

PROBLEMS OF UKRAINIAN SOCIETY' INFORMATION SECURITY UNDER THE CONDITIONS OF MARTIAL LAW

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Abstract: The article aims at analysis of the problems of Ukrainian society' information security, taking into account the military situation. The empirical basis of the study is a secondary analysis of the results of monitoring social changes (30 years of independence), which was conducted by the Institute of Sociology of the National Academy of Sciences of Ukraine in 2021. The following terms were analyzed: "information security" - a set of certain knowledge, skills, abilities and a high level of media literacy of society in information sphere of the state; "information space", representing a certain set of communication technologies that ensure interaction between the producer, transmitter, and consumer of information; and "new media" as a certain transformation of the information transmission channels themselves (their interactivity, possibility of feedback, etc.). Subjects and objects of the information space have been studied. The content and structure of information security are highlighted. It is noted that in order to minimize the threat and challenges that may be caused by informational influences on society, it is necessary to single out ways of countermeasures, namely: 1) development of the Ukrainian information space in the direction of the world one; 2) unification of international and Ukrainian information systems; 3) creation and development of own model of information space; 4) modernization of the already existing system of information security of Ukraine in accordance with the latest challenges; 5) creation and improvement of the working regulatory framework in accordance with world standards; 6) development of information infrastructure; 7) enabling competitiveness of Ukrainian information products; 8) use of the latest information technologies in the state administration of the country; 9) constant interaction of the power structure with mass media and influencers in the information space; 10) increasing the level of media literacy of society, etc.

Keywords: information security; information space; mass media; Internet; new media; Ukrainian society; martial law.

1 Introduction

The importance of a high-quality information environment for modern society and the state, in particular, has not only increased significantly in recent years, but also acts as a key basis for the sustainable development of Ukraine. Together with the world's leading states, Ukraine is in the process of establishing and developing a high-quality information society, the basis of which is precisely information and data transmission channels. In the information society (which is key one in the 21st century), information and communication technologies are taking on important features, which is why this industry is currently one of the fastest growing and at the same time little controlled by the state.

V. Kuzmina et al. note: "The rapid socio-economic transformation of modern society, the change in the worldview of a person is associated with significant uncertainty in the expectation of the future. The scientific and technical revolution has led to the emergence of new technologies that blur the boundaries between the physical, digital, and biological spheres" [9]. That is why, in our opinion, it should be noted that in connection with the rapid formation and development of the Ukrainian information society, the state faces a number of priority tasks, without which it will not be able to function well on the world stage. And the most important of such tasks is to ensure the national security of the information sphere, which is a priority direction (as mentioned in the Digital Agenda of Ukraine in 2020 [3]) of the strategic development of Ukraine. However, it is difficult to solve the problem of information security of the state only at the state level, since all strata of the population are involved in the process of using modern information technologies (starting with ordinary citizens and ending with the governing apparatus of the country). Based on

this, there is an urgent problem regarding the need to form a safe information center, primarily on the basis of legal regulation by the state and general value orientations of society.

Thus, the variability of the Ukrainian information space (especially during Russia's full-scale war against Ukraine) creates certain challenges and threats for society, which require scientific justification for building a strategy for solving the outlined problems.

2 Method

To achieve the purpose of article, the following general scientific methods of comprehending social phenomena and processes were used: logical-historical, structural-functional, and comparative methods - to study the terms "information security", "new media", "information space"; analysis and synthesis - to distinguish the content and specifics of the information security of society; classifications - for typology of challenges and threats in the information space in view of the military situation in Ukraine; structural and functional analysis - to clarify the structure and functions of the information space during the period of martial law; generalization - to determine the prospects for the formation and development of information security in modern Ukrainian society, which is in a state of full-scale war.

The empirical basis of the study is a secondary analysis of the results of monitoring social changes (30 years of independence), which was conducted by the Institute of Sociology of the National Academy of Sciences of Ukraine in 2021.

