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ҚАЗАҚСТАН РЕСПУБЛИКАСЫ ҰЛТТЫҚ ҒЫЛЫМ АКАДЕМИЯСЫНЫҢ

## БАЯНДАМАЛАРЫ

# **ДОКЛАДЫ**

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# CALIFORNIA SHIELD BEETLE IS A DANGEROUS QUARANTINE PEST OF AN ORCHARD IN THE SOUTH-EAST OF KAZAKHSTAN

**Abstract.** The article presents data on the influence of damage to trees by the California shield on the measurement of growth processes of Apple trees. On trees with a degree of damage of 4 points and covered with shields, cracks were formed, which eventually lead to the suppression of growth processes and the gradual death of trees. Therefore, the California shield should be suppressed as much as possible in the first generation to prevent damage to the fruit.

During the research, we used generally accepted methods of plant protection and quarantine. Pheromone traps for catching the California shield were hung during Apple blossom, along the periphery of the tree crowns at a height of 2 m, in the middle rows of the array at the rate of 1 trap per 2 hectares of fruit-bearing garden. Surveys of fruit stands using pheromone traps were carried out only during the summer of males. The traps were checked every 7-10 days, and the pheromone was changed 1 time in mid-summer.

The results of observations showed that with the highest degree of infection of trees, which is 4 points, the growth of shoots is reduced compared to a healthy tree by 36.4%, respectively, the leaf surface area is reduced by 38.8%. On trees with a degree of damage of 4 points and covered with shields, cracks were formed, which eventually lead to the suppression of growth processes and the gradual death of trees.

According to the data obtained, when trees were populated with 2 points, the percentage of affected apples was 14.3%, when a tree was populated with 3 points, 42.5%, and 55.6% of the fruit was damaged with 4 points. Even if the pest infects 14% of apples, the products are perceived as not standard and not high-quality, so the California shield should be suppressed as much as possible in the first generation to prevent damage to the fruit.

Key words: California shield, quarantine, pheromone, traps, damage, population, monitoring.

**Introduction.** California shield-Q uadraspidiotusperniciosus Comstock (family Diaspididae, subfamily Aspidiotinae, tribe Aspidiotini) was first described by D. Comstock (Comstock, 1881) in California. In Europe known as "mealybug St. Joseph" (San Jose scale). It is one of the dangerous quarantine pests of many fruit, berry, ornamental and forest species [1].

**Research materials and methods.** During the research, we used generally accepted methods of plant protection and quarantine. Pheromone traps for catching the California shield were hung during Apple blossom, along the periphery of the tree crowns at a height of 2 m, in the middle rows of the array at the rate of 1 trap per 2 hectares of fruit-bearing garden. Surveys of fruit stands using pheromone traps were carried out only during the summer of males. The traps were checked every 7-10 days, and the pheromone was changed 1 time in mid-summer.

To determine the degree of damage to the Apple tree by the California shield, a four-point scale developed by A. N. Kirichenko was used as a basis[2].

- 0 points-the tree is clean;
- 1 point-the damage is weak, isolated individuals of the shield were found on the tree;

- 2 points damage to the plant is average, there are colonies of shield plants;
- 3 points-the damage is severe, the tree on the 1/3 surface is covered with colonies, there is an initial stage of cracking of the bark, there is a shrinkage of semi-skeletal branches;
- 4 points-the damage is very severe, the trunk and main skeletal branches are covered with a solid inlay of shield colonies

The number of California woodchip in gardens was determined using the tree population coefficient (K) according to the formula:

$$K = \frac{P * A}{100}$$

P - percentage of tree population, %; A - average density of tree population by live females. The density of tree population was determined before early spring processing (March-April). To do this, in the field, using a band-aid or tweezers, the insect's flaps were removed, then the average density of living individuals was calculated on 5 sites of 2 cm in size in various places of the trunk and branches of the tree.

**Research result.** The research was conducted in Apple orchards, the main fruit-growing areas in the South-East of Kazakhstan.

California shield is a dangerous pest of fruit crops, and therefore the effective protection of trees from it, ensuring a reduction in numbers and obtaining a commercial crop, should be directed to the efforts of producers, which will eliminate or reduce economic damage. Since the California shield beetle is a sucking insect, its larvae attach themselves to the bark of the tree and suck out the SAP, which causes irregularities in the bark of the trunk and young shoots to form around the damaged area. Redness of damaged areas appears on the leaves, leading to their deformation, as a result of which they fall off, moreover, the total amount of green mass decreases, and the overall development of the tree decreases (figure 1).





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Figure 1 – Damage to Apple trees by California shield

If in the first and second year the trunks and branches of trees damaged by the California shield are covered with foci of shields, which causes them to form bark irregularities and red spots, then in the third year the pest forms a continuous cover of shields. In damaged trees, infected leaves fall off, the buds do not completely bloom in the spring, and the shoots shrink. As a result, the growth of shoots and the size of leaves are significantly reduced. We measured such biometric indicators as growth of shoots and leaf surface area in order to determine the influence of tree population by California shield on growth processes (table 1).

Table 1 – Influence of damage to trees by California shield on measurements of growth processes of Apple trees variety ("Zaiyliysk", "Janibek" farm in Enbekshikazakh district of Almaty region (2017)

The degree of infestation of trees,	Replication	Growth of	Leaf surface area,	Reduction of leaf surface area in comparison with indicators of a healthy tree	
point	Replication	shoots, cm	cm <sup>2</sup>	Growth of shoots,	leaf surface area,
homi				cm	cm <sup>2</sup>
1 points	1	57	48	1,8	4,0
	2	59	45	3,3	2,2
	3	61	46	3,2	2,1
	average	59,0	46,3	2,8	2,7
2 points	1	58	47		6,0
•	2	56	46		4,4
	3	57	44		6,4
	average	57,0	45,6	6,0	5,6
3 points	1	49	34		30,0
	2	51	35		28,3
	3	51	35		25,6
	average	50,3	34,6	17,0	27,9
4 points	1	37	31		38,0
	2	39	30		37,0
	3	40	28		40,5
	cp.	38,7	29,6	36,4	38,5
A healthytree	1	58	50		100
	2	61	56		100
	3	63	49		100
	average	60,6	48,9	100,0	100,0
SSD		0,948	0,930	0,971	0,968

As can be seen from the data given in the table with a high degree of infection of trees, which is 4 points, the growth of shoots is reduced compared to a healthy tree by 36.4% ,respectively, the leaf surface area is reduced by 38.8%. On trees with a degree of damage of 4 points and covered with shields, cracks were formed, which eventually lead to the suppression of growth processes and the gradual death of trees.

As many researchers note [1] the first generation of the California shield is considered the most harmful. Born vagabonds spread on the tree, and along the way damage the fruit, causing apples to be covered with red spots. The commodity value of such a crop falls sharply. If the degree of infection of the tree is estimated at 1 point, the percentage of infection of the fruit is about 50%. We took into account the de.

Table 2 – Percentage of infected fruit depending on the degree of tree population with California shield ("Janibek" farm, variety of Zailiysk (2017))

Degree of tree population, point	Replication	Numberoffruits, PCs.	Of them are damaged, pieces.	%, damages
1points	1	105	11	10,4
	2	100	8	8
	3	97	9	9,2
	average	100,0	9,4	9,2
2 points	1	113	18	15,9
	2	100	14	14,0
	3	93	12	12,9
	average	102,0	14,6	14,3
3 points	1	105	40	38,0
	2	80	41	51,2
	3	94	38	40,4
	average	93,0	39,6	42,5
4 points	1	70	44	62,8
	2	75	38	50,6
	3	74	40	54,0
	average	73,0	40,6	55,6
SSD		0,703	0,943	0,943

According to the data obtained, when the tree was populated with 2 points, the percentage of affected apples was 14.3%, when the tree was populated with 3 points, 42.5%, and 55.6% of the fruit was damaged with 4 points. Even if the pest infects 14% of apples, the products are perceived as not standard and not high-quality, so the California shield should be suppressed as much as possible in the first generation to prevent damage to the fruit. Figure 2 shows fruits with red spots, the degree of infection of which is from 10 to 55%.



Figure 2 - Fruits damaged by California shield, "Olzhas" and "Janibek» farms

It should be noted that in this garden, a set of protective measures was carried out against the California shield, which provided a significant suppression of its development. The level of tree population when taking into account the number of shield plants and damaged shoots was on average about 7-10%. The relatively weak population of the California shield in this garden provided a low level of damage to the fruit (figure 3). Therefore, even with a population level of 2 points, the percentage of damaged fruit was only 6.3% [3].



Figure 3 – Damage to the California Apple tree shield

Completing the analysis of the results of field and laboratory studies, it is necessary to identify individual periods that determine the development of the California shield and affect the effectiveness of protective measures against the pest. Based on the data obtained, we found that the weather conditions during the research years were favorable for over wintering the pest. Even in very severe winters with sharp drops in temperature, the shield did not completely die, and the surviving individuals give numerous offspring in the summer, which was seen in these years by the results of pheromone monitoring. Depending on weather factors, the life cycle of a single replenishment larvae is completed in 30 days, while a certain part of the larvae of the first summer generation hatched in early August goes into diapause and at the stage of the black shield remain to winter.

Analysis of the biological features of the development of the California shield also showed that the vulnerable phase for protective measures is the stage of the appearance of vagrants [4]. The hatching of vagrants of the overwintered generation occurred at the beginning of the first decade of June, and vagrants

of the first summer generation were recorded in August – early September. The beginning of development of the California shield-larvae of the first instar was noted in the second decade of April.Males were observed during the entire month of may, and vagrants occupied the trees from the third decade of may to the end of June. The second-generation imago of the California shield cat lasted from late June to mid-July. The departure of the third-generation imago was greatly extended from mid-August to the first days of October. Vagrants of the California shield having completed the development cycle in September-October months, massively passed into the wintering stage – larvae of the first age under the shield. The effectiveness of measures to combat the California shield primarily depends on the timing of protective measures. Treatments against California shield should be carried out in the following terms. The first processing is carried out in the spring during the period from budding (March 10 - April 10). The second processing is carried out - after flowering - the fruits are in a state of walnut (May 15-20).

**Conclusion.** The results of observations showed that with the highest degree of infection of trees, which is 4 points, the growth of shoots is reduced compared to a healthy tree by 36.4%, respectively, the leaf surface area is reduced by 38.8%. On trees with a degree of damage of 4 points and covered with shields, cracks were formed, which eventually lead to the suppression of growth processes and the gradual death of trees.

According to the data obtained, when the tree was populated with 2 points, the percentage of affected apples was 14.3%, when the tree was populated with 3 points, 42.5%, and 55.6% of the fruit was damaged with 4 points. Even if the pest infects 14% of apples, the products are perceived as not standard and not high-quality, so the California shield should be suppressed as much as possible in the first generation to prevent damage to the fruit.

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#### ҚАЗАҚСТАННЫҢ ОҢТҮСТІК-ШЫҒЫСЫНДАҒЫ ЖЕМІС БАҚТАРЫНЫҢ ҚАУІПТІ КАРАНТИНДІК ЗИЯНКЕСІ – КАЛИФОРНИЯЛЫҚ ҚАЛҚАНШАЛЫ СЫМЫРЫ

**Аннотация.** Мақалада алма ағашының өсу үдерісін өлшеу барысында калифорниялық қалқаншаның зақымдау деректері келтірілген. Калифорниялық қалқаншалы сымырдың зақымдау деңгейі 4 балды көрсеткенде ағаштарда жарықшақ пайда болып, ағаштың өсу үдерісі тежеліп, ақырындап өле бастайды. Сондықтан калифорниялық қалқаншалы сымырдың жемісті зақымдауына жол бермеу үшін бірінші буын кезеңінде-ақ барынша күресу шараларын жүргізу керек.

