

Ministry of Education and Science of Ukraine  
Poltava State Agrarian Academy

**SECURITY MANAGEMENT OF THE  
XXI CENTURY: NATIONAL AND  
GEOPOLITICAL ASPECTS. ISSUE 2**

Collective monograph

In edition I. Markina, Doctor of Economic Sciences, Professor



Nemoros s.r.o.

Prague, 2020

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*Recommended for publication by Academic Council of  
Poltava State Agrarian Academy  
(Protocol No. 13 dated 5 February 2020)*

*Recommended for publication by Academic Council of  
the Institute of education content modernization of  
the Ministry of Education and Science of Ukraine  
(Protocol No. 1 dated January 29, 2020)*

*Recommended for publication by Scientific Institution of  
the Information Systems Management University  
(Protocol No. 1-20 dated February 04, 2020)*

The monograph is prepared in the framework of research topics: «Management of national security in the context of globalization challenges: macro, micro, regional and sectoral levels» (state registration number 0118U005209, Poltava State Agrarian Academy, Ukraine), «Macroeconomic planning and management of the higher education system of Ukraine: philosophy and methodology» (state registration number 0117U002531, Institute of education content modernization of the Ministry of Education and Science of Ukraine, Ukraine), «Infocommunication aspects of economic security» (Protocol 1-20 of February 04, 2020, Information Systems Management University, Latvia).

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Fundamental Researchers,  
Nemoros s.r.o.,  
Rubna 716/24, 110 00, Prague 1

ISBN 978-611-01-1814-9

Nemoros s.r.o.,  
Rubna 716/24, 110 00, Prague 1  
Czech Republic, 2020

## PREFACE

The issues of security management in the conditions of the modern environment instability are of top-priority and stipulate continuous scientific research on the topics of the global and national economic, technological, food, energy security, innovation aspects of forming social, educational, and information security, management of economic security in conditions of integration processes and other.

In the early 21st century, the world faces with cardinal transformations accompanied by changes in geopolitical configurations, integration processes and other changes that affect the state of national and geopolitical security. The events of the last decade have revealed an exacerbation of the problems of global security and the ambiguous impact of the processes of globalization on the development of different countries. Under the circumstances, the rivalry between the leading countries for redistribution of spheres of influence is stirring up and the threat of the use of force methods in sorting out differences between them is increasing. The global escalation of terrorism has become real, the flow of illegal migration and the probability of the emergence of new nuclear states are steadily increasing, and international organized crime is becoming a threat. In addition, in many countries there is an exacerbation of socio-political and socio-economic problems that are transforming into armed conflicts, the escalation of which is a real threat to international peace and stability. These and other factors have led to the fact that the potential of threats to global and national security has reached a level where, without developing a system state policy to protect national interests and appropriate mechanisms of its implementation, there may be a question of the existence of individual countries as sovereign states.

The threat of danger is an immanent, integral component of the process of civilization advancement, which has its stages, parameters and specific nature. Obviously, the problem of security in general, and national one in particular, should be objectively considered in terms of its role participation in the development process, that is, to set it up as both destructive and constructive functions (as regards the latter, it is necessary to emphasize the undeniable fact that the phenomenon of safety is based on counteraction to the phenomena of danger, the necessity of protection from which exactly stimulates the process of accelerating the search for effective mechanisms of counteraction).

The formation of new integration economic relations in Ukraine and the intensification of competition objectively force managers of all levels to change radically the spectrum of views on the processes of formation and implementation of the security management system in unstable external environment that is hard to predict. Today, the main task is to adapt not to changes in market conditions of operation, but to the speed of these changes. In this regard, there is a need to develop effective security management mechanisms that are capable of responding adequately and in due time to changes both in the internal and external environment.

Therefore, this problem is being paid more attention in theoretical research works of scientists and practical activity of business entities.

Taking into account the fact that the traditional means of national and geopolitical security as a mechanism in its various models, forms, systems have reached their limits, since they do not contribute to solving the problems of globalization of the civilization development, there is an objective need to form a paradigm of security management in the 21st century, which aims to confront destruction processes; to harmonize activities of socio-economic systems: society, organization, the state, the world. The joint monograph «Security management of the XXI century: national and geopolitical aspects. Issue 2» is devoted to these and other problems. The progress in the development of the theory of security management on the basis of the analysis of theoretical and methodological works of scientists and the experience of skilled workers presented in the joint monograph creates opportunities for the practical use of the accumulated experience, and their implementation should become the basis for choosing the focus for further research aimed at improving the security management system at the national and international levels. In the joint monograph, considerable attention is paid to solving practical problems connected with the formation of the organizational and legal mechanism of organization of the security system in terms of globalization by developing methods, principles, levers and tools of management taking into account modern scientific approaches.

