Social media and public opinion formation in times of war: A case study from Ukraine

Соціальні медіа та формування громадської думки під час війни: кейс з України

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Abstract

The purpose of the study is to identify the impact of social media on the formation of public opinion in Ukraine. In the context of the war in Ukraine, public opinion plays a crucial role in resistance, morale, and support for government policies. This study examines the impact of social media use on the formation of Ukrainian public opinion during the conflict. Using a survey methodology (N=310), the relationship between social media use, interpersonal trust (ITS), and Fear of Missing Out (FOMO) was assessed. Results reveal that active social media use is associated with lower interpersonal trust and a pronounced FOMO syndrome (R^2=0.571), suggesting a reduced ability for critical evaluation of information. These findings have implications for the development of communication strategies, public policies, and psychosocial interventions aimed at counteracting

Анотація

У контексті війни в Україні громадська думка відіграє вирішальну роль у опорі, моральному стані та підтримці урядової політики. У цьому дослідженні розглядається вплив використання соціальних медіа на формування української громадської думки під час військових дій. Використовуючи методологію опитування (N=310), було оцінено взаємозв'язок між використанням соціальних мереж, міжособистісною довірою (ITS) і страхом втратити (FOMO). Результати показують, що активне використання соціальних мереж пов'язане з нижчою міжособистісною довірою та вираженим синдромом FOMO (R^2=0,571), що свідчить про знижену здатність критично оцінювати інформацію. Ці висновки мають значення для розробки комунікаційних стратегій, державної політики та психосоціальних втручань,

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disinformation and promoting informed public opinion in times of conflict.

Keywords: information flow, interpersonal trust, social media, digital technologies, public opinion.

спрямованих на протидію дезінформації та сприяння інформованій громадській думці під час конфлікту.

Ключові слова: інформаційний потік, синдром втраченої вигоди, соціальні медіа, цифрові технології, суспільна думка.

Introduction

The fast growth in the number of social network users, which has been observed since the beginning of the war in Ukraine, indicates the active use of the information provided by Ukrainians. At the same time, according to DataReportal, as of January 2024, 24.30 million active social network users are registered in Ukraine. This tendency indicates a high level of public confidence in information on social networks. Still, at the same time, it causes concern because of the constant misinformation and distortion of actual events.

The rapid scientific and technological development of society in recent decades has meant that mobile devices and the internet, and media in general, have become an integral part of people's lives (Wahyoedi et al., 2023). In the era of ever-increasing digital technologies, social media play a key role in the process of free expression and verbalisation of one's views and opinions (Maitri et al., 2023).

This has allowed people to easily express their thoughts and worldviews, exchange information and interact with others (Scheinfeld & Voorhees, 2022). Thus, a lot of new content is constantly emerging in modern society, reflecting different viewpoints on social issues (Burbach et al., 2020). At the same time, the excessive flow of information reaching users on social media is shaping public opinion (Selvarajah & Fiorito, 2023). Social media platforms such as Facebook and Instagram have changed the way citizens interact with each other and have a mobilising effect on public opinion (Kellam & Stein, 2016). Social media, through their innovative potential, create a virtual space in which various current issues are analysed and discussed (Ausat et al., 2023). As such, social media are becoming not only a means of communication, but also a driving force in shaping public opinion, which in turn can influence other areas of public life (Wong, 2023). The virtual space of social media creates opportunities for expressing one's point of view, coordinating common opinions, and expanding opportunities for greater involvement of people in discussing current social issues (Shmalenko et al., 2021).

Modern information technologies allow you to directly track the movement of troops, the loss of the enemy or their redeployment, all this information is often presented in social networks and is actively supported by citizens (Sheremet et al., 2021). Thanks to modern technologies and social networks, it is also possible to record war crimes (Horska et al., 2023). Therefore, the presence of such evidence of crimes against citizens is often not just an information flow, but also evidence in criminal investigations.

Despite the benefits of social media and the speed of information transmission, it provides an optimal environment for the spread of false information, leading to polarisation and radicalisation in society (Pansanella et al., 2023). Content containing inaccurate information spreads rapidly and has a detrimental effect on citizens' perceptions of this information (Gabore & Deng, 2018).

