

Impact of Modern Information and Communication Technologies on Economic Security in the Context of COVID-19

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Summary

The main purpose of the study is to analyze the main aspects of the impact of information and communication technologies on the economic security system in the context of a pandemic situation. The new realities of the modern turbulent world require a new approach to the issues of ensuring economic security, in which information and communication technologies and information security are beginning to play an increasingly important role. As a result of a detailed analysis of the further functioning of all components of economic security in the context of the existence of the consequences of the COVID-19 pandemic.

Key words:

information and communication technologies, information security, global economic system, economic security, COVID-19.

1. Introduction

Today, when enterprises operate in a changing and uncertain external environment, the study of the process of forming and ensuring the economic security of an enterprise is becoming increasingly important. In addition, the ability of an enterprise to respond to potential threats, ensure a stable level of its activities and form its own economic security, ensures a stable level of national economic security and stable economic growth of the country as a whole.

The system of economic security of each enterprise is individual, its completeness and effectiveness depend on the legislative framework in force in the state, on the amount of material, technical and financial resources allocated by the heads of enterprises, on the understanding of each employee of the importance of ensuring business security, as well as on work experience. Heads of enterprise security services Reliable economic security of an enterprise is possible only with an integrated and systematic approach to its organization. This system

provides an opportunity to assess the prospects for the growth of an enterprise, to develop tactics and strategies for its development, to reduce the consequences of financial crises and the negative impact of new threats and dangers. The mechanism for ensuring economic security should objectively combine market and state administrative methods and levers. This combination is manifested in the use of economic levers to manage the provision of economic security. Economic (market) levers are regulated by administrative legal methods. In turn, administrative methods are based on a certain legal framework and use market levers to regulate the process of ensuring economic security.

The In modern conditions of the development of world global information and communication systems and the globalization of economic relations, the problem of ensuring the economic security of social systems with state sovereignty acquires new content and new meaning: the system of ensuring economic security is essentially designed to serve as a guarantor of the sovereignty and independence of the country, its stable and sustainable socio-economic development, since the national security and defense capability of the country are closely related to the state of the economy.

In the context of the modernization of the economic, political and social structure of modern society, the transformation of all state and public institutions against the background of dynamic processes taking place in the world, the problem of ensuring the national security of the state in the information sphere has become particularly acute [1].

The basis of modern progress is the development of information and communication technologies (ICT), the abundance and capabilities of which led to the formation of the information economy. The rapid development of information technologies and, in particular, the widespread introduction into all spheres of life and economic relations,

the growing dependence of the world economy and its successful functioning on the effective operation of information and software, as well as the growth of the value of information as an important vital key resource for the country's economy and the world economy as a whole has led to a growing awareness of the importance of finding and using effective ways of transferring and exchanging information by economic entities, that is, business communications.

The introduction of ICT in business communication allows economic entities (households, enterprises, government agencies) to significantly increase the efficiency of the use of all economic resources, introduce innovative technologies, establish rational management of economic processes and improve the quality of life of citizens. These new opportunities have a positive effect on increasing the level of economic security of both business entities and the state as a whole [2-4].

On the other hand, informatization also generates new threats to the economic security of the state, which differ in their composition, consequences, goals, nature, reasons and depend on the growth rates and the scale of coverage of the information economy of a particular country. In the world, the formation of threats associated with the formation of the information economy occurs gradually due to the exacerbation of contradictions: between innovative and traditional elements of industrial relations, which are inherent, respectively, in a high-tech economy and an economy based mainly on 3 - 4 technological paradigms; between the strengthening of the role of self-sufficient economic systems in the economy with a network (decentralized) model of development, and the preservation of a hierarchical model of state regulation of the economy; between the desire of economic actors to proactively respond to the growing competition and uncertainty in the markets arising from the rapid spread of ICT, and the existing practice of passive adaptation to external challenges and threats to economic security, caused by insufficient development of information infrastructure, lack of standards for the level of training of ICT specialists. In addition, the COVID-19 pandemic is becoming an important factor of destabilization and a threat to the economic security of all countries of the world.

