media literacy education
Factfully.ai	Claim-level verification (AI-based)	Speed; claim-focused verification; explanatory outputs with sources	English-only; inconsistent coverage; reliance on AI inference; limited transparency	English-speaking users; casual fact-checking
Snopes	Human-led fact-checking	High credibility; transparent sourcing; long-term expertise	Limited scalability; slower response time; language and regional focus on US/UK content	General public; journalists; educators
FactBot (Snopes)	AI-assisted verification using existing archives	Rapid responses; low user effort; integration with validated content	Restricted to previously verified narratives; English-only; beta-stage limitations	General public; quick reference users
FactCheck.org	Political fact-checking (human-led)	Strong methodological rigor; academic affiliation; thematic depth	Narrow geographic focus (USA); slow publication cycle; limited interactivity	Researchers; journalists; politically engaged audiences
Full Fact	Political fact-checking + AI tool development	High transparency; IFCN standards; collaboration with platforms	English-only; focus on UK politics; dependence on human capacity	Journalists; policymakers; researchers
Lead Stories	Detection and debunking of viral misinformation	Rapid reaction to trending content; integration with social media platforms	Editorial selection bias; limited methodological transparency; English-centric	Social media users; platform moderators
Deepfake Detector	Audiovisual manipulation detection	Language-independent; focus on emerging threat (deepfakes)	Paid access; limited transparency; excludes text-based disinformation	Professionals; investigators; specialized users

From a comparative perspective, the analyzed tools can be broadly categorized according to their primary function and target audience. Claim-level verification tools (Snopes, FactCheck.org, PolitiFact etc.) rely predominantly on human expertise and journalistic standards, offering high analytical depth but limited scalability and delayed response times. AI-driven tools and hybrid systems (Verifree, Factfully.ai, FactBot etc.) provide greater speed and accessibility, yet often focus on surface indicators, probabilistic assessments, or previously verified narratives rather than direct factual validation.

Another important distinction lies between tools designed for professional audiences and those intended for the general public. While professional platforms offer methodological rigor and transparency, they typically require higher cognitive and time investment from users. Public-oriented tools prioritize usability and speed but may sacrifice contextual depth. This fragmentation underscores the absence of a unified, user-centered architecture for fact-checking and highlights the need for integrated, hybrid solutions.

5. Communication with Experts

The expert inquiry was conducted in the form of semi-structured qualitative interviews, allowing for both comparability across responses and sufficient flexibility to capture individual professional perspectives. Experts were selected purposively based on their direct involvement in disinformation research, media practice, technological development, or policy-oriented analysis. The goal was not representativeness but analytical relevance grounded in professional experience.

All participants were anonymized and labeled using coded identifiers (E1-E4) in order to encourage openness and to comply with ethical standards of qualitative research. The collected responses were subsequently thematically analyzed and synthesized.

This section focuses on communication with experts who received a set of questions via e-mail correspondence (during the 2025). The characteristics of the surveyed experts were as follows:

E1: An expert from the Police Academy of the Czech Republic in Prague, specializing in crisis management. Her professional focus includes issues related to disinformation and hybrid threats.

E2: A former reporter for the MAFRA and Economia media companies, later working as a political and sports marketing professional. He is a graduate in Political Science and International Relations from the Faculty of Social Sciences of Charles University in Prague and in International Trade from the University of Newcastle in Australia. He was an external member of the Crisis Communication Team of the Office of the Government of the Czech Republic.

E3: Commercial Director of a company that developed software utilizing AI to analyze content and detect false news on the internet.

E4: An expert on disinformation and hybrid activities. He works at the European Centre of Excellence for Countering Hybrid Threats (Hybrid CoE) in Helsinki. In this role, he focuses on protecting democratic processes and provides training and advisory services to government officials from the Member States of the European Union and the North Atlantic Treaty Organization [see also 37; 51].

Responses to Question No. 1: What trends have you observed in the spread of disinformation in recent years?

E1: There are several such trends. In terms of form, disinformation and other manipulative information content is clearly being spread via social media and so-called quasi-websites, while traditional media outlets have already been pushed to the background in terms of disinformation dissemination. When focusing on tools, this involves the operation of social media algorithms that act in a targeted and selective manner and, of course, with a mass impact. We refer to the personalization of disinformation. As for the creation of disinformation, it is quite clearly being generated (and disseminated) using AI. Particularly challenging for recipients is the detection of disinformation in the form of videos, images, or audio recordings that are highly realistic, making it difficult to distinguish truthful information from falsehoods (so-called “disinformation 2.0”), which also represents a significant challenge in the field of cybersecurity. With regard to content, narratives are continuously evolving; nevertheless, it can be stated that disinformation is becoming more sophisticated and better targeted. This development requires a comprehensive approach to its detection, identification, and suppression, encompassing technological solutions, education, and international or interdisciplinary cooperation [6, 31].