Зерттеу барысында өсімдіктерді қорғау мен карантинде жиі қолданылатын әдістер қолданылды. Калифорниялық қалқаншалы сымырды аулауға арналған феромон тұзақтары алма ағашы гүлденгенде 2 м биіктегі ағаштың шеткі жиегі бойынша массивтің ортаңғы қатарында 2 га жеміс беретін бақта 1 тұзақ мөлшерінде ілінген. Жеміс көшетін феромонды аулағыштар арқылы бақылау жұмыстары жазда, аталық зиянкестер ұшқанда жүргізілді. Аулағыштарды 7-10 күнде бір рет тексеріп, феромонды жаздың ортасында бір рет өзгерттік.

Бақылау нәтижелері көрсеткендей, ағаштардың зақымдануының жоғары деңгейі 4 балды көрсетеді, бұтақтар өсімі сау ағашпен салыстырғанда сәйкесінше 36,4% азайды, жапырақ бетінің ауданы 38,5% қысқарды. Калифорниялық қалқаншалы сымырлардың зақымдау деңгейі 4 балды қамтығанда ағаштарда жарықшақ пайда болып, ағаштың өсу үдерісі тежеліп, біртіндеп өміршеңдігін жоғалтады.

Алынған мәліметтерге сәйкес, 1 балл деңгейінде бүлінген ағаш – 9,2%, 2 балл деңгейінде бүлінген алмалар 14,3%-ды көрсетті, 3 балл деңгейінде бүлінген ағаштар 42,5% болды, 4 балл деңгейінде 55,6% жеміс бүлінген. Зиянкестер алманы 14% зақымданғанда өнім стандартты емес және сапасыз деп қабылданады, сондықтан калифорниялық қалқаншалы сымырдың жемісті зақымдауына жол бермеу үшін бірінші буын сатысында-ақ оған қарсы күресу шараларын қолға алған жөн.

Түйін сөздер: калифорниялық қалқанша, карантин, феромон, аулағыштар, зақымдану, мониторинг.

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#### КАЛИФОРНИЙСКАЯ ЩИТОВКА ОПАСНЫЙ КАРАНТИННЫЙ ВРЕДИТЕЛЬ ПЛОДОВОГО САДА НА ЮГО-ВОСТОКЕ КАЗАХСТАНА

**Аннотация.** В статье приведены данные поврежденности деревьев калифорнийской щитовкой на измерения ростовых процессов яблони. На деревьях со степенью повреждения 4 балла и покрытых щитками образовались трещины, которые в конечном итоге и приводят к угнетению ростовых процессов и постепенной гибели деревьев. Поэтому калифорнийскую щитовку следует максимально подавлять еще в первом поколении, чтобы не допустить повреждения плодов.

При проведении исследований использовались общепринятые в защите и карантине растений методики. Феромонные ловушки для отлова калифорнийской щитовкиразвешивали во время цветения яблони, по периферии крон деревьев на высоте 2 м, в средних рядах массива из расчета 1 ловушка на 2 га плодоносящего сада. Обследования плодовых насаждений с помощью феромонных ловушек проводили только во время лета самцов. Ловушки проверяли раз в 7-10 дней, феромон меняли 1 раз в середине лета.

Результаты наблюдений показали, что при высшей степени заражения деревьев, которая составляет 4 балла, прирост побегов снижен по сравнению с здоровым деревом на 36,4%, соответственно на 38,5% уменьшена площадь листовой поверхности. На деревьях со степенью повреждения 4 балла и покрытых щитками образовались трещины, которые в конечном итоге и приводят к угнетению ростовых процессов и постепенной гибели деревьев.

Согласно полученных данных, при заселениии деревьев в 1 балла процент поражённых яблок составил - 9,2%, при заселении дерева в 2 балла - 14,3%, в 3 балла - 42,5%, при 4-х баллах была повреждена 55,6% плодов. Даже при заражении вредителем 14% яблок, продукция воспринимается, как не стандартная и не качественная, поэтому калифорнийскую щитовку следует максимально подавлять еще в первом поколении, чтобы не допустить повреждения плодов.

**Ключевые слова:** Калифорнийская щитовка, карантин, феромон, ловушки, повреждения, заселенность, мониторинг.

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#### REFERENCES

- [1] Popova A. I. Californian shield. Leningrad, 1962. P. 5-10.
- [2] Kirichenko A.N. Californian shield in the conditions of the USSR // Collection of works of quarantine laboratories. M.: Selkhozgiz, 1937. 34 p.
- [3] Beknazarova Z.B., Kopzhasarov B.K. Study of the development of the California shield beetle (Quadraspidiotus perniciosus Comst.) in the gardens of the Almaty region // Materials of the international scientific and practical conference of young scientists "Contribution of young scientists to the industrial and innovative development of the agro-industrial complex". Almaty, 2016. T 2. P. 17-20.
- [4] Beknazarova Z.B., Lozowicka B., Kopzhasarov B.K. and Iskendirova R.A. The monitoring of San Jose scale (Homoptera, Diaspididae: Quadraspidiotusperniciosus Comstock, 1881) in the southeast of Kazakhstan. Eco.Env.&Cons. 24 (4): 2018. P. 1557-1562.

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# FEATURES OF MORPHOFUNCTIONAL CONDITION OF THE THYROID GLAND AND REGIONAL LYMPH NODE IN NORMAL AND IN HYPOTHYROIDISM

Abstract. The article presents data on the ratio of the functional structures of the lymph nodes in thyroid failure. Taking mercazolilum within 30 days led to a disorder of the morphofunctional condition of the thyroid gland and cervical lymph node. According to histological and morphometric analysis of the thyroid gland, a high sensitivity to monthly exposure of mercazolilum is shown, which is expressed in a synchronous morphological rearrangement of the tissue microdistrict of the thyroid gland and lymph node. Changes were identified especially in the peripheral zones of the thyroid lobes, which led to a decrease in the size of follicles, and in thyrocytes to a change in cellular elements, which caused a decrease in the production of thyroid hormones and developmental disability of reactive and compensatory changes in the thyroid gland. The structurally functional component related to both the thyroid gland and the lymph node is the extracellular space with vascular and non-vascular paths of microcirculation, a change in which leads to disruption of the vesicular-colloid transport in the thyroid cytoplasm and to a change in the functional state of the thyroid gland.

There are changes in the regional lymph node, which are characterized by a change in the ratio of cortical and medullary substance, in which the proportion of structures of the cortical substance decreases; there was an increase in the number of macrophages in the lymphoid nodule, the medullar sinus, a decrease in the number of mature plasmocytes, in the paracortex and Billroth's stand. These changes indicate an immunosuppressive effect on the lymph node. On sections of the lymph node, capsule infiltration with lymphoid elements was often observed. The value of paracortex was statistically significantly reduced. The decrease in the area of the paracortical zone is relative, since it occurs due to the formation of sinuses. Blood vessels are blood-filled in the lymph node. There was an increase in the volume of the lymph node, which leads to a uniform development of the structures of the cortical and medullar substance of the lymph node.

Keywords: hypothyroidism, blood, rats, lymph node, thyroid gland.

**Introduction**. The prevalence of hypothyroidism is one of the first among all endocrine diseases, and its prevalence increases with age. The pathology of the thyroid gland is reflected in the provision of endocrine, immunological, energetic homeostasis of the body [1, 2]. It has been established that hypothyroidism develops disturbances in the mechanisms of oxidative homeostasis, and spontaneous luminosity in the liver decreases. Studies have shown that with hypothyroidism, the enzymatic activities of malate dehydrogenase, glutamate dehydrogenase, glucose-6-phosphate dehydrogenase, arginase and activation of succinate dehydrogenase are reduced [3, 4].

The lymphatic system is one of the main links in the chain of humoral blood-tissue-lymph-blood transport [5, 6, 7], and taking into account the important role of the lymphatic system in maintaining homeostasis in the body with thyroid insufficiency is relevant. It is known that lymph nodes play an

important role in the formation of humoral and cellular immunity [8, 9]. Among the most important and universal functions of the lymph nodes, regardless of their localization and organ affiliation, their hematopoietic and immunopoietic, protective and filtering roles in the body are especially distinguished [10, 11].

The role of the lymphatic system and its lymphoid organs is one of the little studied problems in biology, in the protective reactions of the body under the influence of negative environmental factors on the human body. Of interest is the study of the condition of the lymphatic system in hypothyroidism.

Lymph nodes play an important role in the life of humans and animals [12]. Lymph nodes are the main homeostatic organs of the internal environment of the body [13, 14]. Due to the fact that their structural and functional response to environmental influences has the features of general stereotype, the morphological and functional status of lymph nodes can be a marker of environmental pressure on the lymphatic system [15]. In the modern concept of the lymphatic region, to determine the condition of the organ drained by it, great prognostic significance is given to the structural and functional condition of the lymph node [16, 17].

Lymph nodes are organs of lymphopoiesis and peripheral organs of immunogenesis. The inflow lymphatic vessels, which carry lymph both directly from the organs and from other lymph nodes run into them. The efferent lymphatic vessels go out of the lymph nodes, heading to other nodes or to the trunks and ducts.

The thyroid gland is the only endocrine organ in which bi-directional movement of products intended for secretion into the blood occurs. The thyroid gland is a tissue microdistrict that combines a group of follicles with an autonomous system of blood and lymph circulation. The aim of this research was to study the morphological and functional features of the thyroid gland and regional lymph nodes in animals at hypothyroidism.

Material and methods of research. The experiments were performed on 35 white laboratory rats males weighing  $250 \pm 3$  g. Experimental hypothyroidism in experimental rats was modeled according to the method of Orlov, 2002 [18, 19]. To develop the condition of experimental hypothyroidism, mercazolilum dissolved in water at a dose of 20 mg per 100 g of animal body weight was administered to rats of the experimental group daily for 30 days. Animals were divided into two groups. Rats of the 1st group (15 rats) were control. In rats of the 2nd group (20 rats), a condition of hypothyroidism was induced for 30 days. The duration of the experiment is 31 days. All groups of animals were in the same conditions of feeding and keeping. All experiments with animals were carried out in strict accordance with the rules developed and approved by the local ethical commission of KazNMU named after S.D. Asfendiyarov, as well as in accordance with the rules and requirements stipulated by the 1986 directive of the European Parliament and set out in the "Guide for the Care and Use of Laboratory Animals."

For histological examination, lymph nodes were taken from rats. They were then fixed in a 10% solution of neutral formalin, then the samples were washed with tap water and dehydrated in alcohol with increasing concentration and pouring material into paraffin, followed by preparation of histological sections 4-5  $\mu$ m thick, obtained using a ThermoScientificHM 325 microtome. Histological sections of lymph nodes were stained with hematoxylin and eosin, azure and eosin [20]. Drugs were viewed under a Leica 1000 light microscope with a camera.