The theoretical basis of the study was the fundamental scientific provisions in the field of information and national security of society, which is a key topic in the works of many Ukrainian scientists, namely: I. Doronin, O. Vlasjuk, J. Baker, N. Shipilova, S. Horbatiuk, G. Pocheptsov, A. Naumova, N. Kostenko, O. Zolotar, M. Abomhara, N. Boyko, G. Koyen, M. Naumova, M. Belinska, O. Dovgan, S. Solodko, and others. The analyzed scientific studies made it possible to note that the rise of information security in the theological context is quite thoroughly covered; a thorough operationalization of the main terms was carried out in view of the mentioned problems; practical recommendations are provided for solving key issues of information security of society at all levels, etc.

However, it should be noted that in the cited literature there are almost no questions regarding the formation and functioning of the information security of the society precisely in view of the military situation in which it is, which forms the relevance of our chosen research topic.

3 Results and Discussion

During the three decades of the Ukrainian state' independence, the information climate, which today can be considered in the contexts and terms of mass information institutions, information structures of society, the sphere of social communication, the sphere of information and cyber security, and many others, has significantly changed under the influence of global and local factors. First of all, the rapid expansion of the scope of the Internet throughout the world, including in Ukraine, the widespread introduction of "new media" thanks to the unprecedented development of information technologies, has significantly modified the information, communication, and cultural orders established during the long-term dominance of "traditional mass media" (the press, radio, television). Audiences, being before that mainly an environment controlled by the media for ideological, cultural, market motives, are transformed into actors who not only receive and consume information, but also participate in its production, selection, and distribution [8, p. 512]. Therefore, for a more detailed understanding of this issue, let us focus on the operationalization

of such terms as “information security”, “information space”, and “new media”.

Modern scientists who consider the issue of information security, first of all, pay attention to the channels of dissemination of information flows (mass media and mass communication) in every sphere of society's life (social, household, legal, etc.). First and foremost, the issue of information security acquires key importance from legal regulation and is an important indicator of information security guarantees of Ukrainian society.

It is necessary to consider the regulatory legal acts of Ukraine to determine the term *information security* from the normative side. Article 17 of the Constitution of Ukraine testifies to the protection of the sovereignty and territorial integrity of Ukraine, ensuring its economic and informational security are the most important functions of the state, the concern of the entire Ukrainian people [1]. In accordance with the Decree of the President of Ukraine “On the decision of the National Security and Defense Council of Ukraine dated October 15, 2021 “On the Information Security Strategy””, “information security of Ukraine is an integral part of the national security of Ukraine, the state of protection of state sovereignty, territorial integrity, democratic constitutional system and other vital important interests of a person, society, and the state, according to which the constitutional rights and freedoms of a person to collect, store, use, and disseminate information, access to reliable and objective information are properly ensured, an effective system of protection and countermeasures against harm due to the spread of negative informational influences, including the coordinated distribution of unreliable information, destructive propaganda, other information operations, unauthorized distribution, use and violation of the integrity of information with limited access exists” [2]. However, in our opinion, this interpretation of the concept of “information security” in normative documents does not have thorough specifics - it is rather the result of the interpretation of the concepts of “national security” and “information security” and does not affect the security of society itself in the information space. The methodological definition of this concept should not be the security of the information itself (which is discussed in the regulatory documents), but the security of the subjects of the information space (natural or legal entities) who consume and produce information.

In turn, the Ukrainian researcher A. Gevorkyan notes that “information security” is a system-oriented state of protection of the country's national interests in the field of use and application of information and communication technologies, which consists of a set of mutually agreed interests of the individual, society, and the state in the field of protection from internal and external information threats and provides for the implementation of a set of regulatory, organizational, psychological, and/or technical measures of a preventive or anti-crisis nature to prevent possible or eliminate existing negative processes and phenomena that the information space creates [6].