To reconcile these contradictions and prevent the development of threats to the economic security of the state, it is necessary to develop a set of appropriate regulatory and organizational and economic measures that require appropriate scientific justification and support.

The main purpose of the study is to analyze the main aspects of the impact of information and communication technologies on the economic security system in the context of COVID-19 pandemic situation.

2. Methodology

The methods used in the work are determined by the goals and objectives of the study, are focused on the systematization and analysis of the existing models of information and ICT management in the system of ensuring economic security in the context of the limitations and consequences of COVID-19, as well as ways to improve this process.

In particular, during the study, the following methods were used:

- logical generalization and scientific abstraction;
- system and comparative analysis - to systematize approaches to information management in the system of ensuring the economic security of an enterprise;
- research-statistical and analytical - to study the prerequisites and external factors for the formation of a system of information support for economic security;
- economic and mathematical modeling - for assessing and forecasting the state of economic security based on the use of ICT;
- systematization and logical generalization - to form the composition of relevant elements of the information support system for economic security in the context of the limitations and consequences of COVID-19;
- induction and deduction - for the formation of conclusions and practical recommendations for ensuring economic security using modern information systems in the context of the limitations and consequences of COVID-19;
- modeling and forecasting - ranking models (choice of alternatives) of information management of the economic security system in the context of the limitations and consequences of COVID-19.

3. Results

Economic security is a necessary condition for ensuring the stability of the political and social systems of any country, therefore, ensuring economic security is part of the more important functions of the state. The problem of ensuring economic security is important at any stage of the country's development, but it becomes especially acute during crisis and transformation periods, when external and internal threats to the country's economic security are increasing. The lack of effective resistance to challenges can seriously slow down the overcoming of crisis phenomena, and qualitatively change the economic situation in the country.

The mechanism for ensuring the country's economic security is a system of organizational, economic and legal measures to prevent economic threats, therefore, one of the main problems in ensuring economic security is the

problem of tracking and assessing the level of threats to priority national interests.

The system for ensuring the country's economic security in the context of the transformation of society functions as a single complex of state bodies that closely cooperate with public, including information and analytical, scientific, sociological, propaganda, socio-political and control and law enforcement structures.

The main elements of this system are state and non-state institutions involved in ensuring economic security in accordance with the legislation, normative legal acts regulating relations in the field of economic security. An important issue in the system of ensuring the country's economic security is the definition of the content and list of threats to economic security. The state of economic security is influenced by many different factors, either hindering or contributing to ensuring security. In case of incorrect or untimely regulation of the action of a factor, its transition from a controlled state to a new, destabilizing one occurs, and often its behavior can be unpredictable and is considered as a threat to economic security.

The high financial dependence of the state, internal problems and other destabilizing factors are becoming the reasons for the decline in economic and national security. Therefore, a necessary condition for the normal sustainable development of the country is to ensure the protection of the vital interests of citizens, society and the state. The constant change in the internal and external factors of the development of the national economy actualizes the study of the issue of ensuring the economic security of the country. Determination of the state of its constituent elements in today's conditions is important, since it allows timely taking measures for organizational and legal support of the country's economic security.

The economic security of a country is understood as such a combination of economic, political and legal conditions that can ensure the long-term production of the maximum amount of economic resources for the soul of the population in the most efficient way.

Economic security can be defined as a nationwide set of measures aimed at constant and stable development of the state's economy, including a mechanism for countering internal and external threats.

The key risks to economic security should be identified: 1) critical slowdown of economic development and deterioration of the main macroeconomic indicators (macroeconomic imbalance in terms of main indicators); 2) the curtailment of industrial production; 3) decline in economic activity, primarily investment; 4) deterioration in the welfare of the population (households) and an increase in unemployment; 5) increased debt pressure, primarily in the public sector; 6) increased shadowing of economic activity.