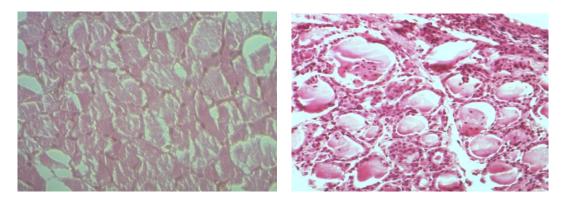
Morphometric analysis was carried out using a morphometric grid [21], which was superimposed on a section of the lymph node. The intersections of the network occurring across the entire section of the lymph node, as a whole and separately, for each of its structures — the capsule, cortical plateau, lymphoid nodules, paracortex, meat strands and sinuses, with recalculation in percent were calculated [22, 23]. During cytological analysis of the structure of lymph nodes and plaques, the number of cells in a standard area of  $1600~\mu m2$  with their differentiation into blasts, medium and small lymphocytes, plasmocytes, macrophages, and others were calculated. For some structural and functional zones, reference values for cells were used.

The data obtained were subjected to statistical processing with determination of arithmetic mean (M), arithmetic mean error  $(\pm m)$  and significance of differences at P<0.05 using the statistical analysis program StatPlus Pro 2009, AnalystSoft Inc

The results and their discussion. The work provides material on the study of the state of the thyroid gland and lymph nodes in control animals and groups after experimental hypothyroidism. Rats with hypothyroidism were distinguished by the presence of characteristic symptoms - low mobility, lack of

appetite, drowsiness, hair slip from the face surfaces of the body. The average mass of the thyroid gland of the rats of the control group is  $0.014\pm0.001$  g. The mass of the left lobe is  $0.008\pm0.002$  g, the right is  $0.006\pm0.004$  g. The length of the left lobe is from  $0.5\pm0.014$  to  $0.7\pm0.011$  mm, the right lobe it is between  $0.32\pm0.007$  and  $0.34\pm0.009$  mm. The obtained digital data indicate the prevalence of the parameters of the left lobe over the right lobe of the thyroid gland in rats.

The control group of animals has a thyroid gland of elastic consistency, red in color with a reddishbrown and sometimes pink hue. The thyroid gland is of normal structure with the preservation of its basic structural elements. In this group, the thyroid gland contains rounded and oval follicles, in the cavity of which a colloid is located. When stained with hematoxylin-eosin, the thyroid tissue was represented by the same type of follicles, the wall of the follicles was formed by a flattened cubic epithelium located on the basement membrane. The blood supply to the thyroid gland is clearly visible. In the connective tissue between the follicles, blood vessels filled with the formed elements of the blood were determined (figure 1).



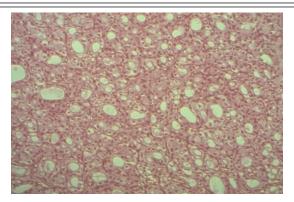
Hemocapillaries, intrafollicular colloid, thyroid structure are clearly seen. Hematoxylin and eosin stain. Increase approx. 10x0.25; About. 10x20

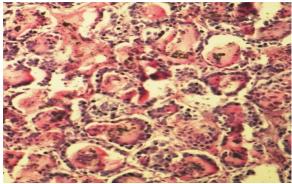
Figure 1 – The histological structure of the thyroid gland of rats is normal

In the histological structure of the thyroid gland, the control groups are dominated by medium and large follicles, which is characterized by a normoplastic version of the structure with different sizes of follicles, which different sizes of follicles reflect the functional activity of the thyroid gland. The gland parenchyma is represented by rounded, oval or angular follicles. Follicles look like closed vesicles lined with a single-layer epithelium formed by cubic thyrocytes. The nuclei of thyroid cells have a round or oval shape.

An autopsy in all animals with hypothyroidism showed an increase in the mass of the thyroid glands by 63-34% (p <0.01), i.e. the proportion of the thyroid gland in hypothyroid rats is 1.5-2 times larger than the proportion of glands in rats from the control group. In experimental hypothyroidism, the thyroid follicles were stretched and their sizes were increased, epithelial cells had a flat and elongated shape, the walls of the follicles acquire fuzzy outlines, enlarged, swollen, slightly stained. In lobes of the thyroid gland, single follicles with a small amount of colloid are found. Blood vessels, especially venous ones, are dilated, characterized by plethora and stagnation of blood.

The results of the study showed that in animals with experimental hypothyroidism, destructive processes are detected. With hypothyroidism in the thyroid gland, there were significant changes in its structure and an increase in wall thickness, violation of the shape of the nuclei, desquamation of epithelial cells, which is reflected in a decrease in the diameter of the follicles, the total volume, volumes of the colloid and follicular epithelium. At the same time, swelling and rounding of the thyroid gland itself were observed. The follicles are small in size, some of them lack colloid and are filled with a clear fluid (figure 2).



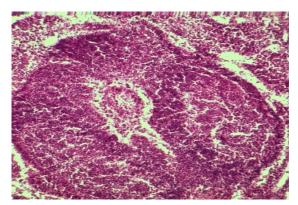


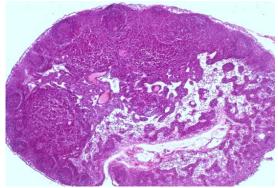
Hyperplasia of the parenchyma, a change in the newly formed and deformed follicles, an increase in the thickness of the follicle wall, partial desquamation of the epithelium, abnormal shape of the nuclei, vacuolization of the cytoplasm, expansion of the interfollicular space. Stained hematoxylin and eosin.

Increase Approx. 10x0,25; About. 10x20

Figure 2 – The histological structure of the thyroid gland of rats with experimental hypothyroidism

In animals, the cervical lymph nodes are normally covered with a thin, dense capsule. The subcapsular (marginal) sinus is well defined, densely filled with cells. Normally, the structure of the cervical lymph nodes is represented by a uniform development from the main structural and functional zones, there is a clear cortex-brain border in the cervical nodes, an intermediate morphotype of the lymph node is observed, in which there is a slight predominance of cortical substance over the brain substance of the lymph node, and the cortical/medullary ratio of the cervical node is 1.36±0.07 (figure 3, table 1).





Paracortex is normal. Hematoxylin-eosin stain. Increase approx. 10x0.25; About. 10x20

Figure 3 – Paracortex, located between the cortical and medullary substance of the cervical lymph node in the control group of animals

Table 1 - The structure of the cervical lymph node and indices under normal and with hypothyroidism

Lymph node structures and indices	Control group	Hypothyroidism			
Capsule	1,26±0,05	0,96±0,03			
subcapsular sinus	$0,71\pm0,09$	0,25±0,04*			
Cortical plateau	2,33±0,14	1,36±0,12			
Lymphoid nodules without a germinal center(F <sub>2</sub> )	1,56±0,06	0,96±0,13*			
Lymphoid nodules with a germinal center $(\Phi 2)$ $(F_1)$	2,43±0,13	1,45±0,39*			
paracortex	5,55±0,25	3,74±0,42*°			
Billroth's strand	7,19±0,36	6,72±0,29			
Medullar sinus	2,01±0,15	4,33±0,27**°			
The total cross-sectional area of the lymph node	22,91±1,57	19,91±1,26°			
Index K/M	1,36±0,07	0,72±0,01*°			
Indes F <sub>1</sub> /F <sub>2</sub>	1,54±0,08	1,50±0,06°			
Note: significantly compared with control at P <0.05 *; P <0.01 **					

In the literature, such a morphotype indicates sufficient detoxification-transport and immune function of the lymph node regional for the thyroid gland [24, 25]. Their ratio often changes depending on the state of the internal environment of the body, on the influence of environmental factors, which reflects a change in the functional state of the lymph nodes. The cortical zone contains lymphoid nodules with or without a germinal center, as well as paracortex. The cortical substance contains lymphoid nodules without a germinal center (primary follicles) and lymphoid nodules with a germinal center (secondary follicles). The ratio of lymphoid nodules with a germinative center to lymphoid nodules without a germinative center is on average 1.56±0.06 and indicates the predominance of lymphoid nodules with a germinative center. The deep cortex (paracortex) has an ovoid shape and occupies an area equal to 5.55±0.25%, on the border of the cortical and medullary substance (figure 3, fable 1). The initial area of the lymph node averages 22.91±1.57%. Initially, intranodular structures are developed and occupy a certain area in the general structure of the lymph node. The subcapsular sinus is quite wide and occupies an area equal to 0.71±0.09%. In the medullar substance, the largest part is occupied by the Billroth's strand 7.19±0.36%; the cerebral sinus accounts for a small part of the area, equal to 2.01±0.15% (table 1).

The medullar substance of the node contains Billroth's strandard cerebral sinus, the ratio of the areas of which can also change in an alarming environment or the influence of adverse environmental factors. The indicated functional zones of the cervical lymph node are responsible for the immune and drainage-detoxification function in the body.

After the use of mercazolyl, we observed a decrease in the total area of the lymph node by 13.1% compared with the control group of animals. In experiments, it was shown that at hypothyroidism, the cortical/medullary ratiodecreases to  $0.72 \pm 0.01$ , which indicates the predominance of the brain substance in the structure of the lymph node. In the brain substance of the lymph nodes after the use of mercazolil, there is a statistically significant increase in the area of the cerebral sinus by 2.15 times. An increase in the area of the cerebral sinus is associated with a decrease in the lymphoid parenchyma of the node caused by the intake of mercazolil.

The results indicate a high sensitivity not only of the bloodstream (which is consistent with the literature), but also of the lymphatic channel to a hypothyroid state. The parallelism between the progressive damage of some endocrinocytes, impaired lymphatic drainage and activation of the proliferative processes of the preserved epithelium and stroma is regarded as a compensation mechanism in the thyroid gland. The histological and equivalents of impaired hormonal synthesis of the thyroid gland, leading to its hypofunction, have been obtained. There is a certain relationship between changes in the thyroid gland and lymph node, suggesting the priority of the latter in the implementation of drainage and detoxification function in the lymphatic region.

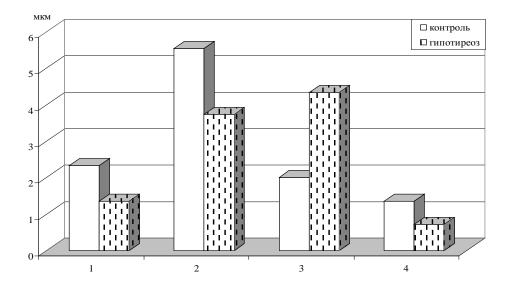
Changes in the structure of the lymph node are observed, a shift of the lymphoid nodules inward, with their placement at the border of the superficial and deep cortex, is noted. At the same time, the area of lymphoid nodules with a germinal center and without it when taking mercazolil decreases 1.6-1.67 times. Characteristic intracortical sinuses with a dense arrangement of lymphocytes are found, lymphoid nodules are oriented into the lumen of the sinus. In the cortical substance, the area of the subcapsular sinus, in which lymphoid cells are densely located, is statistically significantly reduced by 2.8 times (figure 4).

On sections of the lymph node, capsule infiltration with lymphoid elements is often observed. The value of paracortex is statistically significantly reduced by 1.4-1.48 times when taking mercazolil. The decrease in the area of the paracortical zone is relative, since it occurs due to the formation of sinuses. Blood vessels are blood-filled, this indicates an increased vascularization of the lymph node in the presence of mercazolil. Within a month of the use of mercazolil, an increase in the area of the lymph node occurs, which leads to a uniform development of the structures of the cortical and brain substances of the lymph node.

The results obtained are consistent with the results of other authors who studied the structural state of the thyroid gland and indicate a weakening of its functional activity in hypothyroidism [26].