Social media create a new space for the formation of opinions on current events, political processes, military operations, etc. At the same time, it is a space for the dissemination of distorted, out of context information that is used to attempt to control public opinion (Gorodnichenko et al., 2021). The spread of disinformation under martial law is a hybrid threat to Ukraine's security, as it undermines interpersonal trust in the state apparatus and spreads hardline ideology (Gulzar et al., 2023). In this way, the information sphere has become another battleground in the context of war, where the enemy conducts an equally organised and targeted attack (Skarpa et al., 2023). Among such attempts, the most relevant in terms of disinformation are religious hatred, violation of Ukraine's sovereignty, violent change of state leadership, and destabilisation of society (Geissler et al., 2023). At the same time, social media are now also a source of danger for citizens, as they are often subject to hacking (Alonso-Martín-Romo et al., 2023). In addition, fake news, i.e. false news that has not been verified or filtered by users, spreads very easily on social media (Ciuriak, 2022). This leads to the distortion of social and political attitudes and the destabilisation of society.

The purpose of the study is therefore to identify the impact of social media on the formation of public opinion in society. The following research objectives were defined on the basis of the purpose:

- To survey young and mature respondents and determine the extent to which they use social media;
- To highlight the level of interpersonal trust among respondents;
- To diagnose the level of FOMO (or lost opportunity) syndrome among the respondents;
- To determine the impact of social media use on levels of trust and FOMO (or lost opportunity) syndrome.

Based on the purpose and objectives, the research hypothesis is formed: active users of social media in Ukraine under martial law have low interpersonal trust and a pronounced FOMO (or lost opportunity) syndrome, which negatively affects the formation of public opinion.

Literature Review

Theories of public opinion formation

Public opinion serves as an institution of civil society and represents the basic value and cultural norms and ideals of citizens, their attitude to society in general or specific events. (Jannière & Scrivano, 2020). Public opinion serves as collective views and individuals' judgements related to certain relevant events or topics of society (Moussaïd et al., 2013). In this case, public opinion is based on the communicative interaction of society members who share information, experience and views with each other (Mallinson & Hatemi, 2018). Policy directions are formed and products or services are developed on the basis of public opinion. In other words, public opinion involves political, socio-economic, cultural and value aspects of life (Gabore & Deng, 2018). The feature of public opinion is its representation of a set of personal views, attitudes and beliefs on a certain topic expressed by a significant part of the community (Tiratelli, 2023). Therefore, the general public opinion of a particular society strongly depends on each separate citizen (Boichuk et al., 2023). Not all scientists share this approach because some of them interpret public opinion as a synthesis of the similar views of society members (Scheufele & Eveland, 2001). While others consider that public opinion is represented by various contrary worldview positions (Lee et al., 2022). Despite such dichotomy of public opinion definitions, the public opinion in each of these approaches is a set of views of a certain number of individuals.

Influence of social media on public opinion

The rapid social and political transformations that occur in modern society significantly impact the establishment of a sustainable and balanced interaction system between civil society and the state (Huang, 2020). Under such circumstances, public opinion is perceived as the most important social institution that serves as a regulator of interactions between the state and civil society (Chang & Tsai, 2022). Nowadays in Ukraine, the public opinion is a stimulating factor in the development and preservation of state integrity. (Geissler et al., 2023). It provides adoption of legislative decisions in the interests of social communities; is a source of important information about events, including military operations; contributes to accelerating, facilitating the implementation of certain decisions or preventing their implementation if this decision contradicts public views and needs.

Public opinion is mainly determined by the mechanism of online interaction via social networks. Social networks provide users with access to real-time information without any limitations (Chang & Tsai, 2022). This is highly relevant at a state of war as it allows to monitor the news and all changes continuously. In this case, the formation of public opinion depends on experience and learned information (Chernysh et al., 2023; Chernets et al., 2023). But at the same time, it can change rapidly under the influence of various factors: the amount of received information, its quality, emotional background, and its value for each individual (Hatamleh et al., 2023). Therefore, the type of social network has a weak influence on the distribution of information content, but the quality of information content significantly impacts the number of users (Ausat, 2023).

