

# Prospects for the Development of Information and Analytical Activities in the System of Public Authority Under the Conditions of Wartime Posture in Ukraine

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## ABSTRACT

Ensuring the effective implementation of the basic functions by the country's public authorities significantly depends on the level of development of its information and analytical activities and the efficiency of the formation and implementation of state policy. The intensification of democratization and the increasing flow of information in the system of public power lead to the activation of the process of formation and development of information and analytical activity, which in the conditions of wartime posture is especially actualized and acquires significant importance. The purpose of the research lies in substantiating the theoretical aspects and practical recommendations for determining the prospects for the development of information and analytical activities in the system of public power in the conditions of wartime posture in Ukraine. General scientific and special methods of economic analysis have been used in the research, in particular as follows: analysis and synthesis, analogies and comparisons, grouping and multivariate cluster analysis, systematization and generalization, graphical and tabular methods. The results of the conducted research of the theoretical and applied principles regarding the determination of prospects for the development of information and analytical activities in the system of public power in the conditions of wartime posture in Ukraine has made it possible to establish that the full-scale invasion of the Russian Federation in Ukraine has caused significant destructive changes in the system of public power, which requires the introduction of effective methods of information and analytical activity and innovative technological means of information protection. It has been proven that Ukraine, like other countries of the Eastern Partnership, are unable to fully ensure the stable development of information and analytical activities in the system of public authorities, for as much as they are characterized by a low level of their digitization, resistance to misinformation and countering cyber threats. It has been revealed that the parameters of Ukraine according to the analysed indicators are moderate from among the countries of the Eastern Partnership, as evidenced by the value of the Multidimensional Index of Digitization 0,42–0,48; Disinformation Resilience Index 1,4–2,3 and Global Cybersecurity Index 0,659–0,753, respectively. The prospects for the development of information and analytical activities in the system of public power under the conditions of wartime posture in Ukraine determine the need to strengthen the use of information and analytical tools, ensure the sustainable development of the information society and strengthen the interaction between public authorities and the public.

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## HIGHLIGHTS

- ① Ensuring the effective implementation of the basic functions by the country's public authorities significantly depends on the level of development of its information and analytical activities and the efficiency of the formation and implementation of state policy.
- ② The purpose of the research lies in substantiating the theoretical aspects and practical recommendations for determining the prospects for the development of information and analytical activities in the system of public power in the conditions of wartime posture in Ukraine.

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**Keywords:** Information and analytical activity, system of public authority, information technologies, public administration, the public, digitalization.

The formation of modern information and analytical activities regarding the adoption of management decisions in the system of public power of the country depends significantly on the degree of using innovative information technologies in the activities of public power bodies, as well as various means of computer and communication technologies. It is obvious that in the conditions of wartime posture in Ukraine, the role of information and analytical activities of public authorities acquires significant importance, for as much as the uncontrolled development of processes and phenomena of both a political and social nature is observed. The aggravation of the risks, challenges and dangers of wartime posture necessitates the need to protect information flows from unauthorized interference by outsiders and ensure the effectiveness of meeting the information needs of state authorities and the public. It should be recognized that the existing practice of forming and implementing information and analytical activities in the system of public authorities of Ukraine is characterized by imperfection, an insufficient level of efficiency and the inability to fully fulfil its functions. Under such conditions, the issue of forming a powerful information and analytical base for making managerial decisions at different levels of government is actualized, on which the professional functioning of the country's public authority system depends.

## LITERATURE REVIEW

The current stage of development of Ukraine as an independent, democratic and sovereign state is under the influence of significant destabilizing factors and drivers that are in the field of foreign economic cooperation and internal instability. The challenges and dangers caused by the full-scale

invasion of the Russian Federation on the territory of Ukraine and its annexation of significant territories of the sovereign country have caused a violation of the territorial integrity of Ukraine and the need to reformat the existing system of public authority. Ensuring effective management decision-making in non-standard crisis conditions requires a wide range of complete, reliable, objective and truthful information, which, according to the viewpoint of Tyshchenko *et al.* (2021), can be achieved through the wide and systematic use of the latest digital technologies in the implementation of information and analytical activities, as an important component of the public administration system.