In the monograph, the research results and scientific viewpoints of the authors of different countries are presented in connection with the following aspects of security management: national security, food, environmental and biological security, economic and financial security, social security, personnel and education security, technological and energy security, information and cyber security, geopolitical security.

The authors have performed a very wide range of tasks – from the formation of conceptual principles of security management at the micro, macro and world levels to the applied aspects of management of individual components of national security.

The monograph «Security management of the XXI century: national and geopolitical aspects. Issue 2» consists of four parts, each of which is a logical consideration of the common problem.

The structure of the monograph, namely the presence of particular parts, helps to focus on the conceptual issues of the formation and development of national, economic, financial, social, food, environmental, biological, personnel, educational, technological, energy, information, geopolitical security, and problems of the maintenance of the practical process of application of the developed cases.

The joint monograph is prepared in the context of three research topics: «Management of national security in the context of globalization challenges: macro, micro, regional and sectoral levels» (State registration number 0118U005209); «Macroeconomic planning and management of the higher education system of Ukraine: philosophy and methodology» (State registration number 117U002531); «Infocommunication aspects of economic security» (Protocol 1-20 of February 04,

2020, ISMA, Latvia), which emphasizes not only scientific but also practical focus.

The results of the research works presented in the joint monograph have a research and practice value.

The advantage of the joint monograph is the system and logic of the structure, the simplicity and accessibility of the material presentation, the presence of examples and illustrations.

We believe that the monograph will become one more step towards a scientific solution of the problems concerning the formation of an effective system of security management under trying circumstances of globalization.

Publication of the monograph «Security Management of the XXI century: National and Geopolitical Aspects» is scheduled to be annual. Currently, Issue 2 is offered to our readers.

*With best regards,*

*Iryna Markina,*

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QUARTERLY 2017:(3) pp. 294-310.

15. Lentner Cs. (2018). Excerpts on the New Ways of the State's Involvement in the Economy - Hungary's Example. *ECONOMICS & WORKING CAPITAL* 2018(3-4) pp. 17-24.

16. Kolozsi, P.P. ; Lentner, Cs. ; Parragh, B. (2017). Közpénzügyi megújulás és állami modellváltás Magyarországon. [Renewal of Public Finances and Change of the State Management Model in Hungary] *POLGÁRI SZEMLE: GAZDASÁGI ÉS TÁRSADALMI FOLYÓIRAT* 13(4-6) pp. 28-51.

17. Lentner, Cs. (2015). Az új magyar állampénzügyi rendszer – történeti, intézményi és tudományos összefüggésekben [The new Hungarian public finance system - in historical, institutional and scientific contexts]. *PÉNZÜGYI SZEMLE/ PUBLIC FINANCE QUARTERLY* 60 (4) pp. 458-472. [in hungarian]

## **INFORMATION SECURITY AND ECONOMIC CRIME: PROBLEMS AND SOLUTIONS**

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Any activity should be based on certain principles, reconnaissance activity is not an exception.

Principles are guiding ideas, fundamental aspects, developed by operative and reconnaissance practice expressed in the norms of legislative acts; political, economic and social patterns of Ukrainian society development; ethical and legal understandings of the citizens of Ukraine about the meaning, purpose, tasks and procedures for carrying out operative and reconnaissance activities.

The first and most important principle of the organization of any reconnaissance, in particular economic, is the impartiality in the selection, systematization, processing and transmission of the information received to the addressee.

The principle of systematic information obtained by economic reconnaissance ensures the reliability of the data, and therefore, the effectiveness of intelligence. It is due to the fact that most objects, companies, corporations, enterprises, organizations, etc., are complex systems that have such components as production, marketing and financial subsystems. Since they are inseparable and interdependent

units, their indices must be mutually confirmed.

In business organizations, the greatest interest and, accordingly, the number of threats arise in the field of economics. Therefore, operative and reconnaissance activities to ensure economic security are the main ones.