E2: Disinformation is experiencing significant growth. It has increasingly become part of the statements of parliamentary politicians and is no longer confined to obscure or fringe political actors. Narratives are more elaborate and are based on facts that do not directly contradict reality but rather distort it. This creates a parallel, reality-independent pseudomedia space that operates on the assumption that a **lie repeated a hundred times becomes the truth**. Even politicians targeting more educated voter groups have partially adapted to this situation. Their communication is often stripped down to its bare essentials, simple, direct motives conveying a core idea or message. There is a lack of ambition to place messages in a broader context, precisely in order to avoid their distortion.

E3: The primary trend is the massive use of the digital environment for the dissemination of disinformation. The main channels for spreading disinformation are social networks and e-mail. Social networks primarily affect younger users. Older users, who do not work with social media as intensively, are influenced mainly by chain emails.

E4: Perhaps the most significant trend is **disinformation laundering**, for example the much higher number of unrelated channels repeating the original disinformation. This trend is particularly insidious in that it not only facilitates the spread of disinformation but also lends it new legitimacy. We are witnessing a further increase in an already very high number of sources producing disinformation (the “firehose of falsehood”). AI has also made it easier to translate content from one language to another.

Summary: All experts agree that the volume of disinformation is increasing. They also concur that individual pieces of disinformation are far more sophisticated and more difficult to identify. At the same time, the experts note that disinformation differs depending on the target audience for which it is intended.

Responses to Question No. 2: Which fact-checking tools or platforms do you know or use, and which fact-checking methods do you consider the most reliable?

E1: I am familiar with a large number of fact-checking organizations, including international ones. I am not sure whether it is therefore relevant to list them. Some of them evolve over time, others emerge newly or adopt new tools, usually based on AI. Personally, however, I most often use CEDMO. I consider high-quality media literacy education to be the cornerstone of countering disinformation, where any form, method, or tool for verifying of the narratives becomes an automatic part of every individual’s information-processing routine. However, this remains, at least in the context of the Czech Republic, rather utopian for the time being. In addition to fact-checking, supportive methods can include the analysis of metadata, geolocation (Google Maps), reverse image search (Google Images, TinEye, Yandex Images, RevEye), video verification (InVID, YouTube DataViewer, Tracker Video Analysis), website verification (Whois, DomainBigData), social media analysis (Social Searcher, Bot Sentinel, Botometer), or the use of advanced search engine features (Adblock Plus, Trusted Times, Chrome Fake News Detector, Chrome Know News), as well as other tools capable of estimating the probability that content was generated using AI. In any case, available verification tools should be used in combination.

E2: Verified and original first-hand sources, particularly information directly from the originators of the information, that is, real individuals.

E3: I participated in the development of a system for detecting disinformation. This platform used machine learning principles to detect fake news or, alternatively, fraudulent messages. However, I would like to point out that these are two different disciplines: fact-checking and the detection of disinformation. Fact-checking is practically non-functional in the field of automated data processing. In contrast, disinformation detection is currently at a relatively solid level [40].

E4: If there were a tool that genuinely verifies facts, I would be very interested to learn about it. So far, I have only seen people performing this task. Websites that document or debunk disinformation are something quite fundamentally different from mere fact-checking.

Summary: In their responses to this question, the experts did not reach a consensus. Some perceive potential in the use of fact-checking tools and their combination, as well as in media literacy education. Others consider information obtained directly from involved parties to be the only truly reliable source. The distinction between fact-checking and “information detection” is also highlighted.

Responses to Question No. 3: How do you assess the effectiveness of fact-checking systems in combating disinformation?

E1: Personally, I believe that although fact-checking organizations are highly meaningful and can represent a useful aid when it is necessary to evaluate the narrative or its source, and thus constitute tools contributing to the fight against disinformation, they also face inherent limitations. These include a low willingness among users to use such tools, even when they are aware of their existence. In many cases, individuals are unwilling to devote time to verifying narratives themselves. They consider this process to be complicated and time-consuming. Moreover, fact-checking is significantly slower than the spread of disinformation, meaning that disinformation often achieves viral reach before it can be debunked. Another negative aspect of fact-checking is the relatively low effectiveness of its outputs among users with firmly entrenched beliefs: individuals who strongly believe in disinformation often reject truthful information on principle. Related to this is the perception held by some people that fact-checkers or fact-checking as such are biased, intentionally targeted, or controlled and influenced by external actors. As a result, they do not trust the outcomes, particularly when politically sensitive issues are being verified.

E2: The reach of these tools among the broader public is weak.

E3: I assess the effectiveness of fact-checking systems primarily from the perspective of their ability to prevent the spread of disinformation. In this regard, most systems are completely ineffective. Another question is whether effectiveness is assessed based on whether a system is able to verify facts at all. In that case, effectiveness is somewhat higher, but we then encounter the problem of how to work with the results. In most cases, even when we determine that certain narrative is disinformation, the message is already outdated and publishing such a finding makes little sense, as it brings no tangible results.