Thus, the use of mercazolil leads to a violation of the morphofunctional state of the thyroid gland and cervical lymph node. Changes were identified especially in the peripheral zones of the thyroid lobes, which led to a decrease in the size of follicles, and in thyrocytes to a change in cellular elements, which caused a decrease in the production of thyroid hormones and impaired development of reactive and compensatory changes in the thyroid gland. The structurally functional component related to both the

thyroid gland and the lymph node is the extracellular space with vascular and non-vascular paths of microcirculation, a change in which leads to disruption of the vesicular-colloid transport in the thyroid cytoplasm and to a change in the functional state of the thyroid gland.



Designations: along the ordinate axis - the area of the main zones of the site in microns.

On the abscissa axis of the node: 1 – cortical plateau, 2 – paracortex, 3 – cerebral sinus, 4– K / M index.

Figure 4 – Change in the ratio of the structural and functional zones of the cervical lymph node in rats of the control group and at experimental hypothyroidism

There are changes in the regional lymph node, which are characterized by a change in the ratio of cortical and medullary substance, in which the proportion of structures of the cortical substance decreases, an increase in the number of macrophages in the lymphoid nodule, the medullar sinus, a decrease in the number of mature plasmocytes, in the paracortex and Billroth's strand were observed. Changes in the cortex-brain ratio with the predominance of the brain substance in the lymph node and a decrease in the proportion of structures of the cortical substance against the background of ectopic lymphoid nodules. These changes indicate manifestations of an immunosuppressive effect on the lymph node. On sections of the lymph node, capsule infiltration with lymphoid elements was often observed. The value of paracortex was statistically significantly reduced. The decrease in the area of the paracortical zone is relative, since it occurs due to the formation of sinuses. Blood vessels are blood-filled in the lymph node. There was an increase in the volume of the lymph node, which leads to a uniform development of the structures of the cortical and medulla of the lymph node.

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#### ҚАЛЫПТЫ ЖӘНЕ ГИПОТИРЕОЗ КЕЗІНДЕГІ ҚАЛҚАНША БЕЗІ МЕН АЙМАҚТЫҚ ЛИМФА ТҮЙІНДЕРІНІҢ МОРФОФУНКЦИОНАЛДЫ ЕРЕКШЕЛІКТЕРІ

**Аннотация.** Мақалада тиреоидты жеткіліксіздік кезіндегі лимфа түйіндерінің функционалдық құрылымының арақатынасы туралы деректер келтірілген. Мерказолилді 30 күн ішінде қабылдау қалқанша безінің және мойын лимфа түйінінің морфофункционалды жағдайын бұзады. Гистологиялық, морфометриялық талдау мәліметтері бойынша қалқанша безінің мерказолилдің айлық әсеріне жоғары сезімталдылығы көрсетілген, бұл қалқанша безі мен лимфа түйіні ұлпаларының шағын ауданында синхронды морфологиялық қайта құрылу барысынан көрінеді. Өзгерістер әсіресе қалқанша безінің шеткі аймақтарында пайда болады, бұл фолликул мөлшерінің азаюына, ал тиреоциттерде жасушалық элементтердің өзгеруіне әкеледі, бұл өз

кезегінде тиреоидты гормондар өнімін азайтып, қалқанша бездегі реактивті және компенсаторлық өзгерістердің дамуына зақым келтіреді. Қалқанша бездегі және лимфа түйініндегі бір мезілде атқаратын құрылымдық функционалдық компоненттер, қалқанша безінің тиреоцит цитоплазмасында везикулярлы-коллоидты тасымалдануының бұзылуына, микроциркуляцияның тамырлы және тамырлы емес жолдары клеткадан тыс кеңістікте функционалдық жағдайының өзгеруіне байланысты анықталады.

Аймақтық лимфа түйінінде, сыртқы және милы заты арақатынасының өзгерісі негізінде сипатталады, онда сыртқы затының құрылымы үлесінің азайғандығы, ми синусындағы макрофагтар санының артқандығы, жетілген плазмоциттер саны мен паракортекс пен жұмсақ тіннің азайғандығы байқалады. Бұл өзгерістер лимфа түйінінде иммуносупресивті әсердің пайда болуына байланысты. Лимфа түйіні кесінділерінде жиі лимфоидты элементтермен капсуланың инфильтрациясы байқалды. Паракортекс мөлшері статистикалық түрде төмендеді. Паракортикальды аймақ аумағының азаю жағдайы салыстырмалы сипатқа ие, себебі синустардың қалыптасуы есебінен орын алады. Лимфа түйінінде қан тамырлары қанға толы. Лимфа түйінінің көлемі ұлғайған, бұл жағдай лимфа түйінінің сыртқы және милы зат құрылымын біркелкі ламыталы.

Түйін сөздер: гипотиреоз, қан, егеуқұйрық, лимфа түйіні, қалқанша безі.

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## ОСОБЕННОСТИ МОРФОФУНКЦИОНАЛЬНОГО СОСТОЯНИЯ ЩИТОВИДНОЙ ЖЕЛЕЗЫ И РЕГИОНАРНОГО ЛИМФАТИЧЕСКОГО УЗЛА В НОРМЕ И ПРИ ГИПОТИРЕОЗЕ

Аннотация. В статье приведены данные о соотношении функциональных структур лимфатических узлов при тиреоидной недостаточности. Прием мерказолила в течение 30 дней приводил к нарушению морфофункционального состояния щитовидной железы и шейного лимфатического узла. По данным гистологического, морфометрического анализа щитовидной железы показана высокая чувствительность к месячному воздействию мерказолила, что выражается в синхронной морфологической перестройке тканевого микрорайона щитовидной железы и лимфатического узла. Изменения выявлены особенно в периферических зонах долей щитовидной железы, что приводило к уменьшению размеров фолликулов, а в тиреоцитах – к изменению клеточных элементов, что вызывало снижение продукции тиреоидных гормонов и нарушение развития реактивных и компенсаторных изменений в щитовидной железе. Структурно функциональным компонентом, относящимся одновременно к щитовидной железе и к лимфатическому узлу, является внеклеточное пространство с сосудистыми и несосудистыми путями микроциркуляции, изменение которого приводит к нарушению везикулярно-коллоидному транспорту в цитоплазме тиреоцита и к изменению функционального состояния щитовидной железы.

Наблюдаются изменения в регионарном лимфатическом узле, которые характеризуются изменением в соотношении коркового и мозгового вещества, при котором уменьшается доля структур коркового вещества, наблюдалось увеличение числа макрофагов в лимфоидном узелке, мозговом синусе, уменьшение числа зрелых плазмоцитов, в паракортексе и мякотных тяжах. Эти изменения говорят о проявлениях иммуносупресивного действия на лимфатический узел. На срезах лимфатического узла часто наблюдалась инфильтрация капсулы лимфоидными элементами. Величина паракортекса статистически значимо снижалась. Уменьшение площади паракортикальной зоны имеет относительный характер, так как происходит за счет формирования синусов. Кровеносные сосуды кровонаполнены в лимфатическом узле. Происходило увеличение объема лимфатического узла, что приводит к равномерному развитию структур коркового и мозгового вещества лимфатического узла.

Ключевые слова: гипотиреоз, кровь, крысы, лимфатический узел, щитовидная железа.

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#### REFERENCES

- [1] Abdreshov S.N., Demchenko G.A., Bulekbaeva L.E., Nurmakhanova B.A., Nauryzbai U.B., Koganezawa U.N. Changes of the thyroid hormones concentration and the biochemical parameters feautures of lymph and blood of rat with hypothyroidism // News of the National Academy of Sciences of the Republic of Kazakhstan, Series of Biological and Medical, 2018, №6(330), P.30-36. https://doi.org/10.32014/2018.2518-1629.14
- [2] Kamilov F. Kh., Mamtsev A. N., Kozlov V. N., Abdullina G. M., Lobyreva O. V. Activity of antioxidant enzymes and processes of free radical oxidation in experimental hypothyroidism and correction of thyroid shifts by iodized polysaccharide complex // Kazan medical journal, 2012. Vol. 93, № 1. P. 116-119.
- [3] Mamtsev A. N., Lobyreva O. V., Kasyanov Yu. V., Kamilov F. Kh., Abdullina G. M. Activity of NAD(f)-dependent dehydrogenases in liver tissues in experimental thyroid dysfunction // Naukovi prazi: Odessa national Academy of kharchovikh Technologii. Odessa, 2012. V.42, Vol. 2. P. 134-136.
- [4] Kashchenko S. A., Goncharova M. V. Ultramicroscopic changes in the rat thyroid gland after immunosuppression // Morphology, Vol. 7, № 3, − 2013. C. 49-53.
- [5] Abdreshov S.N. Contractile activity of mesenteric lymph nodes in toxic hepatitis // News of the National Academy of Sciences of the Republic of Kazakhstan, Series of Biological and Medical, 2007. №3 (261), C.50-54. https://doi.org/10.32014/2018.2518-1629
- [6] Abdreshov S.N. Influence of carbon 4-chloride on lymph flow and biochemical composition of lymph and blood plasma // The Bulletin of the National Academy of Sciences of the Republic of Kazakhstan. №3, 2005, C.81-84.
- [7] Bulekbaeva L.E., Demchenko G.A., Balkhybekova A.O., Abdreshov S.N. Contractile activity of lymph nodes in alloxan diabetes and after antioxidant correction // Astana medical journals, 2008. №1(46), P.181-183.
- [8] Demchenko G.A., Abdreshov S.N. Influence of cadmium chloride and enterosorbent on lymphodynamics and lymph composition // News of the National Academy of Sciences of the Republic of Kazakhstan, Series of Biological and Medical, 2004, №1, P.40-45. https://doi.org/10.32014/2018.2518-1629
- [9] Abdreshov S.N., Achmetbaeva N.A., Atanbaeva G.K., Mamataeva A.T., Nauryzbai U.B. Adrenergic innervation of the thyroid, blood and lymph vessels and lymph nodes under hypothyroidism // Bulletin of Experimental Biology and Medicine, Vol. 168. No. 2. P. 295-299.
  - [10] Borodin Yu. I. Regional lymphatic drainage and lymphodetoxification // Morphology, 2005, No40, P. 25-28.
- [11] Abdreshov S.N., Bulekbaeva L.E., Demchenko G.A. Contractile activity of the thoracic duct and lymph nodes of rats under antiorthostatic influence // I. M. Sechenov Russian journal of physiology, 2011, Vol. 97, №5, P. 509-514.
  - [12] Bordin Yu.I. Lymphology as integrative medical-biological science // Vestnik limfologii. 2009, №4. P. 6-9.
- [13] Abdreshov S.N., Bulekbaeva L.E., Demchenko G.A. Lympho- and Hemodynamics in Dogs with Actue Experimental Pancreatitis // Bulletin of Experimental Biology and Medicine. Vol. 159, №1, 2015, P.32-34.
  - [14] Borodin Yu. I. the Lymphatic system and aging // Fundamental research. 2011, №5, P. 11-15.
- [15] Borodin Yu. I. Ecological lymphology: morphofunctional characteristics of the lymphatic system / / Bulletin of the SB RAMS, 1989. N3. C. 5-11.
- [16] Borodin Yu. I. Lymph node as a marker of environmental pressure on the biosystem// Bulletin of SO RAMS-1993-N2. P. 3-10.
- [17] Borodin Yu. I., Gorchakova O. V, Gorchakov V. N. Structural reorganization of the lymph node with hypothyroidism and in conditions of early lymphotropic phytorehabilitations // Bulletin NSU. Series: biology, clinical medicine, 2009, Vol. 7. №2, P. 124-130.
- [18] Orlov S. B., Titova M. A., Mukhina I. A. resection of the small intestine as an experimental model of hypothyroidism //Morphology. 2002. № 2. P. 117-118.
- [19] Kozlov V.N. Thyroid transformation at modeling endemic effect in white rats in experiment // Siberian medical journal, 2006, No. 5, P. 27-30.
- [20] Govyrin V. A. Adaptacionno-troficheskaja funkcija sosudistyh nervov // Razvitie nauchnogo nasledija akad. L.A. Orbelli. L.: Nauka, 1982. P. 169-181.
  - [21] Merkulov G. A. Course of pathohistological techniques. L.: Med., 1969, P. 79-81.
  - [22] Avtandilov G. G. Medical morphometry. M., Medicine, 1990, 384 p.
  - [23] Rogers L.F. Magnetic resonance images of reactive lymphadenitis. Lymphology, 2006, Vol.39, P.53-54.
- [24] Yaglova N. V. Cytophysiological features of the population of thyroid mast cells under the influence of lipopolysaccharide. Morphology statements. 2008; (3-4): 94-98.
- [25] Stepanov A. A., Kryshtop V. V. Comparative morphofunctional characteristics of the thyroid gland under dynamic and static physical loads // Morphology, 2007, Vol. 131, №1, P. 49-53.
- [26] Verheesen, R.H., Schweitzer, C.M. Iodine deficiency, more than cretinism and goiter. Med. Hypotheses. 2008; 71 (5): 645–648.