It should be noted that this approach is manifested in the analysis of information security as certain relations within society, as well as in the systematization of relevant norms of current legislation, which is aimed at providing society with high-quality information and communication technologies and the ability to resist in the event of misinformation (manipulation, propaganda) from the mass media. Based on this, in order to create a favorable mechanism of information security of society, it is necessary to create certain prerequisites for its awareness of all the processes of the information space. And this is ongoing mainly due to the variability of the modern information space, in which Ukrainian society found itself during the period of martial law and shows the importance of information security at the global level.

Thus, speaking about the information security of the society as a whole, we mean a set of certain knowledge, skills, abilities, and a high level of media literacy of the society in the information sphere of the state. But all this consists precisely in: the ability to

correctly use information and communication technologies; ability to critically interpret and analyze the information received from the mass media; capability of resisting possible challenges and threats from the information space, etc.

Based on the above, it should be noted that in order to reproduce the mechanism of information security of Ukrainian society (especially during the state of war in which it is), it is necessary to develop prerequisites for the awareness of the process of production of information flows by each member of society. Therefore, the importance of information security is determined by the fact that it is a certain measurement of the state of the information society in the conditions of the global information environment. And to understand these processes, let us focus on defining of the terms “information space” and “new media”.

Modern information space in the 21st century got rid of all kinds of limitations and boundaries that appear in physical space, but it has certain limitations that are related to regulatory acts, state secrets and private life, etc.

The first thoughts regarding the filling of space with information and the formation of an “intelligent” space - the noosphere - belong to V. Vernadskyi, who singled out the following socio-cultural factors that form the noosphere: the spread of man over the entire surface of the planet; development of means of communication and exchange that integrate people into a single whole; discovery of new sources of energy (nuclear, solar, etc.); mass democratization of the state system; the ‘explosion’ of scientific creativity in the 20th century, while the information environment, thanks to the cultural assimilation of technology, turns out to be an indispensable means of forming the unity of the human mind - the construction of the noosphere predicted by V. Vernadskyi. Therefore, the information sphere is part of the noosphere (that is, space) [12].

Today, the information space represents a certain set of communication technologies that ensure interaction between the producer, transmitter, and consumer of information. The structure of the information space is formed by messages, communicative acts, and communicative channels. Meanings contained in individual messages of the mass media may become important information or may not arouse any interest in the general audience [5]. In turn, according to M. McLuhan's theory, in any historical era, there is a kind of information space characterized by certain sources of information, communication channels, speed of transmission and quality of information distribution, as well as the appropriate level of development of technological support. However, in this case, one cannot talk about the absolutization of any one method of communication, since individual components of the information space always function in different time rhythms, combining into a single continuum the types of communication characteristic of different historical periods [5].

The information space, constantly expanding and playing an increasingly important role in people's lives, forms a new life space in the form of a coherent field, within which individuals interact with each other. Its specificity lies in the discontinuity of two levels of existence: real and virtual, which determines new norms and situations of existence. By acquiring a global character, information technologies contribute to the expansion of communications and the formation of a single communicative space, within which special laws and norms of behavior and worldview are formed [4].

And while earlier, when talking about the information space, mass media such as television, radio, newspapers or magazines were meant (that is, traditional mass media), today it is about the extraordinary influence of the new media (based on the Internet), which have an immeasurable impact on society and which cannot be controlled by the state.

New media is the emergence of a new channel in the traditional media system of society. The new media is a certain transformation of the information transmission channels themselves (their interactivity, the possibility of feedback, etc.).

New media have fundamentally changed the process of communication within society (both among people themselves and at the state level), they have provided modern society with more perspectives and opportunities for information exchange [14]. Today, the number of users of social networks in the world is 2.46 billion and is 71% of all Internet users. In five years, it has increased 1.8 times, and with further spread of mobile gadgets - smartphones, tablet computers - it will only grow. Ukraine fully corresponds to global trends: four out of five Internet users (83.1%) have social media accounts. Among the adult population of the country (18+), this share is 57.5%. The audience of social networks is mainly young people under the age of 39 (60.8%), with higher or incomplete higher education (47%), average and higher than average level of well-being (59.6%), who live in cities (66, 6%) [11, p. 550-551].

