

# Social media as an information warfare tool in the Russia-Ukraine war

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**Abstract.** A systematic literature review of publications on social media and information war in Ukraine using directed content analysis to identify research gaps and the future trajectory of research.

**Keywords:** Social Media, Information war, Ukraine, Russia.

## 1 Introduction

### 1.1 The Russian Invasion of Ukraine

The Russian invasion of Ukraine in February 2022 caused not only a war in Europe, but also a “social media war” (Ciuriak, 2022). The Centre for International Governance Innovation characterized the conflict as the first “full-blown social media war,” “a watershed moment in warfare”. The conflict highlights the role of social media in rapidly spreading propaganda and disinformation. Ukrainians experienced the start of the war through the sound of explosions: in the West it was through social media. Ukraine was a catalyst for reshaping the information landscape in modern warfare (Ciuriak, 2022). Journalists and lawyers transformed their social media accounts into information hubs, challenging traditional news outlets. Twitter/X was used to bypass journalistic gatekeeping and contest claims (Ojala et al., 2018). By manipulating algorithms and utilizing bot networks they strategically amplified their narratives (Prier, 2017).

Platforms struggle to balance policies against hate speech with justifiable Ukrainian anger toward Russian occupiers (Dwoskin, 2022). After Twitter’s change of ownership, altered algorithms limited the reach of Ukrainian content for English-speaking users (Barr, 2023), reflecting broader tensions in content moderation. Russia has a long history of spreading false narratives and conspiracy theories to confuse, undermine trust and bolster support for its goals. Over 160 false narratives regarding the Russia-Ukraine war have been debunked by NewsGuard, identifying 461 sites supporting those myths (NewsGuard, 2024). Johansson-Nogués & Şimanschi (2023) identified three main (dis)information frames over 2021-2022: Donbas as the 'victim', Ukrainian political elites and nationalism as the 'enemy', and Ukraine as a symbol of western aggression against Russia. Democracies need to keep countering disinformation, debunking claims, sharing intelligence, ensuring free expression and access to information, and strengthening quality, independent media (OECD, 2022).

The topic of social media and information war in Ukraine is rapidly evolving but complex and with many gaps. This paper's systematic literature review of largest academic databases will provide a complete picture of the research done to build a trajectory for future studies. It consists of:

- A systematic literature review of publications in Web of Science and Scopus on social media and information war in Ukraine.
- A study of these publications using a directed content analysis approach to identify topics, research field, methodologies, research methods, and techniques applied.
- A framework of research gaps and future trajectory of studies on this multidisciplinary and contemporary topic.

## 1.2 Research Methodology

**Step 1.** The Web of Science database was searched for the following keywords: social media and information war in Ukraine. As at November 2023, 241,330 results were found on social media. Further filtering showed 21,761 results on social media and news, 13,716 on information war, and 639 on social media and information war. 102 results were published in Web of Science on social media, information war and Ukraine.

**Step 2.** Step 1 was repeated for Scopus. Scopus database was searched for the following keywords: social media and information war and Ukraine. As at November 2023, 301,970 results were found for social media. Further filtering identified 21,765 on social media and news. 19,314 results were published in Scopus on information war. 728 results in Scopus were on social media and information war. 94 results were published in Scopus on social media and information war and Ukraine.

**Step 3.** The 102 publications in Web of Science and 94 in Scopus were matched and those who published in both databases were filtered leaving 156 publications in total.

**Step 4.** These publications were analysed using a directed content analysis approach. Categories were initially analysed by searching for similar content in a range of journals with a similar publication strategy/approach. We drew relevant categories from these previous studies as well as developing our own categories inductively.

## 2 Literature Review

In this paper, we divide the literature review into the following main sections that reflects the main topics throughout our thorough systematic literature review.

### 2.1 Social Media

Hopes that social media platforms allow easier, cheaper, broader, and unrestricted access to information have been elevated (Udris et al., 2023). While some believed that social media could be effective in promoting democratic dialogue on social and political issues, challenges in dissemination of misinformation, the manipulation of public opinion, and its implications have also been recognized (Li et al., 2023). Many fear that social media enable more potent influence operations than traditional mass media

(Maschmeyer et al., 2023). Fake news propaganda is considered a form of disinformation in cyber space and social media (Kreft et al., 2023). It can be spread through a complex system of websites, social media, and bots (Kreft et al., 2023) as part of propaganda warfare to manipulate public opinion by intentionally distributing misleading information on social media platforms (Li et al., 2023). The positions and narratives in public discourse regarding the Russia-Ukraine war selectively amplified by social bots reflect the involvement of different state actors and effect on the framing of national narratives about the war (Zhao et al., 2024).

## 2.2 Information Warfare

The introduction of social media has led in an unprecedented era of information dissemination, offering unparalleled access to real-time accounts from conflict zones (Hauter, 2023). Around 40% of all news articles stem from news agencies with regard to war coverage, which shows the powerful and understudied role of news agencies, followed by 23% of all articles that significantly rely on other news media as sources and 16% on social media sources (Udris et al., 2023). Some studies examine whether social media platforms replace the typical dominance of government officials and the military in the news (Udris et al., 2023; Tschirky & Makhortykh, 2023; Ojala et al., 2018), others investigate whether there is an advantage for television in both dissemination and persuasiveness of the news on war coverage (Maschmeyer et al., 2023).