## History

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# THE ROLE OF RELIGION LEADERS IN THE DISSEMINATION OF RELIGION, THE CONSTRUCTION OF MOSQUES. ABOUT THE MORAL LIFE OF DOSZHAN ISHAN KASHAK ULY(1815-1890)

**Abstract.** Doszhan Ishan Kashakuly (1815-1890) raised the spread of Islam in Western Kazakhstan to a new, higher level. The organization of a pilgrimage among the Kazakhs of the region, the construction of the Takiya house in the Arab country, in Mecca (Medina), the compilation of the Kazakh Genealogy and the 19th century. He is one of the most influential figures in the history of the Kazakh people, who worked tirelessly, demanding from the colonial government in the 80s "a separate mufti for the Kazakhs."

Key words: Religion Islam, Ishan, Mosque, pilgrimage, Muftiate, Dosjan Kashakuly, Aktobe region.

**Introduction.** Among the Kazakhs of Western Kazakhstan there were many religious figures from the people who worked tirelessly to spread Islam. Among them are Adai Beket Ata from Mangystau (late XVIII-early XIX centuries) and Tabyn Doszhan from Donyztau (1815-1890).

Beket Myrzagul uly climbed to the top of Sufism, which is widespread in Western Kazakhstan. The "purification" of Sufism is a difficult process. In addition, most of the so-called "pir" religious figures lived in the XVIII century. In the development of Sufism in Kazakhstan in the XIX century, there are no "pirlen" Sufis, but only "faithful". a religious person who has attained the truth. This is evidenced by the saying "The end of the earth is Eset, the end of Pir is Beket", which is popular among the Kazakhs of the Lesser Zhuz. The transformation of Beket Ata's life

into "Batyr Beket, Pir Beket" is a difficult aspect that needs to be studied (including the motto of the whole Aday, etc.).

The first step of Beket Myrzagul uly in spreading Islam in the country began with the cessation of the war between the Adais and the Turkmens in Mangistau. The Turkmen hero Bekdur built a mosque in the Kyzylkum desert, called on the Turkmens to follow the path of God and not to take up arms against the Kazakhs. At that time, Beket Ata built a madrasah and a mosque in Beineu, where he taught children, propagandized peace, directed people to the white path, and devoted himself to religion [15]. After that, Beket Ata was a religious figure who devoted his entire life to the construction of mosques in the country (Ogulandy, Beineu, Akmeshit, near the Aral Sea), the development of Muslim education and teaching children. He is the person who made Mangystau the cradle of spiritual life for the Kazakhs, the sanctuary of Islam, "Muhammad in Medina, Hodja Ahmed in Turkestan, Pir Beket in Mangystau."

One of such great people was Doszhan Ishan, the son of Kashak Mullah, a historical figure who widely propagated Islam among the Kazakhs living in the Aral-Caspian region, opened a mosque and madrasah in the country and taught children. Doszhan Ishan raised the spread of Islam in the territory of Western Kazakhstan to a new, higher level. The organization of pilgrimage among the Kazakhs of the region, the construction of the house "Takiya" for the Kazakhs who went on pilgrimage in the Arab country, Mecca (Medina), the compilation of the "Kazakh genealogy" and the XIX century. He is a

prominent figure in the history of the Kazakh people, who worked tirelessly in the 80's to demand a "separate mufti for the Kazakhs" from the colonial government.

Doszhan Ishan Kashakuly is descended from the Shomishty tabyn of the younger zhuz, his ancestor is the Shomishty tabyn, from which he was born Karakoily  $\rightarrow$  Konyr  $\rightarrow$  Zhankara  $\rightarrow$  Bekshe  $\rightarrow$  Baspan  $\rightarrow$  Kashak [26].

His father, Kashak, was a Muslim literate mullah from the Bukty tribe of the North Ustyurt (Donyztau) and the neighboring Sam sands, which inhabited the Emba desert (Fig. 1) [4,273]. As a young man, Doszhan was educated by his father, Kashak Mullah, and paid attention to science and education at an early age. He studied in Khiva, Urgench and Bukhara at that time [25].

In order to complete his education from the age of 17, he continued his education in Khiva, obtained permission from a pir named Oldan and signed Doszhan Ishan [9,148.; 25.; 12].

After graduating from Doszhan Ishan and coming to the country in 1850. In Donyztau, in the Tasastau-Kainar valley, he built his first mosque, taught children and made disciples.

In Tasastau-Kainar in Donyztau, Doszhan Ishan taught children for several years [3,113]. The mosque built by Doszhan Ishan in Kainar and a large religious-residential complex with a mosque-madrasah in Donyztau are still preserved (Figure 2) [1,48-64].

Doszhan Ishan moved from this Donyztau to the bank of the river Oil (Chile branch) in 1868. relocated. The resettlement was due to the introduction of the law "Temporary Rules" in 1868-69 and the uprisings of the Kazakhs of Uralsk and Turgai regions, and later the Mangystau region against the colonial government. In 1868-69, according to the "Temporary Rules", the rights of the Kazakhs in economic, tax, religious and educational matters were limited, and the tsarist government intensified the colonization of the country. The new "administrative reform" has placed a heavy burden on the country. Therefore, the Kazakh people revolted against it, and religiously literate people took an active part in it. Among those who organized the large-scale uprising, the place of faith was high [22,14].

After the uprising, Ishans were persecuted by the government. 70s The Mangystau Peninsula was more subservient to the colonial government than the Kazakhs of the Ural and Turgai regions. That is why the colonial tsarist government was alarmed by the fact that such an influential and educated cleric as Doszhan Ishan acted away from the government (Donyztau is located on the Northern Ustyurt). As a result, the tsarist government moved to the Urals region, where they dominated, as it was more effective for them to control the affairs of Doszhan Ishan in front of them.

He was forcibly arrested in 1868 under the guise of "destroyer of the people." Doszhan Ishan, who moved to Oiyl, built a mosque-school on the Chili branch of the Oiyl River, taught children and spread morality. Doszhan Ishan of Chile, known as "Ishan Ata" in the XIX century. 70s The religious-residential complex (mosque-madrasah, disciples' dormitories, office buildings, garden, farmland, large country) is located 5 km south of Shubarkuduk village, Temir district, Aktobe region. The site of the collapse of the mosque and other structures and the cemetery are preserved (Figure 3) [7,120].

After the construction of a mosque in Oiyl, Ishan began to organize a pilgrimage to Mecca among the Kazakhs (Doszhan Ishan Kashakovich himself went on pilgrimage three times). XIX century in the middle of 1874 with Hazrat Nurpeke. A group of Kazakhs, led by the poet Abai's father Kunanbay, went on a pilgrimage to Mecca [4,273].

M. J. Kopeyev in his work "Kazakh genealogy" of the XIX century. showed three streams of Kazakh pilgrims. The third pilgrimage of the Kazakhs: "There were twenty people from the middle zhuz, led by Kunanbay, and one hundred from the younger zhuz. Hazrat Nurpeis and Doszhan Khalfe are among them. The Kazakhs had never been on a pilgrimage before. It was astonishing to see that there were one hundred and twenty people, kneeling and holding hands, and that each class was visible, "[10,9-11].

In the July 1876 edition of the Orenburg Leaf newspaper: "In the days of Orenburg, 100 Kyrgyz people moved to Orenburg to meet the expected pilgrims from Constantinople in Mecca and Medina: Mullah Doschana - Ishan ave. Pilgrims, they say, up to 20 people from different ends of the Orenburg steppe; between them are also Bashkir der. Emangulova Yunus Ishan and Tatar Seitovsky settlement Rakhmet-Ugla-Abdulkagirov...

Eunice Ishan, one of the old pilgrims, did not manage to return from Constantinople with the Kyrgyz and Mullah Nurpeis Hazrat, as he sent the flag with Doschan for the second time ", - said Doszhan Ishan and Nurpeke, who went on pilgrimage.

It is during this pilgrimage to Mecca that the history of Doszhan Isha's construction of a takiya house for Kazakh pilgrims is closely connected.

Sh. Kudaiberdiuli wrote in his book "Genealogys of Turks, Kyrgyz, Kazakhs and Khans": Today it is called "little takiya". One of the youngest zhuzs is a strong scientist named Sultan », – wrote [13,45].

I saw the takiya when I went on pilgrimage from 1905 to 1906 ... But the Sultan said: "I did not know why this takiya was written in the name of the younger hundred Doszhan pilgrims. Although I started with the late takiya, I did not know whether it was because the younger hundred pilgrims gave a lot of money, or because Doszhan left it in the name of Haji when he was a god, "Doszhan said about Ishan's takiya [13,45].

As for the construction of the Kunanbay Takiya in Mecca, there is a lack of information, and the data in circulation is insignificant [20,268]. However, the history of the construction of Doszhan Isha's Takiya House in Mecca, the information related to the name of Kunanbay Haji is preserved in the country, in the memory of the people (especially among the descendants of Doszhan Ishan).

For example, the descendant of Doszhan Ishan, who lives in the Kegeyli district of Karakalpakstan, aksakal O. According to Imanbayev: "When Doszhan Ishan went on pilgrimage for the first time, he saw a lot of difficulties in a foreign country. Then he said: "Many Kazakhs will go on pilgrimage after us, so that Kazakhs do not suffer as much as we do, so that the Kazakhs have their own homes in Mecca", – shared the idea of building a takie house in 1874 with the poet Abai's father Kunanbay, who went on pilgrimage together [17].

M.Zh. Kopeyev wrote that the history of the Kazakh pilgrims' writing about the "origin of the Kazakhs" and the sending of Doszhan Khalfe to Baghdad was also on this trip [10, 9-11].