Disinformation and online manipulation

Large groups of people with similar interests create an atmosphere of mutual trust between members of a social network. In such groups, if an actual member of the network shares information, it is perceived and

distributed by the group members without much criticism. In such an environment, users are vulnerable because they do not only express their opinions, but also reveal their personal data (Gündüç, 2020). Consequently, fraudsters who can disguise themselves as group members can collect personal information and use it for their own purposes. At a state of war, the issue of the reliability of social network content is particularly urgent, as the enemy widely spreads anti-government narratives, fake news, and false socio-political views. Social network users do not always verify the reliability of such information, so it leads to its active distribution in the virtual environment (Chen et al., 2022). The final result is the formation of a certain public opinion concerning this information, which is based on unrealistic events, but has its influence on society (Gorodnichenko et al., 2021). Propaganda on social media can take different forms. These are mainly fake news, false images and video editing, and all sorts of provocations (Jannière & Scrivano, 2020).

Case studies on social media and conflict

Due to the development of social networks and their value in the life of society, some scientists introduce the concept of "online public opinion", which is defined as a set of relevant opinions expressed by the public via the Internet on a particular social phenomenon or topic in a particular period of society development (Huang, 2020). This concept is relevant to the current events in Ukraine, as most citizens, especially young and mature people live by the news obtained from social networks and messengers (Donofrio et al., 2022).

For almost two years of war, Ukrainians have become quite competent in recognising false information but the enemy still applies active attempts to spread disinformation, fakes, impose their opinion, and force people to think in the way they need. An important step in preventing disinformation influence is a ban on all Russian content, including music, literature, bloggers, etc. Ukraine also has a Centre for Countering Disinformation, a working body of the National Security and Defence Council of Ukraine, whose main task is to prevent the dissemination of false information, fight against corruption and counter disinformation on the Internet and media. But despite the active countering of the enemy's disinformation influence, social networks are still the main source of news in Ukraine.

Open-source intelligence (OSINT) platforms gained popularity in Ukraine. Their use made it possible to investigate certain situations or events during the war. For example, during the tragedy with the Malaysian plane, Boing-777 researchers from Bellingcat exploiting materials on the network proved the guilt of pro-Russian separatists who used the Buk air defence system of one of the Russian brigades (Horska et al., 2023).

It is also worth mentioning the numerous videos of the crimes of Russian soldiers, which they distribute in telegram channels. Thus, thanks to the spread of the invaders, it was possible to identify Oleksandr Matsievsky, involved in the shooting on March 8, 2024, who was shot point-blank after the words "Glory to Ukraine". Also, through social networks, criminal proceedings were initiated due to the shooting on October 1 of 16 military men in the Pokrovsky direction and 9 Ukrainian military men by invaders in the Kurshchyna on October 10, 2024. Unfortunately, there are a lot of such examples, and in this case, social networks make it possible to expose the involvement of criminals and bring them to justice.

Therefore, considering the purpose and hypothesis of the study, it may be noted that social networks are the main means of presenting information in the conditions of war in Ukraine. This information is not always true and often requires verification and filtering. But thanks to them, Ukrainians learn about the course of the war, the advancement of the military, threats due to constant shelling, and Russian crimes.

Methodology

Study procedure

The study took place during March 2023 - December 2023 and had 4 consecutive stages (Figure 1). The first stage included the organization of the programs of sociological study, selection of the study cohort, selection of the study methods, and documentation of survey forms in electronic form. In the second stage, a survey of the respondents of the selected age group was conducted, and the received results were entered into an Excel database. The third stage included conducting calculations according to each method. The fourth stage allowed quantitative, qualitative and statistical analysis of the data obtained in the study. The

research was conducted in a remote format in Google Forms. This allowed to engage a large number of respondents, different in age, social status, and profession.