The main criteria for assessing the state of economic security of the state in its internal and external contexts are:

1) economic independence, first of all, the ability to exercise state control over national resources, the ability to use national competitive advantages to ensure equal participation in the global division of labor; 2) the stability and stability of the national economy, which implies the strength and reliability of all elements of the economic system, the protection of all forms of ownership, the creation of guarantees for effective business activities, the containment of destabilizing factors; 3) the ability for self-development and progress, that is, the ability to independently realize and protect national economic interests, to pursue an effective investment and innovation policy, to develop the intellectual and labor potential of the country.

We believe that aspects of economic security include the political situation within the state, energy independence, government support for the banking sector, attracting investment, a favorable investment climate, foreign economic activity, labor resources, foreign trade, the level of inflation and shadowing of the economy, the competitiveness of domestic production, innovative potential of the country, stability of the national currency and vectors of integration.

Currently, the impact of ICT on economic development is being investigated at all hierarchical levels of economic relations. In particular, at the macro level, the interdependence between the total investment in ICT and the increase in basic macro indicators is determined, and at the micro level, the analysis of the impact of ICT on improving the efficiency of the enterprise is carried out.

Some countries consider information and communication technologies as the main incentive for encouraging their socio-economic development, because ICTs play an important role in improving the country's business environment, have a positive effect on the early establishment of ties in the spheres of trade, finance, transportation, and promote active cooperation between countries, with influential international organizations [5-6]

Therefore, thanks to ICT, there is a real chance to quickly overcome the economic gap with world leaders and get a return on the creation of additional material wealth and jobs for highly qualified workers. At the same time, some countries view the development and use of ICTs in their economies as a key component of their national strategies in order to improve the living standards of the population, increase the level of knowledge and strengthen their own international competitiveness [7].

The development of military equipment and technology has led to the practical prevention of warfare on a large scale. Economic, primarily financial, methods are increasingly becoming the main weapon in the 21st century. Many countries of the world do not have their own competitive scientific and technological potential and are completely dependent on the equipment and technology of foreign countries. Developing countries, and

in the transition period, depend on the policies of international financial organizations: the International Monetary Fund (IMF), the World Bank, the International Bank for Reconstruction and Development (IBRD), etc. These organizations were created at the end of the First World War to gain an advantage over the socialist system in the financial sphere and therefore in the economic sphere. The practice of the 90s of the last century and the zero years of this century has shown the high efficiency of information and financial impact on the national economy, which allows solving political problems without military action [8].

The modern socio-economic development of the state is inextricably linked with the aggravation of the problem of ensuring its economic security, the expansion of the scale of economic threats and the emergence of new forms and types of economic crime. In the context of this issue, the block of information threats can also be attributed to the risks of national security, since the information sphere is a factor of progress, and at the same time acts as a specific carrier of threats to the country's economic security [9].

So, for example, colossal economic damage can arise and, of course, arises when negative information influences the stock markets, and through them - a decrease in the capitalization of enterprises that can be bought up by unscrupulous economic entities or even criminals at a low price.

The modern stage of development of society is characterized by the growing role of the information sphere, which is a collection of information. The information sphere is a backbone factor in the life of society, actively influences the state of political, economic, defense and other components of national security. The information security of a country is understood as the state of protection of its state interests in the information sphere, determined by the totality of balanced interests of the individual, society and the country.

A new round of technological advances in information and communication technologies, along with progressive capabilities, generates new security threats. Over the years of development of the information space and with the emergence of such threats as a pandemic, radically changed forms of ownership, the ideological spectrum of political parties and movements has expanded many times, the social differentiation of society has intensified, and ideas about information support for economic security are being transformed.

At the same time, positive changes in the implementation of reforms are taking place in most spheres of state activity, it must be emphasized that the development of the country's information sphere is objectively going through a difficult period, its resources, including their security, lag behind in the development of other institutions of modern society.