It follows that Doszhan Ishan was a genius who built a takiya house in Mecca, and the history of the takiya houses built by the Kazakhs in Mecca requires further study. XIX century There were four Kazakh houses in Mecca in the 20th century. In the beginning, there were six takiys built by Kazakhs, as well as takiye houses, which were taken over by others [16.; 6.; 20,268.; 9,148].

The next stage in Doszhan Ishan's life was marked by his work for the freedom of religious life of the Kazakh people, demanding that the authorities re-join the "Orenburg Spiritual Assembly" or open a separate muftiate for the Kazakhs. 1788 Russian Tsar Catherine II established a religious institution in Ufa, the authority of which extended to all Russian Muslims (except Crimea), and mainly dealt with the spiritual (religious) affairs of Muslims. Later, the institution was renamed "Orenburg spiritual Mohammedan law of assembly", and the Kazakhs were included in the competence of this institution in 1789 [8,1036; 23.8.; 14.33]. Until the "temporary rule" of 1868, the religious affairs of the Kazakh people were under the jurisdiction of this institution.

According to the "temporary rule" of 1868, the religious affairs of the Kazakhs of the steppe regions of Western Siberia and the Orenburg region were removed from the "Orenburg Muslim Religious Assembly" and transferred to the general civil administration, which in turn was transferred to the Ministry of Internal Affairs. The title of ukaznoy mullah was abolished, and mullahs were allowed to perform local religious duties, which in turn were elected from among the population and approved by the governor, and for nomadic and sedentary Kazakhs were allowed to be one mullah per Bolshevik [11,89].

Doszhan Ishan Kashakovich demanded from the tsarist authorities that the law "New Nizam" restricts all the rights of the Kazakhs, to restore it, to reconsider the Kazakhs under the muftiate or to open a separate muftiate for the Kazakhs.

In 1917, while conveying the plight of Muslims to the Provisional Government, S. Rybakov's book "The structure and need for the management of the spiritual affairs of Muslims in Russia" - "Challenges and assumptions of the Muslim community, meetings and observations on the reorganization of the existing order of the administration of Muslims in Kazakh," - [19. 130 -131].

The letter is entitled "The petition of the Urals, Turgais and Orenburg Kyrgyzs for the appointment of a special mufti and spiritual assembly", the text of the letter: Djemagul Musa is the son of Dr. Given in 1888. Farewell to the name of the Minister of Internal Affairs Del for appointments for their special trustees of the Mufti and the Spiritual Assembly ... », – said [19,130-131].

However, in response to a letter of demand from the Kazakh intelligentsia, led by Doszhan Ishan Kashakuli, the tsarist officials wrote: The manifestation of Muslim propaganda and the fact that the Orenburg Magometan Spiritual Assembly and the subordination of them to the general order of civil

administration (paragraph 252) niya 1868) not only does not cause inconvenience, but provides guarantees for the protection of personal and property rights of the Kyrgyz population, as well as for the softening of morals and customs, the responsibility and position of women.

The military governor of Turgai oblast also said: "that the petition is directed against the Temporary Provision of 1868, which has the purpose to overthrow the Kyrgyz people from the hands of the Muslim clergy and to open it to the people for the purpose of gathering and uniting the people" 19,130-131].

Despite these answers, Doszhan Kashakuli did not give up the struggle he started, propagandizing among the people and explaining to the Kazakhs that they should rejoin the "Orenburg Spiritual Assembly" or explain the need for a separate mufti for the Kazakhs.

Despite these answers, Doszhan Kashakuli did not give up the struggle he started, propagandizing among the people and explaining to the Kazakhs that they should rejoin the "Orenburg Spiritual Assembly" or explain the need for a separate mufti for the Kazakhs.

This activity of Doszhan Ishan paved the way for the next generation to protect the interests of the Kazakh people in matters of religion. From 1888 to 1917 (at the request of the delegates of the Kazakhs of Turgai, Uralsk, Akmola, Semipalatinsk regions and the Inner Horde, at the All-Russian Muslim Congress in Moscow in May 1917, It was decided that the religious affairs of the Kazakhs should be directed to the Orenburg Muftiate. The judges of the Muftiate were Kazakhs G. Karashev and K. Akhmetzhanuli ) who fought with the colonial government [18.; 21.; 24.; 5,183].

Deputy of the State Duma of Russia, lawyer B. The intellectuals of Uralsk and Turgai oblasts, led by Karatayev, wrote about the noble initiative of Doszhan Ishan: On behalf of Doszhan Kashakuly, the Minister requested Tolstov to leave the Kazakh religious affairs under the auspices of the Orenburg Spiritual Assembly, or for the benefit of the Kazakh people. This request to hold a separate spiritual meeting was not accepted by the mayors, and the inquirer Ishan Doszhan Kashakuly was dismissed by the akims as unreliable "(police KR)" [27,1-2].

Conclusion. Thus, Doszhan Ishan, the son of Kashak, died in 1890. He was an example to the generation that wanted to fight against the colonial government, which was able to protect the national interests of the Kazakh people in spite of the threats to their lives and repressions. Doszhan Isha's precious bone is buried near the Ishan Ata mosque in Shili (Oiyl River), which he built. Ishan's descendants live in Karakalpakstan and Aktobe region.

Thus, in the lifetime of Doszhan Ishan, he not only spread Islam among the Kazakhs, but also took it to a new level, organizing a pilgrimage for Kazakhs living in seclusion in the XIX century, building a hotel in Madinah, demanding a "separate mufti for Kazakhs" from the government. We have no right to recognize that he was a significant historical figure in the history of the Kazakh people, who served to raise the intelligentsia of that time to a level that neither of them could do.

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#### ДІН ТАРАТУ МЕН МЕШІТ САЛУДА ДІНИ ТҰЛҒАЛАРДЫҢ АЛАР ОРНЫ. ДОСЖАН ИШАН ҚАШАҚҰЛЫНЫҢ (1815-1890 жж.) ӨНЕГЕЛІ ӨМІРІ

Аннотация. Досжан ишан Қашақұлы (1815-1890 жж.) Батыс Қазақстан аумағында ислам дінін таратуды жаңа, биік деңгейге көтерді. Аймақ қазақтарының арасында қажылық сапарды ұйымдастыру, Араб елінде, Меккеде (Мәдина қаласында) қажылыққа барған қазақтардың түсетін «тәкия» үйін салдыруы, «қазақ шежіресін» құрастыруы және XIX ғ. 80 жылдары отарлаушы үкіметтен «қазақтар үшін бөлек мүфтилік» талап ету ісінде аянбай еңбек еткен, қазақ халқының тарихында ерекше орын алатын тұлға.

Досжан ишан оқуын бітіріп, елге келген соң 1850 жылы Доңызтаудағы Тасастау-Қайнар алқабында бірінші мешітін салдырып, бала оқытып, шәкірт дайындайды. Ол турасында діни ағартушы, ақын Әбубәкір Кердері толғауларында көрсеткен.

Доңызтаудан Ойыл өзенінің (Шилі саласы) жағасына Досжан ишан 1868 жылы қоныс аударған. Ойыл бетке қоныс аударуына елдегі 1868-69 жж. «Уақытша ереже» заңының енгізілуі мен Орал, Торғай облыстары қазақтарының, кейін Маңғыстау адайларының отарлаушы үкіметке қарсы болған толку, көтерілістер себеп болды.

1868-69 жж. «Уақытша ереже» қазақтардың шаруашылық, салық, дін, білім мәселелерінде құқығы шектеліп, патша үкіметінің елді отарлауын күшейткен заң еді. Жаңа «әкімшілік реформа» елге көп ауыртпалық міндеттеді. Сондықтан да оған қазақ халқы келіспей көтеріліс жасап, көтеріліске діни сауатты адамдар белсенді қатысты. Көтерілістің ауқымды жүруін ұйымдастырғандардың арасында ишандардың орны жоғары.

Көтерілістен кейін ишандар үкімет тарапынан қыспақ көріп қуғындалды. Оның үстіне XIX ғ. 70 жыл-дары Маңғыстау түбегі Орал мен Торғай облыстары қазақтарына қарағанда отарлаушы үкіметке бағына қоймаған аймақ еді. Сондықтан да Досжан ишан секілді ықпалды, сауатты діни тұлғаның үкімет құзырынан алыста (Доңызтау Солтүстік Үстіртте орналасқан) әрекет етуі отарлаушы патша үкіметін аландатпай қоймады. Содан патша үкіметі өзінің үстемдігі басым орнаған Орал облысына қоныс аудартты, өйткені Досжан ишанның істерін өзінің көз алдында бақылағаны тиімді болды.

Ойыл бойында мешіт салдырғаннан кейін ишан қазақ арасында Меккеге қажылық (Досжан ишан Қашақұлы қажылыққа үш рет барған) сапар шегуді ұйымдастыруды қолға алады. XIX ғ. ортасында Нұрпеке хазіретпен, 1874 жылы ақын Абайдың әкесі Құнанбай бастаған бір топ қазақтармен бірге Меккеге қажылыққа барып келген. Ол сапар турасында шежіреші, ақын М.Ж. Көпеев «Қазақ шежіресі» атты еңбегінде көрсетеді.

Өміріне төнген қауіп-қатерге, қуғын-сүргінге қарамастан қазақ халқының ұлттық мүддесін қорғай білген, отарлаушы үкіметке қарсы күресі келер ұрпаққа үлгі болған, өскелең ұрпақтың жолында талай игі істерге мұрындық болған Қашақұлы Досжан ишан 1890 жылы дүниеден өтті. Досжан ишаның асыл сүйегі, өзі салдырған Шилідегі (Ойыл өзені) «ишан ата» мешітінің жанында жерленген, ишан ұрпақтары Қарақалпақстан мен Ақтөбе облысы аумағында өмір сүреді.

Сонымен Досжан ишанның саналы ғұмырында қазақтар арасында ислам дінін таратумен шектелмей, ол қызметті жаңа деңгейге, әлемдік (XIX ғ. томаға-тұйық өмір сүрген қазақтарға қажылық сапар ұйымдастыру, Мәдина қаласынан қонақүй (тәкие) салу, үкіметтен «қазақтар үшін бөлек мүфтилік» талап ету, сол кездегі зиялы қауымның кез келген бірі мұндай әрекеттерге бара бермейтін) деңгейге көтеруге қызмет еткен, қазақ халқының тарихында елеулі орын алатын тарихи тұлға екендігін мойындауымыз қажет.

Түйін сөздер: ислам діні, ишан, мешіт, қажылық, мүфтилік, Досжан Қашақұлы, Ақтөбе.

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#### РОЛЬ РЕЛИГИОЗНЫХ ДЕЯТЕЛЕЙ В РАСПРОСТРАНЕНИИ РЕЛИГИИ, СТРОИТЕЛЬСТВЕ МЕЧЕТЕЙ. О НРАВСТВЕННОЙ ЖИЗНИ ДОСЖАНА ИШАНА КАШАКУЛЫ (1815-1890).

**Аннотация.** Досжан ишан Кашакулы (1815-1890) поднял распространение ислама на территории Западного Казахстана на новый, более высокий уровень. Организация паломничества среди казахов региона, строительство дома "Такия" в арабской стране, в Мекке (Медина), составление "Казахской генеалогии" и XIX в. Он является одной из самых влиятельных фигур в истории казахского народа, который неустанно трудился, требуя от колониального правительства в 80-х годах «отдельного муфтията для казахов».

После окончания медресе Досжан ишан приезжает в родные края. В 1850 году в Донызтау – долине Тастау-Кайнар он построил свою первую мечеть, обучал детей и воспитывал учеников. Об этом в своих размышлениях говорил религиозный просветитель, поэт Абубакир Кердери.