Ghia *et al.* (2021), investigating the problems of data transformation in the public sector, have come to the conclusion that, in addition to information support for the activities of public authorities, analytical activity regarding information flows and the use of artificial intelligence in the process of implementing information and analytical activities acquires significant importance. However, the application of innovative technologies in the public sector has been taking place rather slowly, which is caused by the low rates of digitization of the activities of public authorities and their provision with the latest digital technologies. The point of view of scientists is shared by Zhang & Lu (2021), who are convinced that the wide application of information and communication technologies of the new generation, in particular, artificial intelligence, in the information and analytical activities of public authorities based on the rapid processing of a large array of information flows, will allow increasing the efficiency of the bodies public authorities and their interaction with the public.

Taking into account the gradual intensification

of the processes of digitalization of the public administration system, which have been activated due to the challenges of the COVID-19 pandemic, significant developments in this direction already exist. In particular, it is worth noting the facilitation of public access to information about the activities of public authorities; however, as it has been noted by Causey *et al.* (2022), it has not been possible yet to overcome the digital gap to the full extent. Moreover, existing problems of inconsistency of information and analytical activity systems at different levels of public authority lead to significant difficulties in transmitting information and in forming analytical forecasts.

Sudnickas *et al.* (2021) associate the formation and development of information and analytical activities in the system of public authorities with the need to introduce new forms and technologies for using information, its collection, processing and analysis within the framework of a single information and analytical system of public authorities.

In this context, Kovalchuk & Pivovar (2022) highlight certain obstacles and difficulties in the formation and implementation of information and analytical activities caused by the war in Ukraine, which has a destructive effect on the interaction of public authorities and public institutions in the field of information and analytical data exchange and provokes destabilization of the process of ensuring participatory democracy at all levels of public power.

Considering the outlined tendencies, Hofmann *et al.* (2020) emphasize the need for the introduction of electronic governance and the stimulation of digitalization processes of public power in the formation and implementation of the basic principles of information and analytical activity of public authorities, and Halahan (2018) suggests that the development of information and analytical activity should be directed towards improving information and analytical support of public authorities within the framework of the modern innovative and intellectual system. At the same time, scientists are inclined to the opinion that increasing the efficiency of information and analytical activities will contribute to the improvement of the management activities of public authorities, as it will provide the possibility, on the basis of primary information, to form a reliable information and

analytical basis for making management decisions. However, these prospects can be successfully implemented only in the case of successful handling of primary information, its processing, storage and transmission to those users who need it.

Troisi & Grimaldi (2022) also follow a similar standpoint and claim that there is a need to quickly make effective managerial decisions in a modern globalized society; therefore, the use of analytics in the activities of public authorities potentially increases the indicators of their information and analytical activities at different levels of government. At the same time, Demchyna (2020) notes that in modern conditions there are prospects for the creation of a global information civilization, in which information is an irreplaceable resource and acquires the status of capital for the process of state management at all levels, and the formation of the information and analytical base depends on the construction of the basis for adoption managerial decisions by public authorities. In this context, the reformatting of approaches and viewpoints on the construction of the principles of ensuring information and analytical activity and determining the place of analytical information in the system of management decision-making by public authorities is of great importance. In addition, Demchyna (2020) claims that in the system of public power, information and analytical activity is represented by a set of information and analytical documents that are formed in the process of as follows:

1. Analysis and forecasting of the social-political development of the state and regions and the preparation of information and analytical materials for different levels of public authority;
2. Analysis and evaluation of the activities of political parties and public organizations;
3. Development of information and propaganda materials regarding the state and trends of the social-political situation in the public authorities;
4. Monitoring of the sentiments of the public and political parties regarding the existing social-political situation;
5. Analysis of the main trends in the activity of political forces and the degree of their influence on the social-political process;

6. Formation of conclusions, comments, proposals and results of consultative activities with the public and taking into account the public opinion when making managerial decisions by public authorities;
7. Monitoring media coverage of information on the activities of public authorities and prompt response and their reporting;
8. High-quality content of the website with information about the activities of public authorities, and the information component is manifested in the provision of the process of collecting, processing, storing and transmitting analytical information to its users.

Aleksandrov (2019) is convinced that the effectiveness of information and analytical activities in the system of public authority depends significantly on the level of use of modern information technologies in the activities of public authorities; and high-quality information and analytical support meets the needs of both civil servants and citizens, forasmuch as it is able to ensure proper conditions for highlighting the results of the activities of public authorities and the public opinion regarding the evaluation of such results.