Other important principles of planning for reconnaissance in the economy are: (1) Determining the purpose of conducting reconnaissance activities; (2) Determination of the subject's need of the economic activity in information to achieve these goals; (3) Identification of sources to obtain the necessary information.

For productive economic activity, the management of the enterprise must adopt multi-level solutions, the information support of which is provided by the system of economic reconnaissance. Management of any organization has at least two levels: management of the current activities of the enterprise and management of its strategic development. The results of the expected decisions on these issues are demonstrated variously: current - in the near future, strategic - in the future.

It should be noted that the nature of information for each level of decisions is different. In this regard, in the work of economic reconnaissance department of the enterprise, should be distinguished two components:

Strategic (macroeconomic) - collection and analysis of strategic information on global processes in economy, politics, technology, etc., which can (positively or negatively) affect the development of an enterprise.

The purpose of the strategic level of decision making (opening of new production, introduction of new goods or services on the market, etc.) is to determine the direction of further development of the enterprise. These decisions determine the need to orient themselves in the market and analyze the prospects for its development, that is, to see the market places that have not yet been filled by competitors.

Unfortunately, in our country, business executives spend less time on strategic management. However, a serious business is designed for many years, and the fact that the enterprise will fit in its development in 5-10 years, you need not only to plan, but also scrupulously to calculate in advance: which political associations to support, and which is not worth it; in which «noisy» cases to participate, and from which it is desirable to stay away, despite their external attractiveness. Information for reflection on these important issues facing the management of the company, and should provide a strategic component of economic reconnaissance.

Operational and tactical (microeconomic) component of economic reconnaissance - collection and analysis of operational and tactical information for the approval of the management of sound decisions on current problems of the enterprise.

The purpose of the operational and tactical level of decision making (construction or purchase of a building for a new workshop, training of personnel for the production of new products or the provision of new services), in accordance with the direction of further development, - to choose the optimal way to achieve it

and minimize the cost of development in this way [1; 2].

Purposes of intelligence activities are clearly structured. Each goal is predetermined with the purpose of a higher order, while remaining autonomous for the needs and sources of information. So, after the strategic goal (definition of the direction) is an operational and tactical goal (the choice of the best way of development and its advancement ahead).

Creating an «e-mail system» linking various divisions of an enterprise will solve the problem of timely dissemination of open (non-public) information documents.

The purposes of creating a system of economic reconnaissance of the enterprise. The main purpose of the economic reconnaissance system is to: ensure the company management with reliable, objective and complete information about the intentions of partners, affiliates, clients and counterparties, about the strengths and weaknesses of competitors; collect data that can influence the position of opponents in business negotiations; inform about possible crisis situations; administrate and control of implementation of concluded agreements and agreements reached earlier.

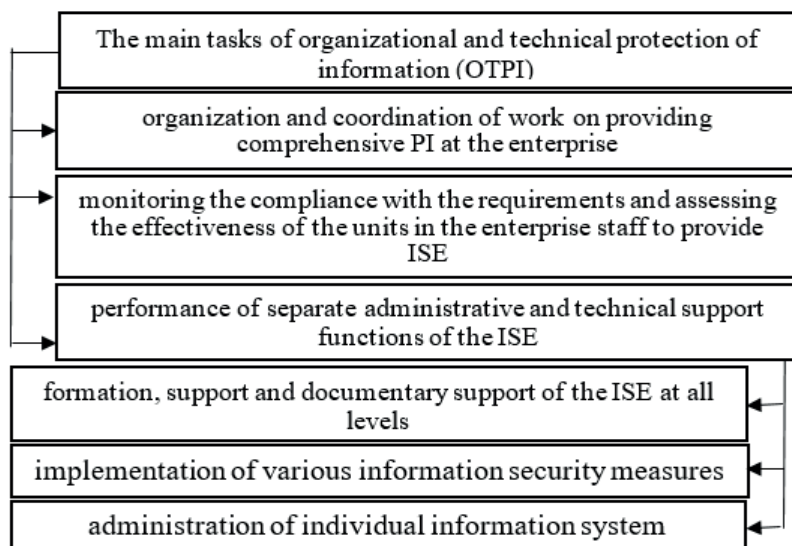


Fig. 1. The main tasks of organizational and technical protection of information

In general, it is customary for banks, joint – stock companies, large firms to organize security services (SS), which include competitive intelligence (CI), counterintelligence, technical protection (TP), throughput and security units. In particular, the units of organizational and technical protection of information of the enterprise is an independent structural unit of the enterprise engaged in protection of information of resources (PI). The main tasks of organizational and technical

protection of information (OTPI) and information security of the enterprise (ISE) are (fig.1):