Досжан ишан 1868 году был переселен из урочища Донызтау к берегу реки Ойыл (приток Чилии ). Переселение было связано с введением закона «Временное положение» в 1868-69 годах и восстаниями казахов Уральской и Тургайской областей, а затем и Мангистауской области против колониального правительства.

Согласно «Временному положению» в 1868-69 годах социально-экономические, религиозные и образовательные права казахов были ограничены, а царское правительство усилило колонизацию страны. Новая «административная реформа» легла тяжелым бременем на страну. Поэтому казахский народ восстал против этого, и религиозно грамотные люди приняли в нем активное участие. Среди тех, кто организовал масштабное восстание, были муллы и ишаны.

После восстания ишаны преследовались правительством. В 70-е годы полуостров Мангистау был более подчинен колониальному правительству, чем казахи Уральского и Тургайского районов. А урочище Донызтау находилось ближе Мангыстау. Вот почему колониальное царское правительство было встревожено тем, что такой влиятельный и образованный религиозный деятель, как Досжан ишан действовал не на стороне правительства (Донызтау расположен на Северном Устюрте).

В результате царское правительство переселило религиозного деятеля в бывшую Уральскую область, где они доминировали, поскольку для них было более эффективно контролировать дела Досжана ишана на их глазах.

После строительства мечети в Ойыле ишан начал организовывать паломничество в Мекку среди казахов (сам Досжан Ишан Кашакович трижды совершал паломничество).

В XIX веке, приблизительно в 1874 году, Досжан Кашакулы с хазратом Нурпеке и группой казахов во главе с отцом поэта Абая Кунанбаем отправились в паломничество в Мекку. Об этой поездке писал своей работе «Казахский шежире» поэт М. Ж. Копеев .

Человек, посветивший себя служению народу, образец подрастающегося поколения Досжан ишан Кашакулы умер в 1890 году. Патриот своего народа, выдающися религиозный деятель Досжан ишан похоронен возле построенной им мечети Ишан Ата в Шили (река Ойыл). Потомки ишана живут в Каракалпакстане и Актюбинской области.

Таким образом, при жизни Досжан ишан не только распространял ислам среди казахов, но и поднял его на новый уровень, организовал паломничество для казахов, живущих в изоляции в XIX веке, построил отель в Медине, потребовал от правительства «отдельного муфтията для казахов». Мы должны признать, что он был важной исторической фигурой в истории казахского народа, который служил для поднятия роли интеллигенции того времени до небывалого уровня.

Ключевые слова: религия ислам, ишан, мечеть, поломничество, муфтият, Досжан Кашакулы, Актобе.

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#### REFERENCES

- [1] Adjigaliev S. Pamyatniki Donwztaw (Severniy Wstyurt) // Vestnik NAN, 1991.
- [2] Ajïgalï S.E. Otçet Zapodno-Kazaxstanskoy kompleksnoy étnoarxeologïçeskoy ékspedïcïï- 2008(Donıztaw). Arxïv ÏİÉ ïm. Ç.Ç. Valïxanova MON RK.
  - [3] Arğınbaev X. Qazaq xalqınıñ qolöneri. A., «Öner»,1987.
  - [4] Äjiğali S.E. Dosjan işçan- Qaşaqulı(1812-1896)// Qazaqstan ulttıq énciklopediya. T-3. A., 2001.
  - [5] Bökeyxanov Ä. Musılman sïezi // Ä. Bökeyxanov. Şığarmalar. A., «Qazaqstan», 1994.
- [6] Ğabjalïlov X. Qazaq qajılarınıñ Medïnada saldırğan Täkïeleri twralı derek // «Alaş» tarïxï-étnologïyalıq ğılımï jwrnal. 2005,№ 1.
  - [7] Eskertkiş el tarïxı. S.Ï. Äjiğalïevtiñ jetekşiligimen qurastırılğan bağıttama. A., 1992.
  - [8] Zakonodatelstvo Ekaterini II. M., «İzdatelstvo yuridiçeskoy literatwrı» 2000.
  - [9] Kerderi Äbwbäkir. «Qazağım»(Öleñ tolğawlar, aytıs, jırlar) A., «Jazwşı», 1993.
  - [10] Köpeyulı Mäşhür Jüsip. Qazaq şejiresi. A., «Jalın», 1993.
  - [11] Kraft I. Sbornïk wzakoneniï o kïrgïzax. Stepnıx oblastey. Orenbwrg, Tïpo-lïtografiya P.N. Jarïnova. 1898.
  - [12] Qwanjanova J. Dosjan ïşan twralı ne bilesiz? // «Temir» (Aqtöbe oblısınıñ awdandıq gazeti, 1998. №1).
  - [13] Qudayberdiulı Şäkärim. Türik, qırğız-qazaq häm xandar şejiresi. A., «Qazaqstan», «Sana», 1991.
  - [14] Nwrgalïeva A.M. Oçerkï po ïstoriï Ïslama v Kazaxstane. A., «Dayk Press», 2005.
- [15] Ozğanbay Ö. «Jar bol» dep sïinğanda jebeydi eken nemese Pir atanıñ «Er Beket» atanıw sırı // Jas Alaş (g), 2000. 16-qırküyek.
  - [16] Otarbaev R. Mekkedegi tört üy // «Parasat» (j), 1992. №1.
  - [17] Ötemis Ï. Dosjan xaziret // «Altın orda» (g), 2000. 14- tamız.
  - [18] Rüstemov S. Orınbor müftiligi jäne qazaqtar// Qazaq tarixı, 2004.№4.
  - [19] Salqınulı S. Dosjan xaziret(ğumırnamalıq bayan) A., 2006.
  - [20] Saparalı Beybit. Ounanbay gajı. A., «Er-Däwlet», 1995.
- [21] Smanova G.P. K,azak,standaģy mұsylman dín basylarynyң k,yzmetí(KHÍKH ġasyr-KHKH ġasyrdyң basy)// Otan tarikhy, 2005.№3.
- [22] Smirnov Ye.T. Dervishizm v Turkistane// Materialy po musul'manstvu. Vypusk. 2. Tashkent, Tipografiya shtaba Turkistanskogo voyennogo okruga. 1898.
- [23] Sultangaliyeva G.S. Deyatel'nost' tatarskikh, kazakhskikh i bashkirskikh deputatov v gosudarstvennoy dume(1906-1917) // Vestnik KazNU. Seriya istoricheskaya №4(23), 2001.
- [24] Swltangalieva G.S., Alitwrlieva A.K. Orenbwrgskoe magometskoe dwxovnoe sobraniya i Orenbwrgskaya vlast(vtoraya polovina XVIII- pervaya polovina XIX vv.) Qarağandı wniversitetiniñ xabarşısı. 2006.
  - [25] Urpaqulı T. Oyşıl, ağartwşı, xaziret // «Temir» (Aqtöbe oblısındağı gazet), 2000. 13-mamır.
  - [26] Şañgereev E. Kişi jüz piri- Dosjan xaziret // «Temir»(Aqtöbe oblısında şığatın gazet), 2000.9-qırküyek.
- [27] «1905 jılı Oral oblisinin jäne Torğay oblisinin Peterbwrgqa depwtat bolip barğan izgi ïşandarının häm bilerinin din turğısından häm jer turğısından är ministirge». Oral qalasında basılğan kitapşa. 1905.(Töteşe arap äripimen jazılğan).

## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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### IDEOLOGICAL BASES OF THE ISLAMIC GOVERNANCE IN IRAN: TO THE HISTORY OF THE QUESTION

**Abstract.** The issue of the concept of "Islamic republic" continues to be discussed in different countries by orientalists, philosophers, political scientists, lawyers, theologians. At the same time, many researchers pay special attention to the peculiarities of socio-political life, the nature of socio-economic transformations and other phenomena in the Islamic Republic of Iran (IRI) [1, p. 84]. In this, the authors believe that one can come to the right position with respect to the role of clergy in the Iranian revolution, recognizing both the peculiarities of the ideological foundations of Islam and revealing the clergy as a special group of people with their own specific ideals and organizational structure. It defines the content of the Islamic-republican form of government and offers its own vision of the theocratic regime in this country.

Key words: Islam, dynasty, Majlis, ulama, Shiites, monarchy, politics, ideology.

Introduction. As a rule, all interpretations of the "Islamic republic" in Iran are based on the book by Ayatollah Khomeini "Hokumat-e-jomhuri-eslami" ("The Board of the Islamic Republic") and his famous speeches on building a fair state system, etc. As Said Amir Arjomand observes, "Khomeini's theory of 'wilayat-e fakih', created in 1971, is an important innovation in the history of Shiism, and it allowed turning the discussion of the rights of the regent into a theocratic political theory" [2, p. 153-154]. However, few mention Khomeini's predecessors, who first formulated the idea of creating an "Islamic republic." According to N. Kuznetsova, one of the representatives of the Sufi movement in Shiism, Shams al-Oraf, wrote about the need to build a state in Iran on the basis of religious laws, back in the late 19th and early 20th centuries [3, p. 7]. One of the features of the views of Shams al-Oraf is the denial of the right of the Shiite clergy to lead the country.

**Methods.** In the analysis of materials and their scientific interpretation, we used the following research methods: analysis, synthesis, comparison, diachronic.

At one time, the Baha'is proposed their concept of creating a "world republic". However, the Shiite clergy did not accept their idea, considering the Baha'is an accomplice of Zionism. One of the first to accuse the Baha'is of involvement in international Zionism, the leader of the Islamic organization "Tabligat e Eslami", Sheikh Halabi [4, p. 158]. Also raised the question of creating a single Muslim state and Jamal ad-din Afghani. It should be noted about the influence on the Iranian clergy of Arab supporters of the creation of the "Islamic Republic". This influence is most clearly seen in the works of Ali Shariati, who in the 1960s – 1970s. developed the concept of creating an ideal Muslim society following the example of the Muslim community of the time of the Prophet Muhammad and the early Caliphate. In this, he did not differ from other supporters of the return to the period of the "golden age" of Muslim statehood. And yet there is a significant difference between them.

**Results.** According to the ideas of A. Shariati, the basis of a fair Islamic government should be based on Imamite Shiism, i.e. the religion of "active protest", and not inaction and the expectation of the arrival of the Mahdi. Supporters of "true" Mujahideen Islam must take authority, i.e. "Red Shiism" (Shiism of Alids), and not adherents of "black Shiism, i.e. Shiism of the Safavids [3, p. 8]. According to A. Shariati,

the head of an ideal state should be a true "follower of God", ready to stand at the head of the revolutionary movement and improve the Shiite state on the principles of Islam. "Choosing the right position in relation to the role of the clergy in Iran," says M. Fisher, "requires recognition of both the peculiarities of the interpretation or ideology of Islam and the recognition of clergy as a distinctive group of people with their ideals and organizational structure" [1, p. 84].

What is the peculiarity of the interpretation of Islam ideology by such prominent spiritual leaders as R. Khomeini, A. Banisadr and I. Yazdi, when they set forth the principles of the state system of the Islamic republic?

