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OVERVIEW OF BASIC MEASURES OF ENSURING OF INFORMATION SECURITY IN THE REPUBLIC OF KAZAKHSTAN

The article deals with researches of the national information security system and detection of the formation specificities in the Republic of Kazakhstan. The article is based on the problematic-chronological principle.

The resource base of the article is the official documents posted on the official web sites of states organizations. The author concludes that formation of the information security system in the Republic of Kazakhstan shows its cohesion and sufficient efficiency, but Kazakhstan is an object of informational influences from the main players of the region of Central Asia.

Key words: *Republic of Kazakhstan, information security system, information security.*

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ОГЛЯД ОСНОВНИХ ЗАХОДІВ ЩОДО ЗАБЕЗПЕЧЕННЯ ІНФОРМАЦІЙНОЇ БЕЗПЕКИ У РЕСПУБЛІЦІ КАЗАХСТАН

У статті розглянуто становлення та функціонування національної системи забезпечення інформаційної безпеки у Республіці Казахстан. Дослідження побудовано за проблемно-хронологічним методом. Основу джерельної бази складають нормативно-правові документи з питань забезпечення інформаційної безпеки Республіки Казахстан, які розміщені на офіційних web-сайтах правничого спрямування.

Після розпаду СРСР Казахстан став об'єктом інформаційних впливів зі сторони основних гравців у Центральноазійському регіоні – Російської Федерації, США та Китаю.

Протягом перших років незалежності на території Казахстану відбулись декілька виступів російськомовного населення, пов'язаних із підвищенням статусу російської мови та спробою утворення незалежних республік. Представники російськомовної діаспори Республіки є споживачами інформаційної продукції РФ, у якій містяться факти маніпуляції, дезінформації, інтерпретації та реінтерпретації історичних подій. Казахстан є постійним активним учасником міждержавних регіональних організацій – Співдружності Незалежних Держав (далі – СНД), Організації Договору про колективну безпеку (далі – ОДКБ), Шанхайської організації співробітництва (далі – ШОС), а також Організації об'єднаних націй, Митного та Євразійського економічного союзів, і, відповідно, державою-підписантом низки документів з питань забезпечення інформаційної (міжнародної інформаційної) безпеки у рамках цих організацій.

Аналіз становлення національної системи забезпечення інформаційної безпеки у Республіці Казахстан свідчить про її сформованість та достатню ефективність. За роки незалежності Казахстану вироблено нормативно-правову базу, яка представлена низкою концептуальних і доктринальних документів. Інформаційний вплив на суспільну і національну свідомість населення, зростання міждержавного інформаційного протистояння, дезінформація та інформаційний тиск розглядаються як загроза національній безпеці країни. Велику увагу приділено забезпеченню кібернетичної безпеки держави, утворенню науково-дослідницьких інституцій та підготовці фахівців із забезпечення інформаційної безпеки.

Ключові слова: *Республіка Казахстан, інформаційна безпека, система інформаційної безпеки.*

ОБЗОР ОСНОВНЫХ МЕРОПРИЯТИЙ ПО ОБЕСПЕЧЕНИЮ ИНФОРМАЦИОННОЙ БЕЗОПАСНОСТИ В РЕСПУБЛИКЕ КАЗАХСТАНА

В статье рассмотрено становление и функционирование национальной системы обеспечения информационной безопасности в Республике Казахстан. Исследование построено по проблемно-хронологическому принципу. Основу источниковой базы составляют нормативно-правовые документы по вопросам обеспечения информационной безопасности Республики Казахстан.

Проведенный автором анализ свидетельствует о сформированности и достаточной эффективности существующей системы обеспечения информационной безопасности. Нормативно-правовая база по исследуемому вопросу представлена концептуальными и доктринальными документами. Информационное воздействие на общественное и национальное сознание населения, рост межгосударственного информационного противоборства, факты дезинформация и информационного давления рассматриваются в них как угроза национальной безопасности страны. Большое внимание уделено обеспечению кибернетической безопасности государства, созданию научно-исследовательских институтов и подготовке специалистов по обеспечению информационной безопасности.

Ключевые слова: Республика Казахстан, информационная безопасность, система информационной безопасности

Problem statement. The formation and functioning of the national information security system in the Republic of Kazakhstan have certain features and are characterized by a number of related factors.