The information field of modern society in terms of new media provides opportunities not only to follow current events, but also to express one's thoughts or positions regarding certain state events, especially in the process of waging full-scale wars. On the one hand, this is influenced by the emergence and adaptation of new technical means for the implementation and maintenance of direct democratic processes, and on the other hand, by informal methods of influencing the mass consciousness of society. Informal methods (i.e., social networks) have made a certain revolution in the transmission of information, and not only in the means of disseminating information – they also changed the approaches to conducting traditional warfare. Now victory depends not only on the battlefield, but also on the narratives of the parties to the information conflict. Namely social networks play a practical role in this process. In particular, informal influence on the mass consciousness occurs through the following channels of new media: Twitter allows distributing instantly messages indicating the original source or opinion leader; TikTok is duplicated and distributed by the leading Ukrainian mass media, that is, the social network goes beyond just an application for entertainment and becomes a full-fledged source of information; Facebook, Instagram is an effective way to distribute visualized information, which serves as a sign of people's moods, because, by uniting, users draw attention to an event or problem; Telegram is a certain phenomenon in the aspect of post-truth analysis, which is really quite a powerful tool for influencing mass consciousness in the process of waging an information war [14].

In general, the information space (which includes elements of new media) carries continuously functioning information flows that differ in their density, intensity, and stability in relation to other information messages. A certain orderliness of information channels causes fragmentation (dosing) of the information space into partial elements that maintain a close connection between themselves, but at the same time it is a certain autonomy, since they are based on the unchanged composition of information channels of information provision. And this phenomenon is characteristic of modern society - primarily in the fact that it is based on the localization of information space in the conditions of new media, where there is a complete absence of limitations to information flows.

The subjects of the information space are states, certain persons (legal or physical), who, in order to implement their needs (sometimes they may be biased, especially in the process of waging a full-scale war), enter into relationships that can be seen in the collection, processing, encoding, storage, and dissemination of information flows. The functioning of relevant information flows ensures the existence of this space, which reflects information processes and a certain level of development of social relations and scientific progress.

Speaking about the content and structure of information security, it should be taken into account that the category "information security" at this stage can have different meanings in different contexts. According to the main areas of manifestation, the systemic expression of information security is localized, first of all, in the sphere of functioning of state bodies of political power, as information security of the country, that is, the state of

preservation of information resources of the nation-state and the protection of the legal rights of individuals and society in the information sphere. Secondly, in the field of civil society, the information security of society can be represented by two components: information-technical security and information-psychological security. In the field of personal interests, information security is expressed in the implementation of the constitutional rights of a person and a citizen to access information, to use information in the interests of carrying out activities not prohibited by law, for physical, spiritual and intellectual development, as well as in the protection of information that ensures personal security [15].

In general, it can be noted that the interests of society in the information space, based on issues of information security, consist precisely in the following: protection and defense of personal interests in this area; ensuring constitutional human rights and strengthening the democratic attitudes of society; achievement and development of positive communication in society; creation and development of the rule of law; spiritual and cultural renewing of Ukrainian society, etc.

If to talk about the interests of Ukrainian state in the information sphere, they consist in the following steps: creation of appropriate conditions for the rapid development of the information and communication infrastructure; implementation of constitutional guarantees of human rights and freedoms in the area of access to information; preserving the sovereignty and integrity of Ukraine; stability of all spheres of life; ensuring legality of information flows.