Chepeliuk (2021) distinguishes the main methods of analysing the information and groups them into qualitative (hypothesizing, comparison, intuition, observation), quantitative (statistical studies) and general scientific (surveys, individual conversations, expert evaluation), and Borshchevskiy *et al.* (2022) emphasize the necessity to improve the effectiveness of public authorities under conditions of wartime posture.

**Research Goals.** The purpose of the research lies in substantiating the theoretical aspects and practical recommendations for determining the prospects for the development of information and analytical activities in the system of public power in the conditions of wartime posture in Ukraine.

## MATERIALS AND METHODS

General scientific and special methods of economic analysis have been used in the research, in particular as follows: the essence of information and analytical activity in the system of public authority has been determined using the method of analysis

and synthesis; analytical evaluations based on the indicators of the multidimensional index of digitization, disinformation resilience index and global cybersecurity index have been carried out using the method of analogy and comparison; the grouping of the Eastern Partnership countries according to the indicators of the development of information and analytical activities in the system of public power has been conducted on the basis of a multifactorial cluster analysis; the method of systematization and generalization has been used to generalize and summarize the results of the research; the display of applied research results has been carried out using graphical and tabular methods.

The Eastern Partnership countries were selected for the research, namely: Azerbaijan, Armenia, Georgia, Belarus, Ukraine and Moldova.

The information research base consists of the works of domestic and foreign scientists, analytical materials and reporting data for 2018–2021, namely: DiGiX: A Multidimensional Index of Digitization according to the multidimensional index of digitization; Disinformation Resilience Index in Central and Eastern Europe according to the index of resistance to disinformation; Global Cybersecurity Index Report according to the Global Cybersecurity Index.

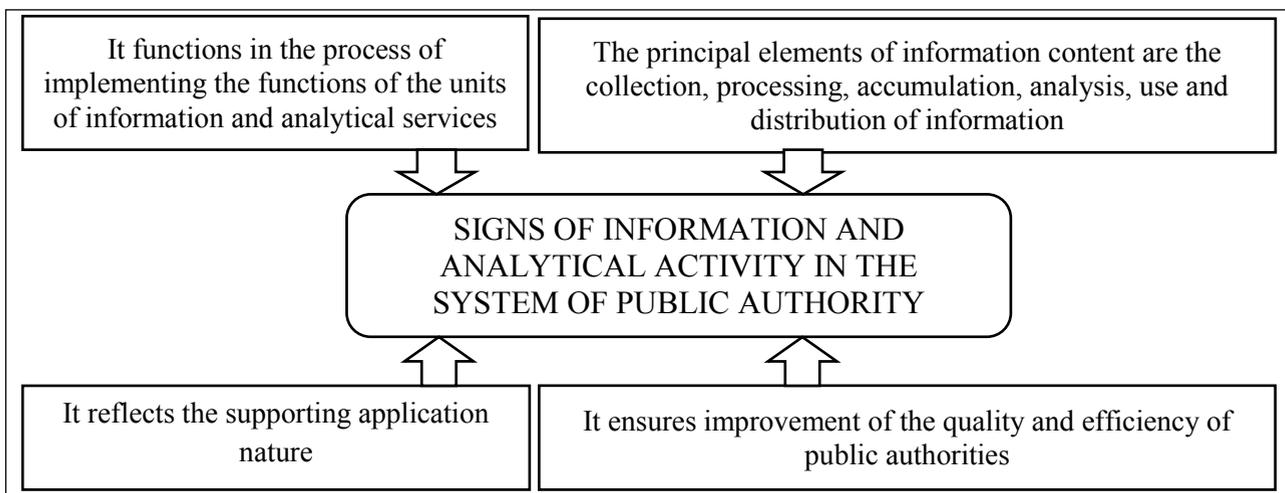
## RESULTS

The development of the modern society and public authorities is characterized by the growth of the role and importance of information, the actualization of the information services industry, the use of innovative intellectual information technologies and the improvement of the level of information and legal culture. A special direction of activity of public authorities is information and analytical one, which consists of a set of actions and measures, related to the detection, processing, preservation and dissemination of information at all levels of implementation of public authority. However, current conditions testify to certain characteristic features and atypical mechanisms of the implementation of public power, caused by the wartime posture in Ukraine. The existing institutional transformations that are currently taking place give evidence of significant destructive changes and the aggravation of the need for

strategic planning at various levels of public authority. In this context, it is expedient to identify the signs of information and analytical activity in the system of public authority (Fig. 1), forasmuch as the necessity arises to separate important and necessary information for decision-making from the general flow. In addition, there are frequent cases when information and analytical activity is associated with information activity, and ultimately leading to information and analytical support for the activities of public authorities. However, these statements are unjustified, and information and analytical activity should be considered as the main factor in the development of the democratic society,