As the Centre for International Governance Innovation (CIGI) states, social media warfare is being invented in Ukraine (Ciuriak, 2022) and has evolved into one of the most heated information wars in modern history (Ojala et al., 2018). The relationship between disinformation and information security is examined by Kollár (2022) in a meta study of studies of disinformation between Russia and Ukraine. Computer scientists Baker, Taher and Jihad (2023) look at the accuracy of the sentiment analysis and machine learning that is key to the creation, targeting and distribution of misinformation and to the practicalities of research in the field. Studying how social media represents and frames violence, such as in the context of ongoing war, poses significant challenges due to the large volumes of data and diverse qualitative and quantitative analytical approaches employed (Tschirky & Makhortykh, 2023).

## 2.3 War in Ukraine

In Russia in 2013 a new military doctrine was drawn, linking military domination with information, included not only broadcast media, but also blogs, websites and social media platforms (Kreft et al., 2023). For a decade the Russia-Ukraine conflict has been characterised by the significant presence of fake news in the public sphere of all its participants (Kreft et al., 2023). Social media platforms have emerged as significant forces in shaping global public perception of the Russia-Ukraine War (Hauter, 2023). This unprecedented access is accompanied by the pervasive challenge of disinformation, which has necessitated the development of innovative methodological approaches to navigate this complex landscape (Hauter, 2023).

A significant part of research covers the creation of narratives. Of these, some look at the practical experience – Kyryliuk et al. (2023), for example, examine the narrative

strategies used by Russia since the occupation of Crimea in 2014. Others look at specific examples (e.g. *The Ghost of Kyiv*, at the role of Russian TV, or the relationships between Russians and Ukrainians as brothers or others (Khaldarova (2021) or at the links between official, traditional media and unofficial digital and social media is a key part of hybrid and information warfare.

Social media also provides a direct channel for political leaders to disseminate their narratives. For example, Ukrainian President Zelenskyy has successfully used his Twitter account for communication with the global audience during the Russian invasion of Ukraine (Nisch, 2024). The emergence of "citizen chroniclers," individuals sharing real-time updates on social media, has reshaped the disinformation landscape of this war (Alonso-Martín-Romo et al., 2023). Specific examples such as Alona Zahreba and Yeva Skalietska, who wrote *'You Don't Know What War Is: The Diary of a Young Girl from Ukraine'* work in a similar way to the *Diary of Anne Frank* with one difference: the speed of information distribution via social media. Social media represents a double-edged sword – while enabling citizens to document the realities of war, it also facilitates the spread of disinformation (Alonso-Martín-Romo et al., 2023). Disinformation tactics have not been exclusively employed by Russia. Ukraine has also engaged in disinformation strategies during the current war, such as spreading heroic stories that were later debunked, with the aim of boosting morale and garnering international sympathy. (Alonso-Martín-Romo et al., 2023).

Social media platforms have to steer a delicate balance between their standard policies against hate speech and the justified outrage of Ukrainians towards the actions by the occupants on their soil. Standard moderation algorithms have become insufficient in this complex situation and have been manipulated or overridden by Meta (Dwoskin, 2022) and, following the change of ownership, by Twitter/X. Analysis of Twitter's algorithm for news from Ukraine revealed that updates from the Ukrainian war zone were flagged as 'sensitive content' for the English-speaking audience, and 'shadow-banned' (Barr, 2023). If users had opted not to view such content, news about the conflict in Ukraine was excluded from their feed.

Russia has a long history of 'active measures' in spreading disinformation as a tool of war (Johansson-Nogués & Šimanschi, 2023). False narratives and conspiracy theories are disseminated with the aim of causing confusion, damaging trust, and strengthening support for their objectives. Over 160 false narratives regarding the Russia-Ukraine war have been debunked by NewsGuard (2024), and 461 sites supporting those myths have been identified. International governments counter disinformation by exposing claims, sharing intelligence, restricting Russian state media and supporting independent outlets (OECD, 2022). In December 2023, the European Commission issued a warning to the owner of Twitter/X: the beginning of proceedings concerning the dissemination of disinformation and illegal content that violates EU laws (O'Carroll, 2023)

### 3 Future Research

The "social media war" reveals the need for enhanced digital media literacy to identify disinformation and for reforms by social media companies to improve transparency

around policies and algorithms that shape global discourse. These platforms need to balance values of openness and connectivity with ethical obligations around truth, trust, and democratic engagement (OECD, 2022). Further research should explore collaborative governance approaches between states, companies, experts and civil society to develop norms and systems resilient to weaponized propaganda. Social media platforms need to be pressured through public scrutiny and potential regulation to enhance algorithmic transparency, conduct human rights impact assessments and strengthen appeals processes. (OECD, 2022).

The ultimate aim of this work will be to collaborate with policy decision makers on social media, freedom of speech and (dis)information. There are significant further areas where the same issues play out – not least the current conflict in Gaza – and this can only be expected to increase.

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