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ANALYSIS OF INFORMATION SECURITY MANAGEMENT PROVISIONS IN MODERN CONDITIONS

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ABSTRACT

The article analyzes conditions of information security of knowledge-based economy and dynamics of scientific and technical work. Explored the concept of information security of knowledge-based economy and reviewed recommendations for improving of information security management. The rational management of information security of knowledge-based economy contributes to competitiveness of the state on the world level and the growth of the economy.

Statement of a problem. Quick and permanent development of information and communication technologies facilitates international cooperation, but at the same time there is a need for information security at different levels.

The relevance of this theme is the fact that in the near future especially the development of the information sphere, information security level will determine: political and economic roles of states at the international level; division of countries for informational sign. Also, with the increasing dependence of all spheres of modern society from information systems, information exchange, which is associated with the implementation of new technologies.

Literature overview. The problems of ensuring information security as a component of national security and security of companies and individuals consider many scholars, native and foreign. These are the scientists: Hurkovskyy V. I., Litvinenko O. V., Danilyan A. G., Dzoban A. P., Panov M. I., Harchenko L. S., Ross Anderson, Bruce Schneier, Tyler Moore and others.

Most of scientists focus their attention on:

• security of computer and information systems (Mel'nyk V. [1]);

• ensuring international information security (Kashpruk N. [2];

• ensuring information security of state, industries, enterprises (Saschuk H. [3], Borysenko P. [4], Koshevoi M. [5]).

Setting objectives. In our time of globalization of society fundamentally increases importance of information security for the country as a whole and separately for the economic sectors, for enterprises and individuals. And in terms of industrialization to the era of knowledge-based economy on priority position come out high technology production, which constitute a priority sector of the economy, which in the future could bring the state to a qualitatively new level.

Research results. In the current conditions information is no longer purely technical category and becomes economic category, as more and more economic relations take the form of exchange of knowledge / information, not a commodity. Nowadays the main factor is access to information resources, knowledge, which leads to the fact that more wars are conducted in cyberspace with the help of information weapons. The globalization of information resources is the determining factor of life in modern civilization. Thereby takes the need ensuring information security at different levels. Management of information security, as indicated in Figure 1, is carried out at the following levels: international, national, business, person.

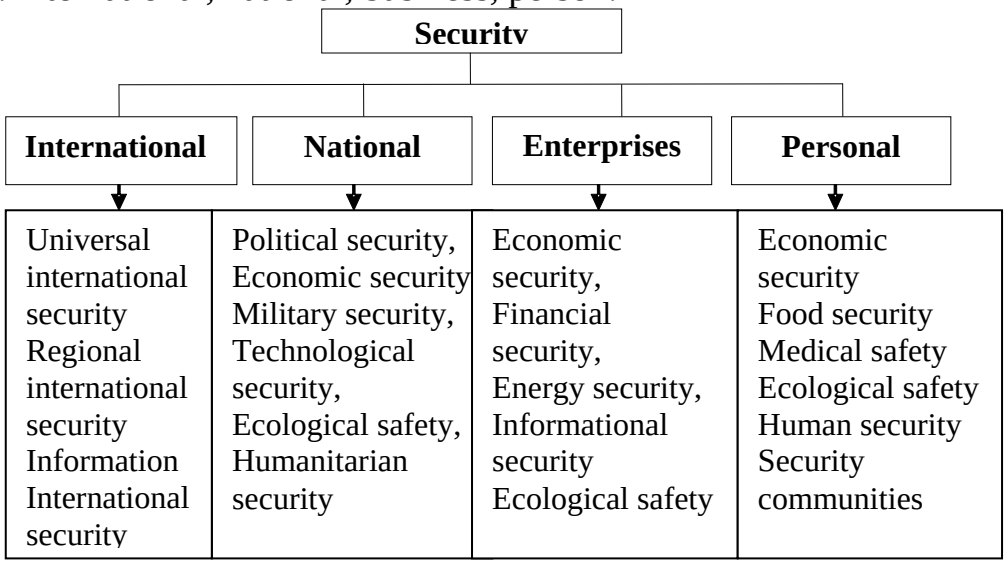

Figure 1. Types of security

The objects of information security are information resources, channels of information exchange and telecommunications, mechanisms which ensure the functioning of telecommunications systems and networks and other elements of infrastructure.