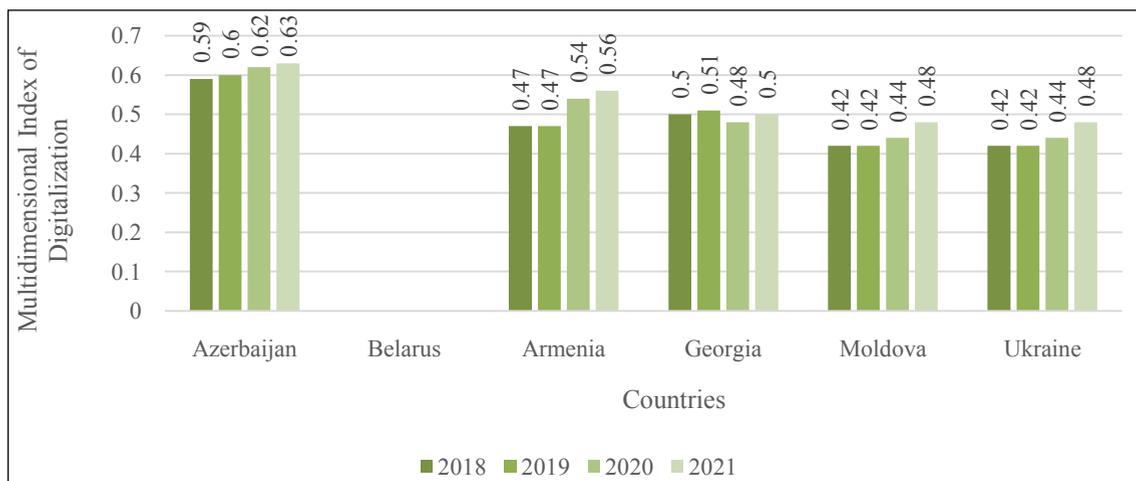
which contributes to the stable development of the social-political sphere.

It is obvious that under such conditions, the level of digitalization of the society as a whole and of public authorities, in particular, becomes of great importance. It has been proven that in countries where innovative digital technologies are more widely used, public authorities function more efficiently, and the value of the multidimensional index of digitization is higher. We consider it expedient to display the dynamics of the multidimensional index of digitization in the Eastern Partnership countries in Fig. 2 and compare its tendencies.



Source: it has been compiled based on: Aleksandrov (2019).

Fig. 1: Signs of informational and analytical activity in the system of public authority



Source: it has been compiled based on: DiGiX 2019: Tracking Digital Evolution; DiGiX Update: A Multidimensional Index of Digitization, 2018, 2020–2021.

Fig. 2: Dynamics of the multidimensional index of digitization in the Eastern Partnership countries in 2018–2021

As evidenced by the results of the conducted research, the highest digitization rates were recorded in Azerbaijan (0,59–0,63), medium rates are revealed in Armenia (0,47–0,56) and Georgia (0,48–0,51), and the lowest rates are observed in Moldova (0,42–0,48) and Ukraine (0,42–0,48). At the same time, the calculation of the analysed indicator during the entire period was not carried out in Belarus. The indicated tendencies testify to the low level of readiness of the Eastern Partnership countries to effectively conduct information and analytical activities and ensure the appropriate level of digitization of services provided by public authorities, as well as access of the public to information about the activities of public authorities at all levels.