E4: Fact-checking is something quite different from combating disinformation. Verifying whether a politician used correct facts is a different discipline from the detection, monitoring, and debunking of large-scale disinformation campaigns. Fact-checking represents only a small part of the fight against disinformation, in which many more tools must be employed. Assessing the related effectiveness is a complex issue. If you wanted to extend the life expectancy of a country’s population, you would likely employ educational campaigns on healthy lifestyles, diet, and exercise; you would need a robust healthcare system; taxation of alcohol and tobacco would be useful; combating drug abuse would be relevant. Which of these measures has what level of effectiveness in extending life expectancy? Can it be quantified? Similarly, fact-checking is one component of the fight against disinformation, but I cannot quantify whether its effectiveness is 17 or 0.6 percent. It is undoubtedly a necessary condition, but not a sufficient one.

Summary: In answering this question, all experts agree that individual fact-checking tools achieve only minimal reach. Some also note that these tools are not particularly effective. At the same time, it is emphasized that such systems are too slow and therefore inadequate in addressing the dynamics of disinformation dissemination.

Response to Question No. 4: For what reasons do you or others use fact-checking tools, and why do some people not use them?

E1: I personally use the respective tools as needed, particularly in cases where I intend to further disseminate certain information and am not entirely sure about its accuracy, the credibility of its source, or when the source is missing altogether. I have already addressed the remaining aspects above.

E2: I do not use them due to the questionable credibility of the processed narrative. In addition to fabricated, targeted disinterpretations, there is also growing “economic” pressure on reporters and editors, especially in more tabloid-oriented media: there is neither the time nor the interest to verify facts. As much narratives as possible must reach the market as quickly as possible. Competition is enormous – so who would slow down with lengthy and “uncertain” verification processes? [49,52]

E3: I do not use them in light of the above-mentioned claim regarding the ineffectiveness of this method.

E4: I am unfortunately not familiar with such tools, which is probably the main reason why I do not use them. If tools also include the websites mentioned above, then I use those occasionally, as they are necessary for my work.

Summary: Most of the experts do not use individual fact-checking tools, or do so only to a limited extent.

Response to Question No. 5: Do you consider tools based on AI or collective human work to be better for information verification, and what role does AI play in fact-checking in your view?

E1: The question is not whether tools based on human labor or those operating on AI are better, each has undeniable advantages. While AI is unparalleled in its ability to analyze vast amounts of data, identify recurring patterns and narratives, and map and structure the disinformation ecosystem as a whole, there are still areas where it struggles and, in my opinion, cannot fully replace humans (such as interpreting irony and sarcasm, or dealing with certain topics and domains like culture). It also always depends on how specific AI models are trained, what input data they use, and how the relevant algorithms are configured. In contrast, verification as a result of human work still delivers higher-quality outputs in cases that require complex interpretation (distinguishing interpretative nuances, understanding cultural dimensions of information content etc.). Human-based verification may also be perceived as more trustworthy by many individuals, particularly if it is associated with a reputable and credible institution, rather than with a “programmed machine.” Compared to AI, however, this form of verification is incomparably slower. Humans simply lack the capacity to verify every piece of information in real time, across multiple languages, and at the required scale. One could also argue that humans are potentially biased or influenced by ideology or political opinions. Ideally, both forms of verification should therefore be combined, with AI conducting initial analyses followed by human verification in more complex or sensitive cases where contextual interpretation is required. Tools utilizing a mix of AI and human labor are already in use (PolitiFact, FactCheck.org etc.). It should also be noted that AI is rapidly learning and improving in this regard. AI recognizers are already integrated into social media platforms, where they are intended to help reduce the spread of false narratives. Fact-checking organizations and other projects based on AI, such as Verifee.ai, are also utilizing these technologies.

E2: I prefer a collective of capable collaborators. I am unable to responsibly assess the impact of AI. It too learns from what it absorbs from available information, which includes both verified and disinformation-based content. I therefore consider AI to be very risky in this respect.

E3: The question explicitly assumes that fact-checking takes place and that it is meaningful. Nevertheless, if I had to choose between AI and collective human work, I would clearly prefer AI, primarily due to the speed and cost of such processing.

E4: I am not familiar with AI tools that would independently verify narratives. I have not really considered human work as a tool. Since I am familiar only with human work and not with AI tools, I would therefore consider human labor to be the better option. So far, I have only observed AI playing a role in situations where people taught machines that a particular narrative is disinformation, and AI then detects these narratives. However, that is not really fact-checking in my view, the verification was carried out by humans; the machine merely checks whether Narrative A, which it was taught, matches Message X that it detected somewhere online. This is not to say that it cannot save some work, it can, but I would hesitate to call this fact-checking. This activity can help document how many iterations of an already known disinformation narrative have appeared and how they spread. Unfortunately, it cannot identify a new disinformation incident; that still has to be done by humans.

Summary: None of the experts fully trust AI as a sole tool, and they generally favor collective human work. According to most of them, AI has inherent limitations despite its ability to learn quickly and process large volumes of data.

Response to Question No. 6: How do you assess the level of cooperation between fact-checking platforms and other media (or state institutions)?