International information security is defined as the interaction of participants in international relations for support sustainable peace based on international protection of ionosphere (cyberspace with the media), global infrastructure of social consciousness of the international community from the real threats to information [2].

Information security as a part of national security - Protectability of Vital Interests of man, society and the state in which the damage is prevented through: incompleteness, untimely and unreliability information which is used; negative information influence; negative consequences of using information technologies; unauthorized distribution, use and infringement of integrity, confidentiality and information accessibility [3].

Information security as a component of enterprise security - purposeful activity of bodies and officials using permissible forces and means to achieve the protection of status of information environment of the organization to ensure its normal functioning and dynamic development [3].

Information security as a part of the personal security of the person (human and citizens) - characterized as a condition of security of the person, various social groups and associations of people from influence capable against their will and desire to change the mental states and psychological characteristics of human behavior and modify it restrict freedom to choose [3]. But among set definitions of information security little attention is paid to information security exactly knowledge based sector, which is most exposed to the newest technologies and developments. First of all it is necessary to determine what a knowledge based sector is.

Knowledge based sector – the sector of the economy that lets out production, performs works and services using the latest, cutting-edge science and engineering achievements [4]. Activities of sector are regulated by the Law of Ukraine about state support for knowledge-intensive industries in Ukraine. Activity of sector includes conducting scientific research and developments, which leads to additional spending and the need to attract scientific staff to work.

The main characteristic features of the knowledge-intensive industries are:

• presence of scientific schools, teams of designers and engineers, which are able to create unique and competitive products in the global market;

• predominance of highly qualified engineers and technicians and production staff in the total number of employees;

• publicly available and effective system of training of highly qualified personnel;

• an effective system of intellectual property protection;

• efficient implementation of creations, providing increased competitiveness;

• high dynamics of production;

• state stimulate and support legislative and financial levels;

• active and effective investment and innovation;

• using in production of leading technologies;

• long life cycle of many types of products;

• high specific costs for research and development, etc. [5].

Table 1

Number of performed scientific and technical work in directions

Indexes	Total number of	From it introduced
Total	42953	30662
including the creation		
new products	4652	3250
including new types of equipment	1806	1146
new types of technologies	3220	2088
including resource	1435	910
new materials	1070	577
new plant varieties, animal breeds	2165	1848
new methods, theories	7462	4208
other	24384	18691

Table 1 shows the number of performed scientific and technical work in directions in 2014, and Figure 2 shown the number of distribution of organizations that perform research and scientific and technical work on a branch of science in 2014.

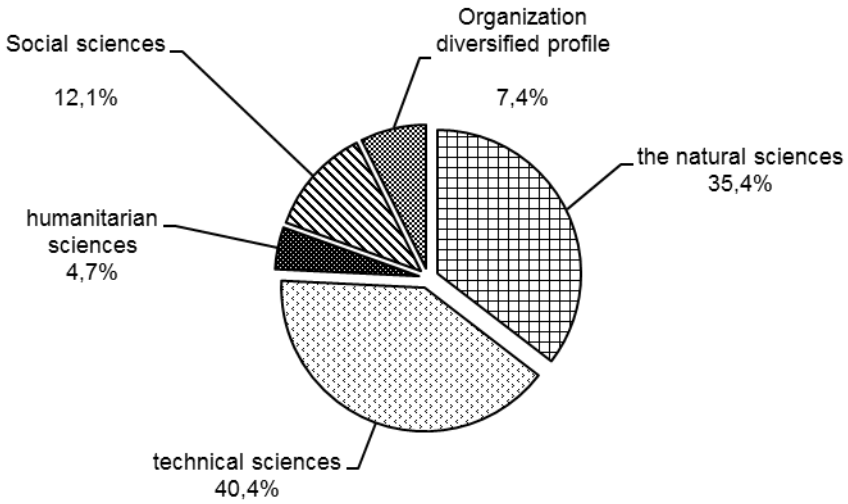

Figure 2. Distribution of organizations that perform research, scientific and technical work on a branch of science, in %.