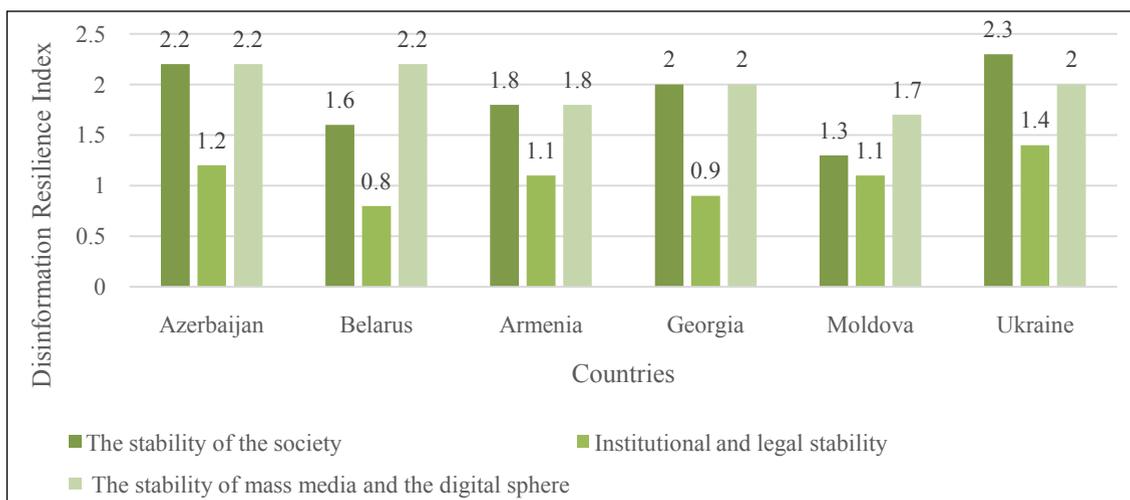
The existing problems of the development of information and analytical activities in the system of public power have become significantly stronger under the conditions of the introduction of wartime posture in Ukraine, considering that a significant number of administrative units were under the occupation of the Russian Federation, and the positions of civil servants of public power bodies were significantly divided. Some officials have come over to the side of the occupying powers and did not perform their functions in the interests of Ukraine; consequently, the information and analytical activities of public authorities are distorted by a false and unreliable information array spreading beyond the borders of Ukraine, including the countries of the Eastern Partnership. As a result,

it has become necessary to reformat the government and ensure its high-quality information and analytical activities, as well as ensure resistance to misinformation according to the criteria as follows:

1. The stability of the society;
2. Institutional and legal stability;
3. The stability of mass media and the digital sphere, the values of which in the pre-war period were not high enough, as evidenced by the value of the disinformation resilience index (Fig. 3), and during the Russian-Ukrainian war, they deepened even more.

In this context, the strengthening of resistance to disinformation becomes especially acute, for as much as the revealed trends allow us to state different degrees of countering disinformation; in particular, the highest indicators of resistance to mass media and the digital sphere were recorded in Azerbaijan and Belarus. However, taking into account the low level of democratization of the society in these countries, it can be assumed that these values are engaged and highlighted in the interests of certain political and public groups. According to the index of resilience of mass media and the digital sphere to disinformation, Ukraine and Georgia show moderate values, while Armenia and Moldova have the lowest values.

Studies of indicators of resilience of the society to misinformation show that among the countries of the analysed group, their highest values are observed in Ukraine and Azerbaijan, moderate



Source: it has been compiled based on: Disinformation Resilience Index in Central and Eastern Europe in 2021.

Fig. 3: Status of the disinformation resilience index in the Eastern Partnership countries in 2021

values are in Georgia and Armenia, and the lowest values are in Belarus and Moldova. According to indicators of institutional and legal stability, the highest values have been recorded in Ukraine, moderate values have been revealed in Azerbaijan, Armenia and Moldova, and the lowest values have been recorded in Georgia and Belarus.