E1: This question cannot be answered easily in general terms. It always depends on which fact-checking organization or entity is concerned. Fact-checking organizations often operate within academic institutions that cooperate with the state as well as with the media. Exemplary cooperation in this respect can be observed, for instance, in Finland or the Baltic States. In this regard, the Czech Republic still has considerable gaps.

E3: I participated in several meetings organized under the auspices of the Office of the Government. These meetings aimed to establish a system, or at least identify principles, for preventing the spread of disinformation on social networks and in the digital environment. From my perspective, all these meetings failed because the authorities involved demonstrated neither sufficient operational capability nor a genuine willingness to achieve any practical outcomes.

Summary: Only two experts responded to this question, and both expressed the view that the Czech Republic exhibits significant shortcomings regarding the monitored area.

Response to Question No. 7: What is, in your view, the level of public trust (not only in the Czech Republic) in fact-checking tools, and is it possible to convince skeptics or individuals who believe in disinformation of the credibility of verification tools?

E1: I have already addressed this issue in general terms in my response to the question concerning the effectiveness of fact-checking systems, which applies particularly to the Czech Republic. It is very difficult. In such cases, it is necessary to engage with individuals using a strategy that combines psychology, communication, and education. There is no sense in debating with them through condemnation or direct confrontation. Instead, it is important to find shared areas of interest

where there is room for maneuver and gradually demonstrate that verification can also benefit them personally. I have found it effective to show such individuals that available verification tools can, in specific cases, enable them to reach conclusions on their own, rather than having “the truth” presented to them. Providing a kind of “detective’s guide” to information work can be useful, although for some individuals all methods fail. In any case, it is crucial not to adopt a condescending or contemptuous attitude, to be particularly patient during the explanation process, to simplify information, impose nothing, avoid haste, and devote sufficient time and effort to the situation. Ideally, one should rely on sources trusted by the individual and seek to strengthen their willingness to verify narratives independently. Teaching people how to verify individual narratives themselves can, in the long term, be considered more effective than correcting misconceptions and debunking falsehoods.

E2: It is probably possible to convince only a smaller segment of the population susceptible to misinterpretations. In the long run, better education and upbringing, as well as the presence of moral role models, will help.

E3: I do not know. I do not have access to data that would allow me to provide a relevant response to this question.

E4: Individuals who have already succumbed to disinformation can almost never be convinced. This does not mean, however, that it is pointless to refute disinformation and correct facts. The situation is similar to that of a soldier on the battlefield: you can tell him that the dead cannot be brought back to life and that fighting is therefore pointless, or he can realize that he is not fighting for the dead, but for those who are still alive, and that he can still do something meaningful. Any fight against disinformation (not only fact-checking) aims far more at protecting those who have not yet fallen victim to the “virus” of disinformation than those who already have.

Summary: Most experts agree that persuading skeptics or individuals who believe in disinformation is very difficult, if not practically impossible. Far greater emphasis should therefore be placed on education in media literacy.

Response to Question No. 8: Would it be appropriate to require websites that consistently contain false information to display a mandatory button stating “Warning: you are entering a website that frequently contains false information,” or would this instead be perceived by part of society as a “mark of quality”?

E1: Personally, I believe that in today’s fast-paced world, where time is the primary concern, whether we agree with it or not, such solutions may, to some extent, represent a more effective option than the use of fact-checking platforms or encouraging users to employ additional verification tools, which require a time investment or additional effort that users are often unwilling to make. However, in general, mandatory warnings or labeling on disinformation websites could produce mixed results: while some users would likely be more cautious and perceive the content as misleading in advance, approaching it with greater skepticism, others might interpret the warning as confirmation of a “forbidden truth” and become even more entrenched in their views. It might therefore be more effective to display verified narrative directly within the relevant passages in context (within the text), including references to sources.

E2: Such a measure would be administratively and ethically very difficult to implement and would generate an enormous number of complaints and lawsuits to administrative courts. Moreover, even serious media outlets occasionally publish false or unverified information.

E3: It is entirely unclear to me how such a regulation could be practically implemented. In practice, the operator of the website would either have to place such a button themselves or allow its placement.

E4: It is unequivocally appropriate, and there is academic research supporting this as one of the most effective measures. The effect such labeling has on individuals who have already succumbed to disinformation is, in my view, largely irrelevant, as noted above. A similar approach is applied to another substance that we do not wish to ban but against whose dangers we want to warn the public, namely tobacco. I do not think we are overly concerned about whether someone might consider the warning “smoking causes cancer” to be a “mark of quality” [50].

Summary: Only one expert considers this measure effective and explicitly refers to academic research. The other experts point to problems related to implementation and ethical concerns.

Response to Question No. 9: How do you see the future of cooperation between technological platforms and fact-checkers, given that these companies are currently retreating from fact-checking?