First of all, Kazakhstan is a permanent active member of interstate regional organizations, such as the Commonwealth of Independent States (hereinafter CIS), the Collective Security Treaty Organization (hereinafter CSTO), the Shanghai Cooperation Organization (hereinafter SCO), as well as the United Nations, Eurasian Customs Union, and therefore is a signatory state of a number of documents on information (international information) security issues within these organizations.

Secondly, after the dissolution of the Soviet Union, independent Kazakhstan became an object of informational influences from the main players of the region of Central Asia – the Russian Federation, the USA, and China.

Yes, in 1989 the largest among the other Soviet republics number of Russian-speaking population lived in the territory of the Kazakh SSR – 6 million people, representing 37.8% of the republic's population (Aleinikov, Borovikov, 2013). In August 1991, at a time of the revival of the Russian Cossacks, a confrontation between Russian and Kazakh activists took place in Uralsk; later, during 1992 – 1994, in Ust-Kamenogorsk, protests were held to establish equal status of the Kazakh and Russian languages, and in 1995 a proposal was made to create a «Russian Altai Republic». In 1999 supporters of the formation of a state «Russian Land» were arrested in the same city (Kazakhstan was wanted to become a «Russian Land»).

In 2010 representatives of the Russian-speaking population of the Eastern Kazakhstan region complained to the presidents of the Russian Federation and the Republic of Kazakhstan about oppressions on a national basis, the closure of Russian schools, etc. (ibidem) And although the situation was resolved, the analysis of the content posted on the Russian-language resources of the national network segment (.kz.net) indicates an unsteadiness of the situation, particularly in the social and humanitarian environment, an active discussion of language issues and professional abuse of Russians in Kazakhstan, disrespect for monuments of Russian culture, etc. Vladimir Zhirinovskiy accused the government of Kazakhstan of the «russophobic» position and promised «to deal with Kazakhstan» after dealing with Ukraine (Vladimir Zhirinovskiy: «After capturing Ukraine we will capture Kazakhstan»). Notable are the well-known statements of the President of the Russian Federation V. Putin at the youth forum «Seliger» about the Kazakhs' lack of statehood that was «... created by President Nursultan Nazarbayev» (Putin on Kazakhstan: «The Kazakhs did not have statehood»).

Because of a low level of trust in the national media, representatives of the Russian-speaking diaspora of the Republic are consumers of information products of the Russian Federation which contains facts of manipulation, misinformation, interpretation and reinterpretation of historical events. Besides, the opinions of the Russian-speaking citizens about the events of the Revolution of Dignity and the annexation of the Crimean Peninsula by Russian Federation significantly differ which resulted in their (citizens) division into supporters of the policy of the Russian Federation and its opponents. For example, Vyacheslav Gusarov expresses the opinion that half of information consumers in Kazakhstan are under Russian informational influence, which creates a real informational threat» (Gusarov, 2014)

So, the ensuring of the social and individual informational security, the protection of information resources and objects of critical infrastructure are an urgent need, a priority issue of the state policy and a long-term state project in independent Kazakhstan.

The main thesis of the article is a detection of the formation specificities of the information security system in the Republic of Kazakhstan.

The analysis of recent researches. Issues of ensuring of the information security and development of information and communication technologies in Kazakhstan were considered in scientific studies of Kazakh researchers, such as of G. Ibragimova, Z. Asadova, D. Sabitova, B. Kulpendiyeva, L. Karataeva, T. Sadykova, written in Russian, but the authors did not consider the forming of the information security system of the Republic of Kazakhstan through the prism of historical events, particularly those that took place during the first years of independence of the Republic. Neither was this issue overlooked by political analysts, such as V. Gusarov, E. Bagdatov, M. Kucheravy. In our previous articles was analyzed the SCO's activities in the area of international information security (Hapeyeva, 2016) There is no qualitative analysis of the information space of the Republic of Kazakhstan and evaluation of the content posted in the Russian-language media, though.

The statement of the basic material. The researchers distinguish at least three stages in the history of the development of information and communication technologies in Kazakhstan, the development of which is regulated by the Law «On Informatization». The first period falls on the beginning of the 90-ies of the last century and is related to the beginning of training of specialists in the field of «information security» in the leading universities of the country (Asadova, 2013). The second period (1995 – 1999) is characterized by an expansion of the market of information and communication services in the territory of Kazakhstan. In the early 2000s, the formation and development of the national IT segment takes place and the third stage begins.