I stage - selection of the study cohort, selection of the study methods

II stage - selection of tests for research, registration of diagnostic forms on the Google Forms platform

III stage - conducting calculations according to each method

IV - quantitative, qualitative and statistical analysis of the data obtained in the study
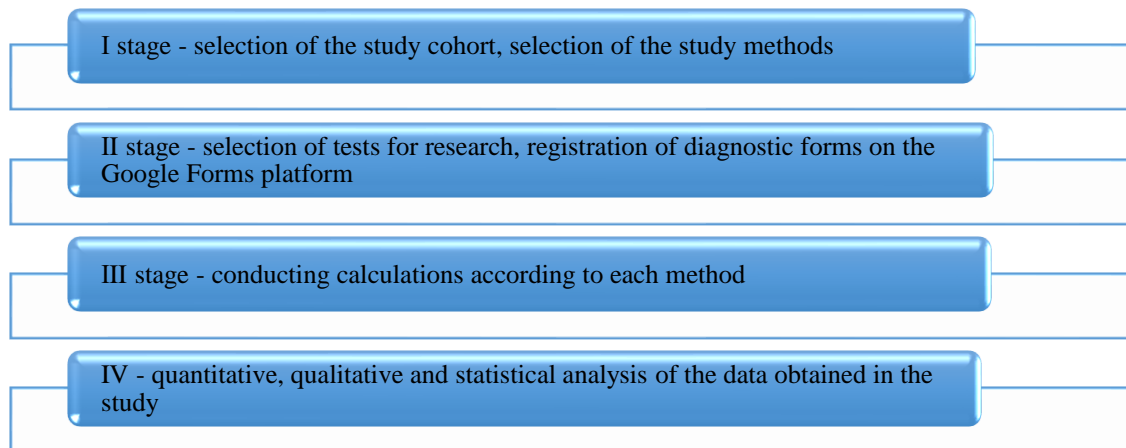
Figure 1. Flowchart of the different stages of the research process.

Sample formation

310 people in the age from 20 to 55 participated in the study. The sample number ensures its representativeness of the general population. The total number of respondents included 178 women and 132 men. Exclusion criteria was the age under 20 years, as by this time value system is not finally developed and world-view positions are categorical in relation to real events. As well as the age above 55 years, when critical thinking in relation to received information decreases.

Methods

To determine the role of social networks in public opinion formation the following methods were used:

Survey 'The use of social networks'. The questionnaire included the following questions:

- 'Do you use social networks?' (active user, moderate user, sometimes use, rarely use, almost do not use).
- 'Which social networks/messengers do you prefer' (Twitter, Instagram, Facebook, Tik-Tok)/(Telegram, Viber, WhatsApp, Messenger).
- 'Name the main source for receiving news (TV, social networks, informational channels).

As part of the study's purpose, it was important to investigate how citizens have confidence in social and political institutions. This would allow us to determine the degree of confidence in the information provided in social networks. Therefore, J. Rotter's Interpersonal Trust Scale (ITS) allows us to measure the level of social trust, which consists of people's trust in the people around them and society in general. The level of social trust reflects the ability to perceive other people and external information as constructive and safe. According to the methods key, the received results vary from 25 scores (strong disagreement) to 125 scores (strong agreement). The high Alpha-Kronbach value ($\alpha = 0.83$) confirms the reliability of the test.

Since social networks have become a kind of addiction among Ukrainians, and they constantly try to control news and events, it is advisable to explore a phenomenon called the Fear of missing something important. For this, we used the Fear of missing out, FOMO, scale. The methodology was developed by Polish authors Przybylski, Murayama, DeHaan & Gladwell (2013). The method aims to determine the level of fear of missing important information, and not to be aware of the situation. The Alpha Cronbach score for the test was $\alpha = 0.87$, so we can argue that the test is reliable.

Data processing was done using Microsoft Excel and SPSS 22.0 software. Using descriptive statistics, test averages and standard deviations were described. Frequency analysis made it possible to present frequency diagrams of variables. Regression analysis was used to determine the impact of using social networks on social trust and Fomo syndrome.

Results and Discussion

The picture demonstrates that among the presented social networks, Facebook is the most used by the respondents, TikTok is somewhat less used, almost half of the respondents use Telegram to receive information, and 35% of the participants prefer Instagram. Active users of Twitter, Viber, WhatsApp and Messenger account for the lowest share. Therefore, it is possible to conclude that most of the news Ukrainians receive from Facebook, which is international and allows to share posts outside their social circle. Information and comments exchange allows for forming clear worldview positions on a certain range of issues. In particular, patriotic slogans and narratives, uniting people, creating a feeling of unity, and supporting the patriotic spirit, quickly spread during the war. At the same time, unreliable and unverified information may be actively spread by the users and be perceived as real, forming a public opinion of Ukrainians concerning certain situations or events.