E1: It is indeed true that the platforms mentioned, as well as many others, are moving away from traditional fact-checking, replacing these activities with automated tools based on AI. In some cases, platforms are also turning to collective or “community-based” content assessments. There are several reasons for this shift, ranging from financial costs and efforts to avoid accusations of censorship, to concerns about losing public trust, as fact-checking may be perceived as a potentially manipulative tool. Fact-checking is, in the opinion of many, including myself, becoming obsolete, not least due to the rapid development of AI, and I am convinced that platforms will continue to marginalize it. In such a scenario, however, I can envision a role for fact-checkers as individuals who supervise AI systems, monitor their outputs, and contribute to improving AI models. I do not believe that the human factor can be fully eliminated, at least not at present.

E2: I cannot answer this question, and I believe that even the owners or top management of these platforms do not know either.

E3: I believe that the retreat from fact-checking stems precisely from how ineffective the fact verification process and the subsequent publication of its results have proven to be.

E4: I see the situation as one in which technological giants are withdrawing from cooperation. If policymakers wake up and compel platforms to adopt stronger regulation, which could include mandatory cooperation with fact-checkers, the situation could change, but I cannot predict that.

Summary: The experts agree that major technological platforms are retreating from fact-checking. However, they are unable to provide a clear outlook regarding the future of such cooperation.

Response to Question No. 10: Do you think that fact-checking can realistically contribute to reducing societal polarization?

E1: Honestly, I do not think so. Fact-checking in the form in which we have known it so far is clearly becoming obsolete. Although, in general, it has the potential to contribute to reducing polarization, it cannot do so on its own. Even when supported by sufficiently effective and continuous media literacy education, there is still a risk that people will reject verified information if they perceive it as biased or instrumentalized, which may ultimately deepen polarization.

E2: Absolutely, through the verification and popularization of these facts. European Union institutions, state administration, and public authorities are clearly failing in communicating real measures that improve citizens' quality of life. This applies, for example, to funding for the construction of railways, bridges, cycle paths, and similar infrastructure. A message such as: "The road that shortened your commute by 20 minutes would never have been built without European Union funding" is often absent from public communication [29].

E3: I believe it could contribute, but so far I do not see any system capable of doing so effectively without significant time latency, that is, without a substantial delay between the publication and spread of a given message and the subsequent dissemination of narratives identifying it as disinformation or manipulation.

E4: I do not believe that fact-checking should contribute to reducing societal polarization. Achieving such a goal requires entirely different tools, much more closely related to the socio-economic situation of a country.

Summary: The experts do not agree on the answer to this question. One of the identified weaknesses is the failure of state and European Union communication. Other tools, beyond fact-checking alone, may also play an important role.

5.11. Response to Question No. 11: Should the activities of fact-checkers be regulated or "standardized"?

E1: I am not certain. Regulation could increase the transparency of verification processes and enhance the credibility of fact-checkers; however, on the other hand, steps toward regulation may be perceived as a path toward political censorship, selectivity, or even "commissioned" censorship. In my view, strict mandatory regulation is not an ideal solution. Clearly defined and transparent ethical standards, voluntarily adopted by credible fact-checking organizations, could prove more effective.

E2: Yes, but in practice this would be extremely difficult. What should be monitored and what should not? Is thorough verification even possible? How much would it cost? How many experts would be required? Do we have them? Who would train them? This is an extraordinarily complex issue. Countries such as the Czech Republic have failed for decades to effectively combat corruption or to complete major infrastructure projects, such as highway construction (there is still no highway connection with Austria). I therefore believe that the country is currently not capable of handling such standardization.

E3: If fact-checking activity were meaningful, then it could be regulated; however, at present, I see no such meaning.

E4: Fact-checkers have their own international organization and standards. Whether their activities should be regulated, I do not know. So far, I have not seen a reason for it.

Summary: The experts do not provide a clear consensus on this question. Regulation is viewed as a complex issue, and while it is not categorically dismissed, there is concern that it could be perceived as a pathway toward political censorship.

Response to Question No. 12: What role do social networks and media play, in your view, in the spread of disinformation in the Czech Republic?

E1: Given that social networks now constitute, de facto, the entirety of an individual's life as well as contemporary society, particularly for younger generations, it is clear that social networks and media pose a significant risk with regard to the spread of disinformation. They represent the primary channels of narratives distribution: through content disseminated and consumed there, we make purchases, express opinions, consume news, reflect our political and other preferences, and form attitudes. The key question is whether we are able to establish, sufficiently effectively and quickly, a combination of technological, legislative, and awareness-raising or educational measures capable of mitigating the negative impacts of social networks and the disinformation spread through them.

E2: A fundamental role. Their accessibility, herd behavior dynamics, and ease of use have completely reshaped what were previously far more sophisticated parameters of public communication.

E3: They play a substantial role.

E4: A major one, although I am unfortunately unable to quantify it. A problem across Europe is the lack of precise documentation of the issue; particularly in quantitative terms, we lack a significant amount of data that we critically need. As a result, it is not even possible to determine whether Facebook, chain emails, Telegram, or other individual webpages, play a greater role, especially since content is recycled across all these platforms.

Summary: All experts agree that social networks play a major role in the spread of disinformation and are likely the primary distribution channel for such content. They further emphasize the lack of available data necessary to mitigate these negative effects.