The sustainable development of information society is radically changing the status of information in the whole world. Currently, it can act as both as an attempt to guarantee the safety of society, and as certain challenges and threats. Thus, the information security of society in view of the military situation is characterized in a certain way by the protection from the side of state and, at the same time, possible threats from the information space. That is why we will focus on this aspect in more detail.

At the current stage, the main real and potential threats to Ukraine's national security and stability in society in the information sphere are: manifestations of restrictions on freedom of speech and access to public information; dissemination of the cult of violence, cruelty, pornography by mass media; computer crime and computer terrorism; disclosure of information that constitutes a state secret or other information with limited access, aimed at meeting the needs and ensuring the protection of the national interests of society and the state; attempts to manipulate public consciousness, in particular, by spreading unreliable, incomplete, or biased information [10, p. 82].

If to talk about threats in the information space for society during the period of martial law, one should focus on the main ones: deliberate substitution of information or silence of important facts; limited access to information resources; spread of computer viruses; destruction of important information; manipulation of information (substitution of the agenda, etc.); distortion of information by the enemy; reducing the number of true facts due to the formation of rumors and myths in the message; information overload, when a huge amount of information is provided, while the main part of it is unnecessary, etc.

In view of the analysis of challenges and threats that the information space carries for modern Ukrainian society, it is necessary to briefly dwell on the functions of mass media in order to understand a more detailed consideration of their role at the level of the state system. A significant number of classifications are known, but we will provide only two that generally characterize the main range of functions implemented by mass media. So, the following functions are distinguished: informational (cognitive); value-educational; the function of organizing behavior (instructive); emotional and psychological (tonic); escapist (function of diverting attention from reality); social-integrative, communicative [7]. Another classification, which practically repeats the first one, but in a certain way

simplifies it, was used in the sociological project "Public Opinion", that was conducted under the leadership of B. Grushin. The following classification was used in it: functions of informing, educating, organizing behavior, relieving tension, communication [16, p. 48]. As one can see, in both cases, the list of functions is really repeated (only in the second one, the escapist function is missing, and the emotional-psychological function is replaced by the tension-relieving function), but there is no propaganda function (which is important in the information space) among them. We can probably say that it is hidden behind other functions - informational and communicative. But today, in the period of the unfolding war of the Russian Federation against Ukraine, when everyone understands how powerful the influence of state television channels can be on the population of both their own country and the enemy country, it is almost impossible to move away from highlighting the special and very important function of mass media - propaganda [13]. At the same time, it is wrong to reduce the propaganda function to the function of communication, since the latter, although it involves the exchange of information and communication, is not at all aimed at actively convincing a certain audience of something.

Regarding the main characteristics of the information space, the following ones are distinguished: the speed and openness of information exchanges (this is especially pronounced in the period of new media, which was discussed above); the possibility of feedback (possibility not only to consume information, but also to be a participant in the communication process); certain segmentation of the information space; information unevenness.

The modern information space increasingly acquires cross-border features, since all structures (state, private) act as a single information system. Also, the virtualization of the information space (and of the life of society as a whole) leads to the replacement of real life with virtual images. That is why the emergence of the latest opportunities in the information space poses certain challenges to the state and society, which require the development of a strategy for their solution.

Therefore, in the conditions of modern information challenges, the Ukrainian information space (especially during the period of martial law) is poorly protected from negative (propaganda, manipulative) informational influences and threats. Thus, the creation of steps for an effective system of information security of Ukrainian society, the development and implementation of high-quality strategies that will make it possible to resist external and internal information threats should become a priority direction of state policy.

4 Conclusions

Summarizing the above, it can be noted that in order to minimize the threat and challenges that may be caused by informational influences on society, it is necessary to single out ways of countermeasures, namely: 1) development of the Ukrainian information space in the direction of the world ones; 2) unification of international and Ukrainian information systems; 3) creation and development of own model of information space; 4) modernization of the already existing system of information security of Ukraine in accordance with the latest challenges; 5) creation and improvement of the working regulatory framework in accordance with world standards; 6) development of information infrastructure; 7) creation of competitiveness of Ukrainian information products; 8) use of the latest information technologies in the state administration of the country; 9) constant interaction of the power structure with mass media and influencers in the information space; 10) increasing the level of media literacy of society, etc.