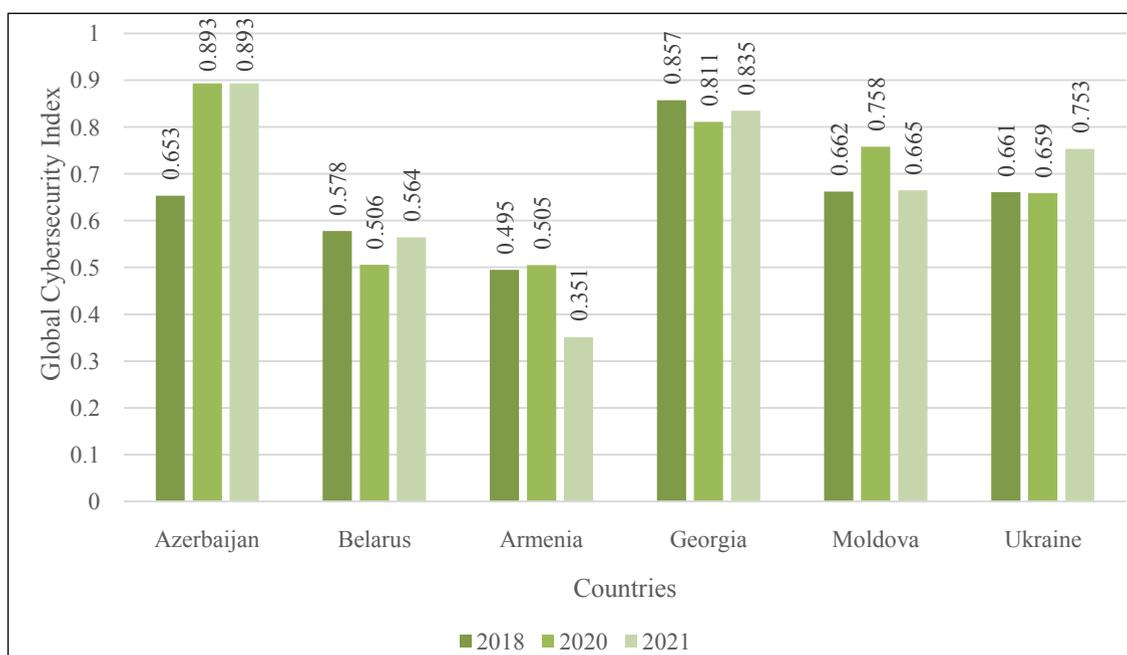
Undoubtedly, the introduction of wartime posture has caused a shock effect on the system of public power, as a result of which the established mechanisms of state administration were destroyed and social-economic problems worsened. The experience of Georgia makes it possible to state that in conditions of military aggression and instability, public authorities are subject to significant influence from both the public and political parties. However, Ukrainian realities testify to deeper institutional disparities between public authorities and the public, which are complemented by the incompleteness of the administrative and territorial reform and the unsettled functions of public authorities and civil society institutions, leading to inconsistencies and imperfections in the transmission of information to different levels of public authorities and the adoption of relevant decisions based on it without sufficient justification.

Moreover, the problem of protecting data of

public authorities from unauthorized access by users of the aggressor country has been provoked, which is justified by an increase in the number of cyberattacks, and requires enhanced protection and an immediate solution. The dynamics of the Global Cybersecurity Index, which determines the country's readiness and ability to prevent and counter cyber threats, is displayed in Fig. 4.

As evidenced by the obtained results, the highest level of protection against cyberattacks in the analysed group can be provided by Azerbaijan (GCI: 0,653–0,893) and Georgia (GCI: 0,811–0,857), Moldova (GCI: 0,662–0,758) and Ukraine (GCI: 0,659–0,753), and the lowest indicators are observed in Belarus (GCI: 0,506–0,578) and Armenia (GCI: 0,351–0,505).

It is obvious that when analysing the main indicators that characterize the level of digitization of processes and activities of public authorities, it is impossible to follow stable trends, for as much as some countries have advantages according to some indicators, while other countries are ahead based on others. Consequently, we consider it expedient to use the technology of multivectorial cluster analysis based on the k-means method and to group the countries of the Eastern Partnership according to all analysed indicators (Table 1).



Source: it has been compiled based on: Global Cybersecurity Index 2018–2021.

Fig. 4: Dynamics of the Global Cybersecurity Index in the Eastern Partnership countries in 2018–2021

**Table 1:** Grouping of the countries of the Eastern Partnership according to the indicators of the development of information and analytical activities in the system of public power in 2018–2021

No.	Country	Cluster number	Euclidean distance
1	Azerbaijan	1	0,083
2	Georgia		0,083
3	Ukraine	2	0,000
4	Armenia	3	0,109
5	Moldova		0,109
6	Belarus		0,101

*Source:* It has been compiled based on: DiGiX 2019: Tracking Digital Evolution; DiGiX Update: A Multidimensional Index of Digitization, 2018, 2020–2021; Disinformation Resilience Index in Central and Eastern Europe in 2021; Global Cybersecurity Index 2018–2021.