6. Recommendations

The following recommendations are directly derived from the combined analysis of existing fact-checking tools and the recurring themes identified in expert responses. Rather than proposing abstract or normative ideals, they reflect empirically observed limitations, practical constraints, and good practices identified during the investigation. As such, the recommendations are addressed to relevant stakeholders across education systems, public institutions, media organizations, and technological platforms.

The processes described in the previous sections provide a sufficiently robust descriptive-analytical framework from which targeted recommendations can be formulated to optimize and enhance the effectiveness of responses to the examined issue. The proposals are presented in the following points. Understanding how disinformation spreads is essential for its effective mitigation. This requires systematic evaluation of social interactions and communication patterns through which information reaches the public. Given the speed at which disinformation circulates, identifying the original source or the primary disseminator is a critical step in reducing its negative impact.

Group of Recommendations No. 1: Strengthening Media and Digital Literacy. While fact-checking represents an important tool in countering disinformation, long-term resilience depends primarily on systematic media and digital literacy education. Estonia and Finland offer instructive examples: both countries integrated media literacy into school curricula two to three decades ago, resulting in high levels of critical information competence among current generations and significantly reducing the societal impact of disinformation [7, 22, 25, 26].

A key measure is the integration of digital literacy into primary and secondary education curricula (1.1). This should be supported by modern interactive learning materials, such as online courses, simulations, and educational games, that encourage active student engagement. Equally essential is the systematic training of educators to ensure effective and consistent knowledge transfer [32].

Another important step is strengthening cooperation between educational institutions and professional sectors (1.2). The goal is to transform digital competencies from theoretical knowledge into practical, applicable skills. Schools, universities, and vocational programmes should collaborate with businesses and organisations operating in the digital environment. Such cooperation may include internships, practical placements, workshops, or joint projects that allow students to apply their knowledge to real-world tasks. Employers can also contribute to curriculum development to ensure alignment with current technological trends and labour-market needs. This connection not only improves graduate preparedness but also enhances labour-market competitiveness in the digital era.

Equally important is informing the broader public about the necessity of digital literacy in contemporary society (1.3). A comprehensive approach will contribute to building a more resilient society capable of resisting disinformation. Individuals equipped with strong digital skills and critical thinking are better able to evaluate information, distinguish credible sources from manipulative ones, and understand the mechanisms through which disinformation spreads. At the same time, citizens' ability to participate in public life based on verified information increases, strengthening democratic processes and reducing the risk of societal polarization. A digitally literate population is less vulnerable to manipulation and more resistant to attempts to undermine social cohesion, an essential requirement in the current communication environment.

Group of Recommendations No. 2: A Critical Approach to Verification Tools and AI

Although a wide range of narratives verification tools is available, their reliability and accuracy remain limited. Most of these tools operate by comparing data against trusted sources and can be broadly divided into systems using AI and those relying on community based (editorial) content verification. While such tools can be useful in certain contexts, they cannot be regarded as fully dependable. AI may generate inaccurate, outdated, or distorted interpretations of data. A key challenge lies in the quality and timeliness of the training datasets on which AI models are built. If these datasets are incomplete, obsolete, or contain errors, the AI system inevitably reproduces and further disseminates such inaccuracies. This issue is particularly significant in rapidly evolving fields such as medicine, politics, or technology, where new findings quickly replace older information. Another potential weakness concerns the interpretation of data. Models based on probabilistic patterns may fail to correctly understand context or the nuances of human communication, which can result in misleading conclusions or answers that appear convincing but are factually incorrect. Moreover, AI systems often draw on a wide variety of sources without reliably distinguishing their credibility. When trained on unverified or low-quality data, they may inadvertently spread disinformation without the ability to verify it. For these reasons, it is essential to monitor and study the capabilities and limitations of AI, particularly in relation to fact checking (2.1), while approaching AI generated outputs critically and verifying narratives through multiple independent sources. AI can serve as a useful analytical tool, but it should not be the sole means of determining the accuracy of communication.

The dynamics of narratives dissemination present an additional challenge. Disinformation often arises from deliberate distortion, removal of context, or manipulation of facts. Furthermore, social media and search engine algorithms tend to prioritise content that evokes strong emotions and engagement, which facilitates the spread of unverified narratives.

Human verification teams, by contrast, are constrained by limited time and capacity, making it impossible to respond to the mass distribution of disinformation in real time. The optimal strategy for addressing the dynamics of communication and disinformation dissemination is to combine technological solutions with human analysis, supported by the development of critical thinking and the verification of narratives across multiple independent sources (2.2). This integrated approach maximises accuracy and objectivity in determining the truthfulness of communication [6, 44].

Group of Recommendations No. 3: Ten Aspects of Critical Thinking. A separate topic, as recommended by practitioners, is the implementation of the “ten rules” of critical thinking [11, 21, 39, 45]:

Question everything (3.1): It is essential to develop the ability to critically assess all narratives received. Such an approach leads to a more thorough search for truth and the verification of facts.