The main features of the operation of the enterprise, the composition of the tasks of the units and its internal organizational structure in each case is determined by the following features (fig. 2):

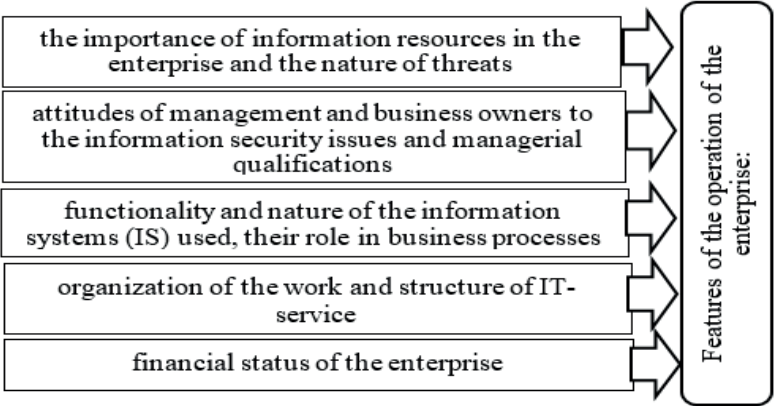


Fig. 2. Features of the operation of the enterprise

There are a number of functions related to providing information security, namely: (1) functions related to the formation, support and documentary provision of the company’s information security policy; (2) Functions related to the implementation of the information protection facilities; (3) Functions related to the administration of information systems and information security systems; (4) Functions related to the control of compliance with the requirements of the information security policy and the conduct of audits [1; 2].

Subdivision of organizational and technical support (SOTS) is as a structural unit in the Enterprise Security Service, it includes the Information Security Division (ISD).

The employees of SOTS are in administrative and functional subordination to the head of the enterprise, who is responsible for ensuring information security at the enterprise. The conclusion of the head of information security from the structure of IT services at Enterprises is one of the important modern trends in business management, information technology and information security, because, according to some experts, these units have some Partially mutually controversial interests and therefore some assignments cannot be effectively resolved within a single structural unit [2].

As part of IDS of the enterprise, the company usually allocate independent groups specializing in the performance of certain functions: (1) Administration Department of IS; (2) Department of normative documents; (3) Information Security Audit Department; (4) The Implementation Department of the IS and the ISS.

The Department of normative documents solves tasks related to the formation,

support and documentation of the ISE policy, and should mainly include management and business analysis professionals who have undergone additional training in the field of Information security management. Also the department consists of lawyers.

The Department of information systems administration, as well as the IS implementation department and the ISS include IT and means specialists with significant experience in implementation and operation of corporate IS.

In general, the implementation of the existing information security policy requires the company to attach considerable effort.

One of the main and most difficult directions of work is to work with the personnel, whose goals are: 1) selection and checking of the personnel, for work; 2) training of employees; 3) Achieving mutual understanding of executives and employees in providing IS; 4) Psychological training of personnel to avoid the influence of social engineering methods.

Thorough selection is conducted in the ESS and in the information security subsection, one of the important fundamentals of HR work is its training in ways of providing IS and safe work with the information system. Training and subsequent control of knowledge gained can be both primary and repeated.

In general, an employee of an enterprise cannot be admitted to the performance of his / her duties and work with the IS without passing training on IS and fulfillment of the following requirements: 1) Detailed acquaintance of the current on the enterprise requirements and General rules; 2) knowledge of the methods and techniques of the IS, required for the performance of functional duties; 3) acquaintance with the measures of disciplinary, administrative, criminal liability which may be applied to it in case of violation of the requirements, and also in case of damage on its fault.

At the end of the employee must give all necessary obligations to non-disclosure confidential information, to certify that he is fully acquainted with the basic provisions of the security policy.

In the process of operation, the company can also conduct periodic monitoring of knowledge and skills related to providing information security for the purpose, to certify the competence of employees in this field. Also one of the teaching tools can be a periodic acquaintance of the staff with real examples of the recently occurring incidents related to information security. In addition, the additional training of personnel of the enterprise is carried out in the following cases: introduction of new automated information systems; Business processes changes;

Changes in security policy requirements (example: due to changes in legislation requirements) [2].