The survey showed, that Ukrainians receive the largest share of news from social networks (Figure 2).
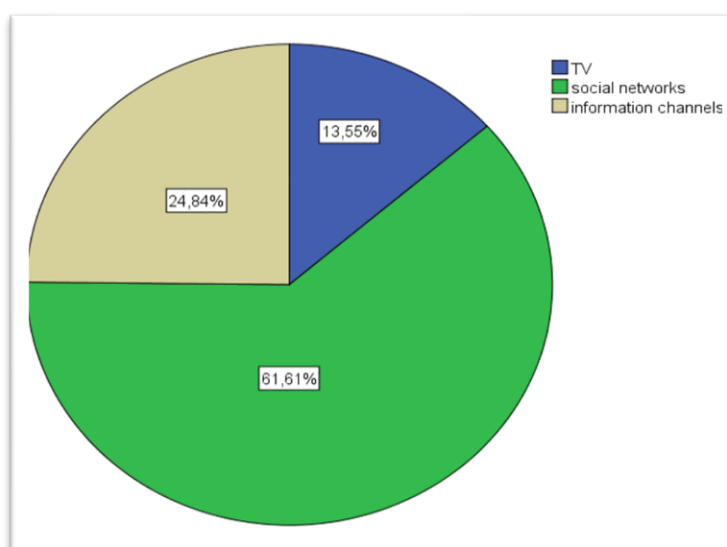
Figure 2. Sources of receiving informational news from Ukrainians.
Source: (Developed by the authors)

The sampled group was found to receive the largest share of news from social networks and informational channels, and they received less information from TV. After two years of war, public trust in television in Ukraine has significantly decreased. Trust in social media, where maximum news is received, has increased instead. This indicates that under martial law public opinion in Ukraine is mainly formed under the influence of social networks.

The level of social trust of the public and the level of FOMO syndrome were also found (Table 1).

Table 1.
Indicators of social trust and FOMO syndrome

Gender		Social trust	FOMO
Male	Mean	49,06	32,56
	N	132	132
	SD	16,02	9,55
Female	Mean	64,57	28,65
	N	178	178
	SD	26,91	11,09
Total	Mean	57,97	33,32
	N	310	310
	SD	24,14	10,62

Source: (developed by the authors)

According to the table, the sample group has a low level of social trust and a high level of FOMO syndrome. Herewith, low social trust and a high level of FOMO syndrome prevail among male representatives. A high level of social trust and a high level of FOMO syndrome prevail among female representatives. Such results indicate that under conditions of war, a large share of the participants are quite prone to being dependent on social networks and have a fear of missing certain important events. They spend excessive time using gadgets, tracing military and social events. Constant psycho-emotional stress and anxiety because of the possibility of missing something important on the web reduce the level of importance of the received information. Because of this, false public opinion, imposed on the public via social networks, is formed.

Regression analysis detected the influence of social network use on social trust and FOMO syndrome (Table 2).

Table 2.
The influence of social networks use on social trust and FOMO syndrome

Parameters	β	SD	R	R²	F	P
Social trust	0,31	0,02	0,756	0,571	204,708	0,000
FOMO	-0,17	0,05				

Source: (developed by the authors)

Regression analysis detected that the use of social networks defines social trust and FOMO syndrome by 57%. Received results allow to state the more actively Ukrainians use social media, the lower their social trust and the higher FOMO syndrome is.

Thus, social networks were found to influence public opinion in Ukraine under martial law, as they are the main source of receiving information and news. At the same time, active use of social networks leads to the reduction of social trust and increase of the fear of missing something important.