Examine sources (3.2): It is important to evaluate not only the origin of the communication but also the credibility of the source itself. For example, whether the author is an expert in the field, or whether the narrative originates from unverified websites with potential ulterior motives.

Focus on evidence (3.3): It is necessary to assess the evidence supporting each argument. This may involve asking questions such as: “What is the evidence?” and “How strong is it?”. Evidence may take various forms, including statistical data, academic research, or other verifiable sources. Critical thinking requires a focus on facts rather than emotions or initial impressions.

Analyse individual arguments (3.4): It is important to examine how arguments are logically constructed and whether they contain inconsistencies or unsupported conclusions. For instance, if narrative relies solely on negative or biased claims about a person, company, or government without proper justification, it may be considered disinformation.

Consider alternatives (3.5): It is important to take into account less obvious possibilities and perspectives. Their evaluation can contribute to a deeper and more comprehensive understanding.

Be open to criticism (3.6): When confronted with criticism or differing opinions, these should not be perceived as personal attacks. Instead, they should be seen as opportunities to refine one’s perspective and identify potential gaps in reasoning.

Identify assumptions (3.7): Many claims are based on implicit assumptions that are not explicitly stated. Critical thinking involves recognising these assumptions and assessing their validity.

Avoid emotional reasoning (3.8): It is important to avoid being influenced by emotional responses. Emotional reasoning can lead to impulsive judgments and weaken the logical foundation of arguments. Emphasis should therefore be placed on evidence-based reasoning.

Balance perspectives (3.9): Understanding different viewpoints is essential. This does not imply agreement, but rather the ability to critically evaluate diverse perspectives. Such an approach can broaden understanding and support more evidence-based conclusions.

Be persistent (3.10): Critical thinking is a continuous and demanding process. It requires time, effort, and perseverance. Persistence enables deeper analysis and more accurate conclusions.

Group of Recommendations No. 4: Countering Disinformation Through an Interdisciplinary Approach.

Based on the responses of experts from various fields and the analysis of individual tools, it is necessary to approach the fight against disinformation in an interdisciplinary manner. That is, in a way that connects knowledge from different fields. First of all, it is appropriate to focus on the field of **computer science and data science (4.1)**, which plays a key role in the development of algorithms for detecting false news. The use of automated verification tools could contribute to more effective verification of communication in real time and the elimination of harmful content. The field of psychology and cognitive sciences, which focuses on how people perceive, process and disseminate information, is also no less important.

Attention should be **paid to cognitive distortions and the rebound effect (4.2)**, where attempts to correct erroneous beliefs can lead to their further entrenchment. Research in this area can be applied in the creation of educational and awareness-raising campaigns aimed at increasing the resilience of individuals to disinformation. Media studies, or studies that deal with the influence of the media on the spread of disinformation and the possibilities of increasing media literacy, also play an important role.

It is important **to develop educational programs that support critical thinking and working with information**, while **improving communication strategies for fact-checking outputs (4.3)** so that they are understandable and credible for the general public.

A sociological perspective on the issue of disinformation then allows us to understand the structures and dynamics that influence its spread in different communities and cultures. Conducting targeted sociological research can help **to identify the most vulnerable groups and to adapt preventive measures to the specific needs of society (4.4)**.

Last but not least, it is necessary **to pay attention to the legal and ethical aspects of regulating (4.5)** content or placing warning signs on individual disinformation websites.

The key challenge is **to find a balance between protecting freedom of expression and the need to mitigate disinformation (4.6)**. It is essential to formulate a clear legal framework for content moderation on digital platforms, while ensuring that the proposed measures respect fundamental legal and ethical principles in an open democratic society.

7. Investigation Results

The investigation revealed several key trends and problematic areas in current approaches to identifying, mitigating, and strategically limiting the impact of disinformation. These include:

A) Fragmentation of Tools and Divergent Methodological Quality: The indicative analysis of available fact-checking tools and monitoring platforms showed significant methodological and functional heterogeneity. The tools differ in accuracy, depth of analytical processing, transparency of procedures, and degree of automation, which complicates the creation of unified standards across sectors [12, 38].

B) Limited Coordination among Actors: Although functional partnerships exist among non-governmental organizations, media, and state institutions, there is no unified coordination framework that would enable effective data sharing, methodological alignment, and timely responses to emerging disinformation campaigns. Actors often work in parallel, resulting in unnecessary duplication of efforts [5].

C) Insufficient Transparency and Clarity of Outputs: Some tools do not provide sufficiently detailed descriptions of their methodologies, evaluation criteria, or classification schemes. Low transparency hinders independent verification, reduces public trust, and limits the ability to assess long-term impacts [32, 33].

D) Weak Integration of Technical Solutions into Public Policy: Technological systems and analytical centers provide valuable outputs, but they are not always adequately used in the creation of public policies or taken into account in strategic communication. A coherent framework linking technological detection, analytical insights, and institutional responses is lacking [1, 37].