Similar organizational measures to ensure the protection of information may be necessary and when changing business processes of the enterprise, when its structure changes, distribution of functions between the units and duties of employees, and accordingly, are made Changes in organizational charts, staff murals and job descriptions. The changes in the security policy requirements may be related to the

emergence of new threats, changing legislative requirements, expanding markets, changing the attitude of management and owners of the enterprise to issues of information security and other factors. All these clarifications and changes should also be timely and fully to the staff.

The modern information system is a complex system, consisting of a large number of components of autonomy varying degrees connected among themselves and exchange data. Almost every component can be exposed to external influences or go wrong.

The general threat classification of an automated information system of an object is as follows: 1) the threat of data confidentiality and programs; 2) the threat of the integrity of data, programs, hardware; 3) the threat of data availability; 4) threat of refusal to execute transactions [2; 3].

An assessment of the vulnerability of an automated information system and the construction of an influence model involves the study of all options for implementation the above threats and identification the consequences to which they lead. Information security threats can be conditioned by human factors, human-machine and machine factors.

Human factors are divided into: passive threats (threats caused by activities that are accidental, unintentional) and active threats (threats caused by intentional, deliberate actions of people) [1; 4].

There are threats of damaging data processing systems caused by physical influences of natural phenomena that are not human-dependent.

However, the wider and more dangerous range of artificial threats caused by human activity, based on motives, can be distinguished: 1) unintended threats caused by mistakes in design, preparation, processing and transmission of information; errors in the actions of the staff, software, accidental crashes in the work of computer facilities and communication lines, power supply, user errors, the impact on the equipment of physical zeros, etc.; 2) deliberate threats caused by unauthorized actions of service personnel and unauthorized access (UAA) to the information by the third party.

Threats that are not related to human activity [3]. Therefore, in the design and operation of data processing systems, there are mandatory fire prevention issues. Particular attention should be paid to protection against the fire of computer data carriers, file servers, individual computers, communication centers, archives, and other equipment and premises or special containers, where huge massifs of very important information are kept. For these purposes, special fireproof safes, containers, etc. can be used. Another threat to data processing systems in computer systems is lightning strikes. This problem does not arise often, but the damage can be caused very large.

Organizational and legal ways: (1) non-compliance with the requirements of the legislation and delays in the adoption of the necessary legal and regulatory provisions in the information field; (2) unlawful restriction of access to documents [2; 3].



Illegal collection of information can take place via: 1) stealing of relevant information or objects that it contains from the premises where they are stored; 2) secret criminal penetration of the premises and copying information on paper or electronically; 3) bribing employee of a company that had or has legal access to information; 4) bribery of intermediaries in the negotiations which have certain information; 5) illegally obtaining information from law enforcement or regulatory authorities, which collected such information while performing their direct duties; 6) threats of physical violence against a person or his close relatives to whom information has been authorized as work responsibilities; 7) blackmail an employee who is on the «hook» because of certain circumstances; 8) installing a spy as a member of staff of an enterprise; 9) recruiting an active employee or using an incentive to disclose information by a laid off person on the grounds of ethnic, racial, religious affinity, to avenge manager for illegal dismissal, transfer to another job, dismissal; 10) using various technical devices that record and transmit information; 11) penetrating the computer networks.

Is very important Enterprise competitive intelligence activities, external and internal monitoring of team morale, identifying risk factors, timely receipt and processing of information, cooperation with law enforcement and security agencies are very important for counterintelligence division of the enterprise. Only a systematic and comprehensive approach to enterprise security will lead to developing a common approach and mechanism of protecting business.

### **References:**

1. Kozachenko, A. V., Zhyvko, Z. B. (2016). Competitive intelligence and counterintelligence activities as functions of the system of economic security of the Enterprise. Organizational-economic mechanism of counteraction to crimes in the economic sphere: Monograph. Cherkasy: Publisher Chabanenko Yu. A., 96-106.
2. Egypto, V. N. (2012). Information Systems of Enterprises. Sankt-Petersburg [ONLINE] Available at: <http://sov.opredelim.com/docs/136600/index-1737.html> [Accessed 12 October 2019].
3. Zhyvko, Z.B. (2012). Economic security of an enterprise: the essence, maintenance mechanisms, management. Monograph Lviv: Liga-Press, 260.