The key goal in this process is to ensure a secure information space. In addition, the priority direction of the work of the state apparatus in the information space should be: control over information messages that appear in the information field of the country; provision of true, timely, and objective information; constant coverage of relevant information.

Literature:

1. Constitution of Ukraine: Law of Ukraine dated 08.06.1996 No. 254k/96-BP. Bulletin of the Verkhovna Rada of Ukraine. 1996. No. 30. Art. 141.
2. Decree of the President of Ukraine "On the decision of the National Security and Defense Council of Ukraine dated October 15, 2021 "On Information Security Strategy", 2021. No. 685/2021
3. *Digital agenda of Ukraine - 2022*. <https://uccr.org.ua/uploads/files/58e78ee3c3922.pdf>
4. Dubas, O. (2010). Information and communication space: concept, essence, structure. Modern Ukrainian politics. Politicians and political scientists about it. - K., 2010. - Vol. 19. - P. 223-232 <http://dspace.nbuv.gov.ua/bitstream/handle/123456789/26693/22-Dubas.pdf>
5. Dzoban, O., & Melyakova, Yu. (2015). The communicative nature of the information space. *Information and Law*, 2(5), [https://doi.org/10.37750/2616-6798.2012.2\(5\).271865](https://doi.org/10.37750/2616-6798.2012.2(5).271865)
6. Gevorkyan, A. (2021). Formation of the foundations of society's information security culture as a factor in strengthening national security. *Bulletin of the National University of Civil Defense of Ukraine, Series "Public Administration"*, 1(14). DOI 10.52363/2414-5866-2021-1-20
7. Hutchinson, W., & Warren, M. (2017). *Information warfare*. Routledge.
8. Kostenko, N. (2021). Changes in the information climate: Ukrainian media between truth and suspicion. *Ukrainian Society: Monitoring social changes. 30 years of independence. Institute of Sociology of the National Academy of Sciences of Ukraine*, 8(22), 512-533.
9. Kuzmina, M., Karpenko, A., Tabunshchik, G., Kuzmin, V., Karpenko, N., Popovych, V. (2021). Career strategies approach for the digitalised world requirements. *Educating Engineers for Future Industrial Revolutions. ICL 2020. Advances in Intelligent Systems and Computing, vol 1329*. Cham: Springer. Doi: 10.1007/978-3-030-68201-9_53
10. Maksimenko, Yu. (2015). Pluralism of threats to information security of Ukraine. Imperatives of the development of civilization: Proceedings of the interdepartmental scientific and practical conference "Information security in the military sphere. Current state and development prospects", Kyiv, March 31, 2015, No. 2.
11. Naumova, M. (2021). Social media: growth of networks and new communities. *Ukrainian Society: Monitoring Social Changes. 30 years of independence*, 8(22), 550-567.
12. Solodka, O. M. (2020). Information space of the state as a sphere of implementation of information sovereignty. *Information and Law*, 4(35), 39-46.
13. Stadnyk, A.G. (2015). The main models of the organization of information wars and their varieties. *Social Technologies: Current Problems of Theory and Practice*, 67-68, 81-92.
14. Stadnyk, A., Bondarenko, O., Khodus, O., Ihrushko, A., Stadnik, O., Vaniushyna, O. (2023). The use of new media in the process of conducting information wars: a sociological aspect. *AD ALTA Journal of Interdisciplinary Research*, 13(1), Special Issue XXXII, 48-52.
15. Stepanov, V. (n.d.). Information security as an attribute of national security. DOI: 10.5281/zenodo.1240859
16. Tsyganov, V. V. (2015). *State coup*. Kyiv: Alfa Advertising.

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