The obtained results make it possible to distinguish three groups of countries, which are characterized by common features of the implementation of information and analytical activities in the system of public authority. The first group consists of Azerbaijan and Georgia, which have ensured sufficiently high indicators of the digitization of the society, show resistance to disinformation and are able to adequately counter cyberattacks in the public sphere. The second group includes Ukraine, which has certain positive developments in the outlined directions; however, significant gaps in digitalization do not allow achieving the desired effect. The third group is characterized by countries that have significant problems with the effectiveness of information and analytical activities by public authorities (Armenia, Moldova and Belarus), which is evidenced by the low level of digitization of such countries; and this indicator is not calculated in some of them such, in particular, in Belarus. According to other analysed indicators, these countries also have low values.

Undoubtedly, in all countries of the group under consideration, there are problems in the information and analytical activities of public authorities, aggravated by the problems of a full-scale invasion of the Russian Federation on the territory of Ukraine. Significant obstacles lie in the inability of these countries to ensure the appropriate level of digitalization of social and political processes, due to the low level of development of innovative information and communication technologies and

the lack of access to Internet resources in certain territories.

At the same time, it should be noted that comparative assessments of the parameters of Ukraine regarding the effectiveness of information and analytical activities of public authorities with countries of a similar type of development give evidence of the moderate position of this country, which requires the development of effective measures in order to improve the indicators of digitalization of the social and political sphere.

Prospects for the development of information and analytical activities in the system of public authorities should be aimed at ensuring innovativeness in the implementation of functions by public authorities, strengthening interaction between public authorities and the public, increasing public trust in authorities, strengthening the openness and transparency of their activities. At the same time, it is extremely important to overcome the gap between the theory and practice of public administration in terms of using information and analytical tools, the formation of a reliable regulatory and legal framework for ensuring the organizational and legal fundamentals of the development of the information society and the intensification of the process of electronic governance, as well as ensuring the training of professional personnel capable of increasing the level and quality of information and analytical activity in the system of public authority.

## DISCUSSION

Ensuring the stable development of information and analytical activities in the system of public power in the conditions of wartime posture in Ukraine is a difficult and voluminous task, the solution of which requires the arranged application of effective methods of analytical processing of information and its analysis through intellectual processing of information arrays. It is obvious that in current conditions, excessive volumes of information flows, their intension and dynamism determine the need to use effective methods and strategies of information and analytical activity in the system of public authority. However, social and political instability on the European continent, caused by the Russian-Ukrainian war, has provoked a number of problematic issues in the system of functioning

of public authorities. A particularly acute problem arose regarding the development of information and analytical activity, which was significantly influenced by both internal destabilizing factors and the aggressor country.

Established tendencies regarding the prospects for the development of information and analytical activities in the system of public power indicate the need to involve the latest information and communication technologies and their use in the apparatus of public power. For this purpose, digitization of the public sector and ensuring a high level of information protection in the virtual environment is of utmost importance.

The results of the conducted research give grounds for asserting that in this context Ukraine is unable to ensure the effective development of information and analytical activities in the system of public power to the full extent due to significant gaps in digitalization and due to the insufficient level of introduction of innovative digital technologies. Comparing the principal indicators with the parameters of individual countries of the transitive type, namely: Azerbaijan, Armenia, Belarus, Georgia and Moldova, it has made it possible to establish that Ukraine has already made some progress, but this is not enough to position itself as a highly developed country capable of providing effective information and analytical activities in the public administration system.

## CONCLUSION

Thus, the study of theoretical aspects and practical recommendations for determining the prospects for the development of information and analytical activities in the system of public power under the conditions of wartime posture in Ukraine make it possible to state that the Russian-Ukrainian war has had a significant destabilizing effect on the development of information and analytical activities of public authorities, which manifests itself in the dissemination of a significant amount of misinformation, its distortion and false coverage. Ensuring the effectiveness of information and analytical activities of public authorities requires the introduction of innovative information, communication and analytical technologies capable of providing a high level of protection against unauthorized access by third-party users. It has

been established that the level of digitization of the public sphere and its resistance to disinformation is of great importance in the study of the outlined issues, namely: in countries with a higher value of the multidimensional index of digitization, a higher level of resistance to disinformation and higher indicators of cybersecurity are recorded. In order to enhance the development of information and analytical activities in the system of public authorities in war conditions, it is advisable to strengthen the use of information and analytical tools by public authorities, to ensure the stable development of the information society and to strengthen the interaction between public authorities and the public on the basis of the increased use of digital technologies.

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