An important information component of the national security system is information and communication technologies, as well as technical, software, linguistic, legal, organizational means, including telecommunication channels, which must be used in the national security system to collect, generate, process, transmit or receive information. on the state of national security and measures to strengthen it, and thereby form a means of ensuring national security. Forces and means of ensuring national security concentrate their efforts and resources on ensuring national security in the domestic political, economic, social spheres, in the field of science and education, in the international, spiritual, informational, military, defense-industrial and environmental spheres, as well as in the public sphere. The most important role in ensuring information security is undoubtedly played by its security, created by the state through a number of measures and designed to resist real and potential threats to national security both from outside and from within the country [4].

To achieve a high level of ICT development, it is necessary to comprehensively use the tools of state and contractual regulation, which are shown in Fig. 1.

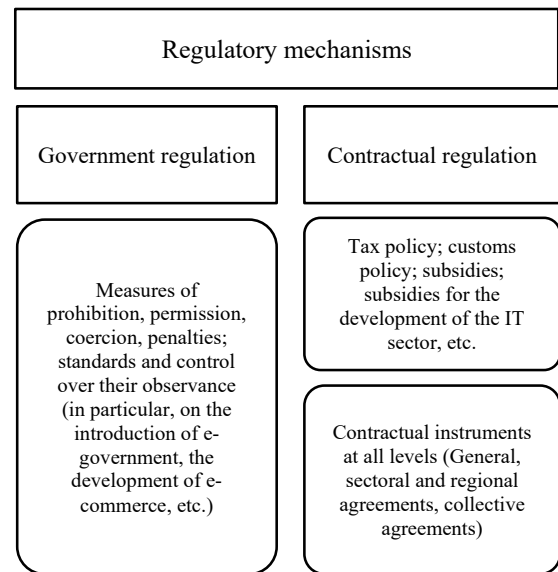


Fig. 1. Regulatory mechanisms for ICT development in the context of the existence of pandemic restrictions and the consequences of COVID-19

The main factors hindering the development of the sphere of information and communication activities, thereby provoking an aggravation of threats to the economic security of the state, and then - they require the

creation of appropriate mechanisms and measures to overcome them, are highlighted [10-11]:

- imperfection of the sectoral regulatory framework and the need for its further adaptation to the requirements of both internal development and the requirements of world society;

- an acute shortage of a systemic, comprehensive and effective state policy for the development of the information economy, a cumbersome and unproductive system of public administration and regulation of this sphere, the lack of correlation between strategic project documents and the real administrative, political and regulatory practice of the state, chronic underfunding of the sphere from the State budget; - insufficient development of the national information and communication infrastructure:

- a significant number of outdated telecommunication networks, corruption, ineffective fiscal policy, an excessive number of bureaucratic and legal obstacles, dependence of business (especially medium and small) on bureaucratic arbitrariness, the actual absence of state policy to stimulate and protect entrepreneurial activity, underdeveloped investment market and public-private mechanisms.

- high risks of investing in the sector, especially in the small and medium-sized business sector, which, in particular, leads to narrowing and monopolization of the market and a lack of competition;

- deterioration of the state of the national IT industry: manufacturers and market participants are guided not by the production and promotion of their own unique software product, but by the import of hardware and adaptation for the domestic consumer of a foreign software product;

- a more acute staff shortage in the domestic market of information technologies and actualizing services; issues of quantitative and qualitative development of the domestic system for training IT specialists, support for specialized academic institutions, technology parks, scientific schools;

- the negative impact of pandemic restrictions and consequences.

4. Discussions

An independent block of information threats represents the desire of individual countries to dominate the global information space. For example, currently about 70% of all communicators in the world belong to opposing American and Russian corporations. The information sphere is becoming not only the most important area of international cooperation, but also an object of rivalry. Problems in the field of information relations, the formation of information resources and their use are

exacerbated as a result of political and economic confrontation between different states, which takes place in information inequality [9]. At the same time, active work is underway to oust unwanted states from the external and internal information markets, to involve countries in the so-called information wars in order to disrupt the normal functioning of information and telecommunication systems, as well as preserve information resources. Against the background of all this, there is also a tendency for foreign special services and other persons to obtain unauthorized access to information of an economic nature and use it in order to undermine the economic security of the state. The realization of the national interests of the state is possible only on the basis of sustainable development of the economy and ensuring its security in the information sphere. The problem of sustainable development of the country is not new, such problems are constantly discussed in the world, in particular, they were discussed at the Plenary Session of the 42nd session of the UN General Assembly (October 20, 1987), at which principles were adopted that reveal the essence of sustainable development. The basis of these principles was the satisfaction of the needs of the modern generation, without threatening the ability of future generations to meet their own needs, that is, the principles of the relationship between economic and social development with the rational use of resources and environmental protection. In 1992, at a conference in Rio de Janeiro, these principles of sustainable development were adopted by heads of government in more than 150 countries [12-14].