At the end of the 1990s, the information space of the Republic of Kazakhstan was represented by a set of information sectors that functioned in the interests of individual ministries and departments and were unavailable to most natives. On the agenda came the question of formation of a unified information space of Kazakhstan in accordance with the Presidential Decree № 3787 of December 9, 1997 and the tasks outlined in the Concept «On the Formation of a Unified Information Space».

According to the Concept, the information security of an individual and society is closely linked to the influence on the psyche, consciousness, and public consciousness that is made by using misinformation and informational blackmail, based on the results of electronic control over the people's lives, their political activities and personal plans, and by using all the power of modern media. Means for ensuring of information security of the united information space of the Republic are provided by measures of an organizational, technical and technological nature.

On December 31, 1998 the Governmental Decree of the Republic of Kazakhstan №. 1384 «On Coordination of the Work on the Formation and Development of the National Information Infrastructure, Informatization Processes and Providing of Information Security» was adopted and the Interdepartmental Commission was created. It is worth noting that the representatives of the Committee of State Security of the Republic of Kazakhstan actively partook in the elaboration of the national legislation (Asadova, 2013).

According to the Government Decree of the Republic of Kazakhstan № 993 of September 11, 2002, the Office of the Prime Minister of the Republic was declared the authorized state body for protection of state secrets and the ensuring of information security. At the same time, the issue of ensuring of

information security and general interagency coordination of activity in this area remained under control of the national security authorities.

In 2010, taking into account the need to provide information security in information networks and critical infrastructure facilities, the Kazakhstan Computer Emergency Response Service (KZ-CERT), that has the functions of a national and international coordinator in the field of safe use of information technology was created. Nowadays KZ-CERT has the status of a Response Center for users of national information systems and the Internet and provides advisory and technical support for detection, evaluation, prediction, and prevention of threats in the information sphere. The memorandums of understanding and cooperation in the field of information security with 14 countries of the world are in force. KZ-CERT is also a member of the FIRST (Forum of Incident Response and Security Teams), that unites similar services in other countries. Not only is it a participant of the computer security incident response team (CSIRT Assistance Program), but also a member of the Organization of Islamic Cooperation – the computer incident response service (OIC-CERT) (Decree of the President of the Republic of Kazakhstan No. 174 of November 14, 2011 «On the Concept of Information Security of the Republic of Kazakhstan»).

The next document, the Information Security Concept of the Republic of Kazakhstan, approved by the Presidential Decree of the Republic of Kazakhstan №. 199 of October 10, 2010, determines political, organizational, technical and economic factors influencing the condition of providing of state's information security, but does not establish the concept of «information security».

Yes, political factors include information expansion of the developed countries in the information space of the Republic and the information dissemination in order to obtain unilateral advantages. Among the organizational and technical factors of influence the insufficient level of development of the regulatory framework on information security issues and a limited number of specialists in this area were pointed out (Asadova, 2013)

The new version of the Information Security Concept of the Republic of Kazakhstan until 2016 was approved by the Presidential Decree on November 14, 2011. It corresponds to the basic principles of the Development Strategy of the Republic of Kazakhstan until 2030 – «Prosperity, safety and welfare improvement of all Kazakhstanis» (Decree of the Government of the Republic of Kazakhstan No. 715 of July 29, 1998 «On the Concept of the Common Information Space of the Republic of Kazakhstan and Measures for its Implementation»). Unlike the previous document, it reflects general tendencies of interstate information confrontation: the usage of information pressure, measures of information warfare and information expansion as effective means and an integral tool for solving major social, economic and political conflicts. The fact of creation of the information troops in the armed forces of the leading countries of the world and intentions of their active use was mentioned for the first time. For the first time the interpretation of «information security», «information terrorism», «information warfare», «cybercrime», «content», etc. was given.

The notion of «information security» in the conceptual documents of the Republic of Kazakhstan is considered as a set of technical and socio-political aspects, meanwhile the socio-political aspect is supposed to protect the national information space and systems of mass media dissemination from determined negative informational and organizational influences, and technical – to protect information systems and information space of the state (Information security of the Republic of Kazakhstan: status and prospects).

It is worth noting the Concept developers focus on a number of threats in the information sphere: the advance of the information confrontation between the world's leading force centers, the preparation and conduction of a struggle in the information space; development of technologies for information manipulation; possibilities of destructive information influence on public consciousness and state institutions that damages the national interests of the country; the dissemination of inaccurate or deliberately distorted information that can harm the national interests of the Republic of Kazakhstan.