Received results showed that half of the questioned young and mature Ukrainians are active users of social networks, the fifth part of them consider themselves to be average users, and only a small percentage of respondents do not use social networks. Nowadays, social networks are the main source of information under conditions of martial law in Ukraine. At the same time, Facebook, Tik-Tok and Telegram are the most popular networks among all users. Ukrainians were found to have low social trust and a high level of FOMO syndrome. At the same time, active use of social networks causes a low level of social trust and a high level of FOMO syndrome. This indicates that excessive use of social networks causes certain addictions when a very high need to receive information is combined with low filtration of the quality of this information, which reduces social trust. Such addiction to social networks distorts public opinion, as people's misinformation prevents them from making realistic conclusions.

Similar results were received in other studies, which showed that social networks can lead to negative consequences for personality and can lead to FOMO syndrome development (Scheinfeld & Voorhees, 2022). The more actively people use social networks, the higher the risk of FOMO, which causes to reduction of the threshold of objectivity of perceived information (Rozgonjuk et al., 2020). Active use of the Internet and social networks is a normal expression of social mobility in current conditions. Their excessive use leads to the reduction of interpersonal interaction, constant tension, mistrust and negativism (Acharjee & Panicker, 2023).

An increase in the number of users of social networks allows to introduce desired content from a certain political angle into information space, affecting the views of citizens and their position (Shmalenko et al., 2021). Ausat (2023) in his study showed that social networks play a significant role in public opinion formation and influence economic decision-making. Both certain individuals and groups can use them for interaction with each other, information sharing, and discussions, which in general form collective views in society (Ausat, 2023).

Hatamleh et al. (2023) state that active social network users have a high level of trust, however, the authors believe this reduces their criticality and ability to constructively evaluate received information. Due to this, users are more vulnerable to disinformation (Hatamleh et al., 2023). It was proved that the the higher ability of fake news detection a people have, the lower their trust in information on social networks is (Skarpa et al., 2023).

As a set of diverse views and judgements, public opinion was proved to have undergone critical changes in formation mechanism due to the influence of social media (Dwivedi et al., 2023). Due to the possibility of active opinion exchange among users, social networks created a 'dynamic virtual public arena, where dialogue, debates and spread of information can happen at an incredible speed' (Arisanty et al., 2020). On the one side, social networks give the possibility to actively communicate in a virtual environment and instantly spread new information. At the same time, large information volumes are not always filtered in time, which creates a false understanding of the consequences of this information for society and the public. Study results demonstrate that active news sharing via social networks significantly affects public opinion formation (Gabore & Xiujun 2018).

Public opinion formation plays an important role, as it affects the process of society development in general. The more truthful, reasonable and logical the public opinion is, the more positively society develops. Selvarajah and Fiorito (2023) prove that information truthfulness in social networks is the source of constructive public opinion, developed on personal attitude to real events under conditions of martial law in Ukraine. Some studies have a wider presentation of the aspects of social networks' influence on public opinion and indicate that non-registered users play a significant role (Mir et al., 2023). Thus, unverified users of social networks may spread false information concerning the war in Ukraine to a greater extent.

Finally, it is necessary to note that there exists a need to improve the quality of the social network environment, reduction of negativism in informational messages, and control over subversive activities of pro-Russian channels and users. This demands the government and related organizations introduce effective measures to solve present issues (Saaida & Alhouseini, 2023). In the process of state policy formation, the government should consider the opinions and positions of local social institutes, extend methods of information processing and ensure clear control of the trustworthiness of information in social networks.

Conclusions

The conducted study proved, that social networks are the main information source as well as the means of expression of the own attitude to the events around. Regardless of the low level of social trust and fear of missing important events, the active participation of Ukrainians in virtual news is very high. Still, large volumes of information, available in social networks and low criticality of their understanding lead to distorted perception of real situations.

The received results are valuable for the development of effective methods of filtration and control of sources of information, published in social networks. Verification of users' accounts requires special attention as there are a number of bots, oriented on destabilization.

Study limitations lie in the high dynamics of social network use and the impossibility of conducting a final analysis of their effect on a certain public opinion. Furthermore, the war lasts, and changes in political, and social military areas take place every day and affect public opinion expression and the general mood of the society.

Political and social institutions should implement programs to track the veracity of information and the ways of its transmission and dissemination. This will reduce the impact of disinformation on citizens. At the same time, citizens should filter the information they receive from social networks since only reliable information can lead to a positive solution to the military conflict.

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