The current state of scientific and technical potential of Ukraine is characterized by the falling of level the level of knowledge intensity and knowledge-intensive production work, which consequently reduces the competitiveness of domestic equipment, processes and increasing dependence on imports of scientific achievements.

It should be mentioned that the economy of leading countries in the world trend of there is a steady growing role of knowledge-intensive, resource-saving technologies and industries.

The evidence of domination of such direction of economic development is that the most expensive companies in the world, listed on the stock market is not the most resource mining and processing enterprises, but those specializing in intellectual, knowledge-intensive, high-tech products, and, more recently - steadily declining specific energy consumption per unit of production and their prices [3]. Figure 3 shows the number of completed R & D works in Ukraine for the period from 2010 to 2013.

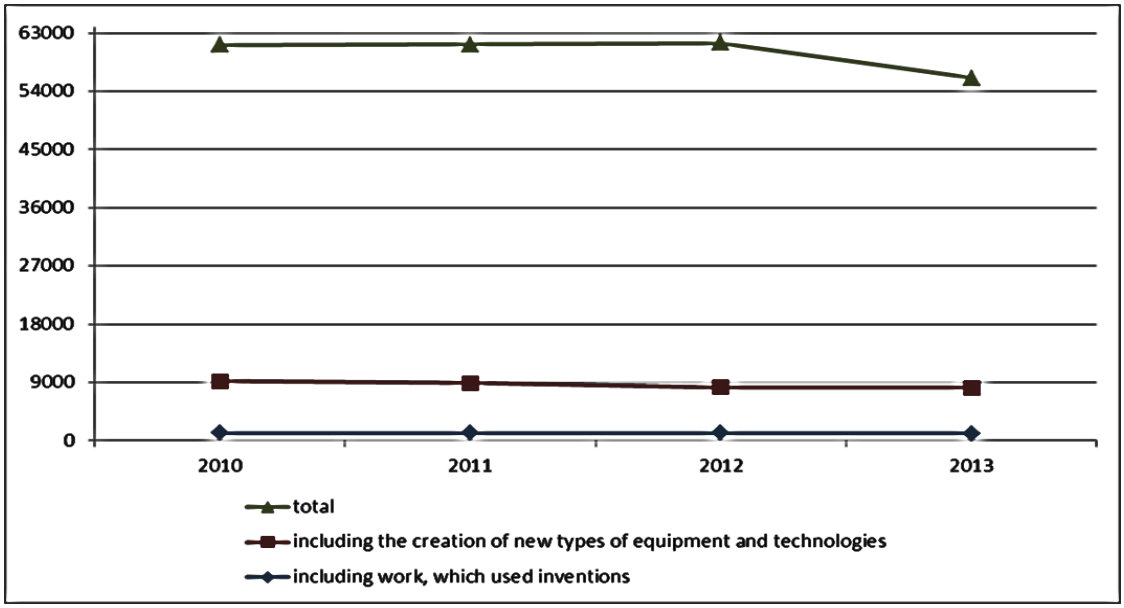

Figure 3. The number of completed R & D works

As you can see from the graph, the period from 2012 to 2013 there is a decrease the number of performed scientific and technical work while in the leading countries, these figures are increasing.

Dimensions of knowledge based sector and the extent of using of high technologies describing the scientific, technical and economic potential of the country. The value of knowledge based industries sector for economic growth varied: in these sectors companies performed particularly intense innovational activity that contributes to the expansion and development of new sales markets and more effective use of resources.

Thus these problems, being always topically, acquired special significance at present rapid development of information technologies and require special attention to information security of knowledge based sector.

It’s worth noting if there is no unified position on information security as a single legislation governing these provisions.

Conclusion. In the conditions of globalization and the highly rapid development of science and technology key question in all areas of the state, enterprises and individuals is the management of information security. Unsuitable its level efforts spent on creating, obtaining information will be brought to naught because it could easily become known for attackers, and this in turn may cause conflict, loss, and danger to people or the state.

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