The law «On National Security of the Republic of Kazakhstan» № 527-IV of January 6, 2012 defines information security as «... a type of national security that is meant to protect the state's information space, human and citizen rights, society from real and potential threats, and to ensure the state's development and information independence. Among the main threats to the national security of the Republic of Kazakhstan, «... the information influence on the social and national consciousness related

with distortion and dissemination of inaccurate information to the detriment of national security» was mentioned (Information warfare: the battlefield of Russia and Kazakhstan. Part 2 of CAI «Eurasian Monitoring»).

In order to ensure a reliable and safe interstate document circulation in the Republic of Kazakhstan the trusted third party of the Republic of Kazakhstan was created and was put into use in November 2013. The monitoring of the website security and information systems of state authorities is carried out by the Center of Security Monitoring of the «electronic government», whose main task is to support information security by taking necessary measures for prevention, localization and elimination of the consequences of the threats of the «electronic government» components. Equally important is the development of a legislative framework for protection of objects of the critical information infrastructure of the Republic.

On October 6, 2016 the Ministry of Defense and Aerospace Industry was formed by the Presidential Decree of the Republic of Kazakhstan. One of the main activity directions of the ministry is the implementation of state policy in the field of information security and in the field of information and communication (cybersecurity). An Information Security Committee has been created, which serves as an authorized body (regulator) for the development of state policy in the field of national information security and also participates in the implementation of the performance of Ministry strategic functions in the field of information security (Decree of the President of the Republic of Kazakhstan No. 174 of November 14, 2011 «On the Concept of Information Security of the Republic of Kazakhstan»).

Issues related to the formation of the Main Research and Production Institute of Information Security at the Information Security Committee, the National Center for Cyber Security with usage of the mechanism of public and private cooperation, and the Information Security Academy for the high-quality training of national personnel in the field of information security are considered in the Republic of Kazakhstan [80]. Also the Ministry of Information and Communications of the Republic of Kazakhstan was created in 2016.

In order to implement the Presidential Decree № 422 of February 15, 2017 «On Measures for Implementation of the Proclamation of the Head of the State to the people of Kazakhstan dated January 31, 2017 – «The Third Modernization of Kazakhstan: Global Competitiveness» – the Cybersecurity Concept («Cybershield of Kazakhstan») was approved.

One of the topical issues of ensuring of the information space security is the proper training of specialists. Only 7 of 93 institutions of higher education that train ICT specialists train specialists in the specialty «Information Security Systems». 85 specialists were trained in 2016. A tendency of reduction of the state order for training of information security specialists was noticed: if in both 2014-2015 and 2015-2016 60 graduates in the «Information Security Systems» specialty have been trained on the state order, then in 2017 the number reduced to 40. In central government bodies the provision of specialists of this area is 25%, while in the local government ones – 6%. (Asadova, 2013).

It worth noting that in the field of information security of the member states of CIS, CSTO and SCO there are some problematic issues that require measures to unify the national legislation, terminology and conceptual apparatus in this area. Researchers also point out a necessity of formation of a separate legal branch, information law, in the Republic of Kazakhstan (ibiem)

On January 9, 2017, the Governmental Decree №832 of December 20, 2016 «On Ratification of Common Requirements in the Field of Information and Communication Technologies and Information Security» came into force. On August 14, 2017, the initiative group of companies founded the association of legal entities «Kazakhstan Association of Information Security». The Association is meant to develop a scientific school of information security, to improve the training of specialists, develop a methodological framework, legislation funds and information security systems (An information security association has been established in Kazakhstan).

The main directions of ensuring of information security in the Armed Forces, other troops and military formations of Kazakhstan include a continuous analysis (monitoring) and a detection of threats to information security; enhancement of means of information protection from unauthorized access, enhancement of structure of bodies of ensuring of information security and coordination of their interaction; training of specialists.

So, the analysis of the formation of the information security system in the Republic of Kazakhstan shows its cohesion and sufficient efficiency. During the years of Kazakhstan's independence, the appropriate legal and regulatory framework that is represented by a number of conceptual and doctrinal documents where the information influence on the public and national consciousness of the population, growth of interstate information confrontation, misinformation and information pressure are considered as threats to the national security of the country has been developed. Much attention is also paid to ensuring of the state's cyber security, the formation of research institutions and the training of information security specialists.

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