Since 1999, at international conferences under the auspices of the UN, discussions have been held to determine the content of sustainable development of countries. In all such discussions, ensuring economic security is the central link in national security and the most important condition for the sustainable development of the state. In the context of globalization of the world economy, financial security as a key component of the country's economic security is paramount. In light of this, the role of information and the development of telecommunications as a basis for the interaction of money and stock markets is increasing. In modern conditions, the aggravation of the problem of limiting natural resources by the issue of economic and, as a result, information security becomes no less important than the issues of military security. In modern conditions, it turned out that a war in the traditional sense with the conduct of hostilities for the possibility of capturing and holding territory is far from the only threat to security. The main factor of influence in the world around us is economic influence through financial instruments. Information influence is used both to ensure the use of financial instruments, for example, during attacks on foreign exchange and stock markets, and as an ideological cover for creating the necessary image of

the fairness of the policy being pursued in the public mind [3].

Threats to economic and information security relate not only to individual components of the state system, but also to regions, large economic entities and territorial entities, they form a socio-informational impact on the socio-economic system of the state. , affect not only the state of the securities market, but also the state of the country's financial system as a whole. As a result of such actions, fluctuations in the exchange rates of national currencies, price changes and a decrease in the competitiveness of goods and services occur, and threats to the economic security of the subjects of the state market are created. , government communications and information and other issues that are usually considered when analyzing the totality of threats and systems of measures to ensure information security. Information security in the economic sphere also includes the security of information systems for managing industry, industries, enterprises, banks [11].

Economic and informational threats can arise in relation to any element of the country's economic system or links between them, including flows of goods and services, cash flows, information flows. In addition, security threats may arise in relation to those elements of the economic system or their connections that may appear in the future, but it is not possible to determine the content of which at the moment. Threats to economic and information security can be aimed at destroying any. Information threats to economic security are of a different nature, end in communication and telecommunications systems, can be global in scale (these are commonly called challenges), regional. , i.e. refer to a specific region, group of countries, or national threats that arise in the country itself. In today's unstable and turbulent conditions, economic threats, as a rule, have a long-term character and are aimed at destroying the economic potential of the country and its life-supporting spheres. The impact of threats in the information sphere is increasingly directed at the interests of the individual, society and the state. At the same time, the influence on the personality in order to reduce the activity of the life position is more and more carried out through communication means and technologies[8].

At the same time, the informational influence on the economic system is steadily growing, including its financial sphere, stock markets with a game of reducing the capitalization of enterprises, and then buying them at a lower price, in combination with the dissemination of information about creating a negative image of a competitor.

5. Conclusions

New challenges and threats (primarily international cyberterrorism, information espionage, organized crime in the information sphere, the threat of the spread of computer virus attacks on information and control systems in the economy and, above all, in the financial sphere, COVID-19pandemic situation, etc.) are of a global nature and require an adequate response from the entire international community and solidarity efforts to overcome them. Currently, the role of information security of the national economy is significantly increasing, and the problem of combating cybercrime in the financial sector is becoming more and more urgent.

Probable relapses of unilateral forceful approaches in international relations, contradictions between the main participants in world politics, as well as the improvement of forms of illegal activity in the cyber and biological spheres, in the field of information and communication technologies, can negatively influence ensuring the national interests of the state. a state requiring the development of a balanced strategy for their solution, proceeding from the interrelation of problems of national security, socio-economic development of the country and the security of the national economic system.

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