E) Identification of Good Practices: Instances of successful cooperation were identified, particularly joint projects between fact-checkers and media organizations that combine rapid verification with responsible publication [8, 13, 54].

8. Conclusions

This study set out to map the current situation in countering disinformation through a constructively critical lens, with a specific focus on fact-checking tools and their interaction with contemporary disinformation dynamics. In line with the theoretical review, the findings reaffirm that disinformation spreads effectively not primarily because of its factual plausibility, but because it leverages emotions, authority cues, and structural changes in the media environment (**see Fig 11**).

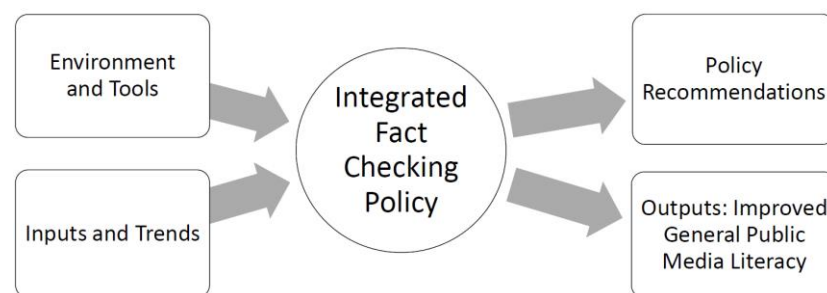


Fig. 11: Infographics – Integrated Fact-Checking Policy (own elaboration).

Fear-evoking and outrage-triggering content tends to bypass verification routines and is amplified by a media ecosystem that rewards speed, attention, and virality. These dynamics are further reinforced by platform logics and algorithmic curation, which increases polarisation, sustains “echo chambers,” and facilitates exposure to unverified narratives through social media sharing.

Indicative answer to related research questions, are as follows:

8.1 Weaknesses and Potential of Fact-Checking Tools in Everyday Use

RQ1: What are the weaknesses and the potential of fact-checking tools for achieving greater influence in everyday situations among the general public?

The current ecosystem of fact-checking tools and procedures can be considered functional, but it remains highly fragmented and uneven in quality, which limits its visibility and everyday impact among the general public. Divergent methodologies, insufficient standardisation, and partial opacity of analytical methods reduce trust and complicate cross-sector uptake, including translation of outputs into public policy. Although cooperation among key actors exists, it often lacks strategic coordination, leading to parallel initiatives and duplication rather than a unified, recognisable system. At the tool level, both AI-driven and human-centred approaches show complementary strengths and weaknesses: AI-based tools can provide rapid outputs, but reliability and validity are not guaranteed; moreover, at least some tools primarily evaluate the *form* of content rather than the *truthfulness* of claims. Human fact-checking can deliver high-quality results, yet it is constrained by speed and capacity and often remains specialised, reaching only a limited user base. Overall, the potential for

greater everyday influence lies less in any single “best tool” and more in building a coherent hybrid architecture that combines scalable automated triage with accountable expert verification and clear communication to non-specialist audiences.

8.2 Measures Needed for More Effective, Real-Time and Tangible Fact-Checking Impact

RQ2: What measures would need to be implemented to make fact-checking more effective and its impact tangible in real time?

Increasing effectiveness and making impact tangible in near real time requires systemic measures rather than incremental tool improvements alone. First, the analysis points to the need for **greater methodological convergence** (shared minimum standards and interoperable frameworks), coupled with **stronger coordination mechanisms** to reduce duplication and improve division of labour across governmental, nongovernmental, academic, media, and private-sector actors. Second, **transparency** is essential: clearer disclosure of how conclusions are reached (including limitations and uncertainty) supports trust, enables responsible use in public policy, and improves the legitimacy of outputs. Third, the results highlight that sustainable impact depends on **public education and media literacy**, strengthening critical thinking and verification habits across the population is presented as more consequential than reliance on tools alone, because it addresses the demand-side conditions that allow emotionally charged narratives to spread. In practice, this implies integrating critical thinking and digital/media literacy more systematically into education and adult learning, supported by trained educators and cross-sector partners. Finally, a pragmatic operational pathway is a **hybrid model**: automated systems can deliver speed and broad coverage, while human expertise provides contextual judgement, local relevance, and robustness, together enabling both timely responses and higher credibility.

Limitations. The study's findings are constrained by the availability of publicly accessible data and the uneven transparency of individual tools, which complicate objective comparison. The results are based mainly on secondary sources and published methods, which may not fully reflect the internal practices of the stakeholders (operators of specific fact-checking solutions). Another limitation is the dynamic nature of the disinformation environment, which reflects developments in technology, as well as related countermeasures. The related findings should therefore be understood as valid at the time of the study.

Given the breadth and interdisciplinary scope of the topic, the study prioritizes analytical clarity over exhaustive coverage of all existing tools and approaches. To enhance readability and accessibility for an international audience, emphasis is placed on conceptual synthesis and thematic structuring rather than technical detail. Nevertheless, the core findings aim to remain sufficiently robust and transferable to comparable national and institutional contexts.

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