As you know, in Shiism (a branch of Islam that originated in the 12th century in the Arab Caliphate and advocated the rights of Ali ibn Abi Talib and his descendants from Fatima), spiritual leaders, adhering to the well-known concept of the imam, tried to stay away from secular authority. The prevailing doctrine (faith in a hidden imam) did not allow Shiism to form sufficiently strong state structures. Any earthly ruler, before the arrival of the Mahdi, can't be considered legal and true. Researcher of the theory of Islamic rule Khomeini Said Amir Arjomand once noted that "the most important feature that distinguishes Shiism from Sunni Islam is the separation of political and religious authorities and the transfer of autonomy from state to religious institutions" [2, p. 147].

R. Khomeini noted that during the "presence of a true imam or an imam appointed by him, he is the absolute ruler over the whole society and has all the advantages and conditions necessary for the leader of the nation" [5, p. 3]. According to the Constitution of the Islamic Republic of Iran, approved by referendum on December 2-3, 1979, the entire mechanism of power is under the full jurisdiction of a true imam, since he single-handedly sets laws, appoints executive and judicial bodies, manages the army and weapons, and puts the financial system in place. Apparently, the influence of the idea of Ibn 'Arabi and the mall of Sadr about the spiritual development of the head of state and his attitude to the Muslim community affected here.

It should be noted, that the leading role of the clergy is one of the main features of the entire state mechanism of the Islamic republic. He controlled all the links of this mechanism and, all attempts to weaken this role were harshly suppressed by putting into action the most diverse levers of influence inherent in the very state structure of the Islamic republic.

The main center of state power in Iran was the "Velayat-i Fakih" Institute, the post of leader of the country, which was once held by Imam Khomeini. In the period of "absence" of a true imam, the Islamic state needs a special form of government, and the sacred texts contain a number of provisions that can serve as a key in approaching this problem. R. Khomeini identifies four such provisions. This provision is about fatwa, about advice, about mujtahid and about morality.

- 1. The provision of fatwa. It consists in the fact that the fatwas of those who meet the conditions for making the fatwa and are worthy of making decisions in accordance with the Sharia, i.e. to extract from existing documents and proclaim Islamic decrees must be carried out by those who do not have these achievements (ability to endure fatwas).
- 2. Regulations on the council. If any question is called into question, it is tabled for clarification of the truth.
- 3. The provision of Mujtahid (velayat-e fakih-e mujtahed). Whoever has the ability to interpret religious foundations and primary sources answers to the title of Mujtahid, Islam will bestow the right to guide over part of the property and citizens of society.
- 4. The provision of morality. Its content was not disclosed to R. Khomeini, however, he notes that its explanation is given in the figh book.

"The Imam is a symbol of society as an attribute of continuity," A. Banisadr noted [6, p. 326]. The imam should not act as ruler. He is the embodiment of the Islamic order and a symbol of society. He seeks to ensure that Islamic principles are realized.

It should be noted that the ideas of Islamic rule, in which the Muslim clergy will be some kind of executive power, never prevailed in states where Shiism dominated. Islamic rule cannot mean a government, they say, since the basis of Shiism philosophy is the rejection of any form of government on the grounds that until the advent of the "hidden imam" any other government can only be usurper.

Mujahtids (Ijtihad practitioners) among Shiites (ash – shi'a, adherents of Ali) are people who are in direct contact with the twelfth imam, due to their scholarship and high moral qualities. Mujtahids usually come from among the "Mawla" (Mullah), which constitute a special caste in the Shiite environment. Mujtahid is a mullah with a high level of religious knowledge. Thanks to this, as well as popular support, he is independent of state power. "Unlike the Sunni ulama," said Rodinson, "Shiite moles form an autonomous force whose wealth makes them independent of the state" [7, p. 19]. For him, the only legitimate authority is Imam Mahdi. Only with his return to society is order and lawfulness possible. Sometimes the Mujtahids have the honorary title of "Ayatollah" (God's sign), which serves as an honorary appeal.

If you look at Shiism historically, this branch of Islam arose as a religion of resistance of those regions and peoples who sought liberation from centralization under the auspices of the caliphate. From the point of view of Shiism, any secular authority that ignores the authority of the imam is outside the law. Legitimate power is the power of imams. For Shiites, Ali and the subsequent imams are depositories of hidden sacred meaning. Incidentally, the theme of the hidden message in some branches of Shiism (among the Druze and Ismailis) is so strong that any value of positive law based on the Qur'an is denied. As a result, Shiism has a complex religious hierarchy (mullah, hojjat al-islam, ayatollah). Among the members, a simple believer chooses his spiritual leader. One of the specific features of Shiism is that the Ayatollah, elected on the basis of universal consent, acts as the deputy of the still hidden imam. Another feature for Shiism is the cult of martyrs. For him, the evidence of martyrdom is of fundamental importance and directly related to the assassination of Ali in 661. On the whole, the specifics of the Shiite doctrine can be expressed in the following points: a Gnostic assessment of the hidden imam of the Qur'an; the expectation of the return of the messiah, which is associated with the revival and the Day of Judgment; devotion to the heirs of the Prophet; expanding the scope of the individual human mind's ability to interpret sacred texts; cult of martyrdom; the area of faith is governed by the direction of Allah; the economic system in an Islamic state should be based on morality.

Turning to the remarks of R. Khomeini, we will see that for him the best form of state structure during the period of "absence" of a true imam is a republic, whose authorities are based on sacred Islamic texts (the Qur'an, Sunnah) that contain the fundamental provisions of religion. Moreover, by the republic he meant a democratic system, at the head of which was not a monarch. Sovereignty is enjoyed by the whole nation, which expresses a common will to elect state bodies. In the Islamic Republic, these bodies should be combined into three groups: 1) a decision-making group (based on Sharia); 2) an advisory group; 3) the executive group. The decision-making group is the legislative branch. In the understanding of R. Khomeini, since the laws of the country should be Islamic laws, the decision-making group should extract them from the Qur'an and Sunnah and enforce it. The decision-making group is a kind of legislative power guided by religious regulations. The advisory group in the development and approval of various projects should be based on the decisions of the decision-making group. All decisions and fatwas are also an Islamic program of action for the entire Muslim society [5, p. 5]. If some fatwas can cause disagreement between members of the decision-making group, then the principle of advice applies. Fatwa is being discussed with the most respected theologians. If there is no consensus among them, then a vote shall be taken. In order to correctly solve the problem, technical specialists can be involved in the decision-making group and the advisory group. The Council of Specialists will help ensure that fatwa does not go beyond the Islamic canons, and at the same time it complies with modern realities.

Another body - the deliberative group - is in line with the modern parliament. Its deputies are elected by the people. This group discusses and considers various projects of state affairs, approves them in accordance with the interests of the country and passes them to the executive body. At least five deputies of this group must be *Mujahideen* and *Fakihs*, so that all laws are approved under their control and do not go beyond the scope of Islamic prescriptions. Their opinion in parliament is decisive. The third group (executive) is a collegium of ministers who are elected and appointed by parliament. Her responsibilities include the appointment of people to grassroots posts, the execution of state programs, the control of those responsible for a particular area of work, and the issuance of executive orders.

R. Khomeini believed that all employees, starting from the minister and ending with the rural judge, must be *Mujahideen* and *fakihs*. Appealing to the "great Islamic values", he declared that under the Islamic system everyone would be brothers and equals. Sincerity and brotherhood will prevail between people [5, p. eleven].

This situation in the construction of the state apparatus, despite the fact that it seems to be possible, in a fairly short time, to concentrate in the hands of a single leadership the solution of the issues of economic and social development of post-revolutionary Iran, which was in the interests of the people, narrowed down the range of opportunities for building prerequisites and further realization of the political role of the clergy, reducing the possible channels for achieving its goals and limiting its activities to the spiritual sphere. On the other hand, it contained the danger of the development of excessive centralization and centralized bureaucracy in the person of the clergy, which gained the opportunity for independent activity and the realization of their specific interests, which opened up scope for the "Islamization" of society.

R. Khomeini used his approach to the problem of land ownership primarily against the Shah's regime, its agrarian policy, which did not take into account that the land is "God's mercy and God's gift". Moreover, his reasoning is based on the following scheme: there is God who created the earth for the benefit of the people living on it. Based on the principle of God's ownership of the earth, all human activities on earth should be carried out within the framework prescribed by God, because after its creation God did not refuse it, so that anyone who wants to take it, and who does not want, abandon it. That is why, according to the logic of R. Khomeini and his followers, no one can be deprived of divine blessings, except in special cases when the use of these blessings harms other people and society. Thus, on the one hand, the earth and the whole world are in the absolute property of God, on the other hand, the earth and its fruits, in the broadest sense of the word, are at the disposal of individuals. God created and handed it to people. He allowed them to transform, acquire and turn land into property (under certain conditions and restrictions) so that they cultivated and transformed it for their own benefit, and this permission remains valid even during the absence of the twelfth imam, as in relation to the faithful and so "unfaithful."

The essence of such reasoning is to prove that a person has the right to use the land, as long as he masters it, i.e. processes and acquires the fruits of his labors; Does not impede its development by others who have legal rights to it; pays the tax established by the Islamic state. It logically follows from this that the acquired property is not the property of the state, but is in the personal property of a person. But R. Khomeini concludes: the land and the surrounding world are divided into state property, i.e. land and personal property not developed or acquired by anyone, i.e. developed and acquired lands owned by individuals, regardless of whether they are true or false. Based on these two types of property, a country's budget is created, consisting of two parts - state property, called the treasury of the imam, and national property, which is the treasury of Muslims [5, p. 14].

In turn, he divides state property into two types: property granted by God, and property in the form of *hums* (20 percent Muslim tax). The first type of state ownership includes unused lands, mountains, seas, rivers, property of former monarchs, lands and property conquered from infidels, etc. The second type of state property is formed by collecting hummus from war trophies, mining, found treasures, etc., from land transactions concluded by infidels with Muslims, from any income received. *Zakat* is a national property a special type of tax, the collection of which is regulated by Islamic rules. The consumption of all these types of property is carried out by the Islamic government in order to cover the costs of maintaining the state apparatus and satisfy the needs of the population.

Unlike R. Khomeini, other theorists and ideologists of the Islamic Republic A. Banisadr and I. Yazdi sought to develop a model of Islamic society in which the main criteria would be social and economic justice, interpersonal and social harmony. A. Banisadr does not accept relations based on the principles of submission and domination, and introduces the concept of "positive and negative balance." By a "positive balance" he means a system of relations when a strong country, or a strong political system, or a strong person seeks to dominate others. In the conditions of a "negative balance" there are no relations of domination and submission. Since modern society is based on the principle of power, the "concentration of power" in the hands of individuals, groups or entire states gives them the opportunity to dominate others. The concentration of power leads to the concentration of wealth, and the concentration of wealth

enhances the concentration of power. He noted: "Those who do not have wealth do not have access to power" [8, p. 4].

The principle of "concentration of power" is, from the point of view of A. Banisadr, the universal law of the development of society. Based on this principle, a division of society into states took place; political, economic, social, ideological, cultural and religious systems arose. "Concentration of power" led to the emergence of "political power", by which he meant a secular state, which in essence is anti-people. "This state," A. Banisadr wrote, "does not recognize the right of the people to determine their fate. It brings racial, national and religious disunity, manipulates politics in its own interests, uses national wealth to concentrate and develop its power "[8, p. 42]. The system of "concentration of power" can be destroyed only with the elimination of factors that create the possibility of the formation of centers of power. A. Banisadr proposes to oppose "political power" to a "monotheistic (tauheid) society" based on three fundamental principles: recognition of monotheism, the right to free labor and appropriate remuneration, and refusal to use force in any form. He believed that a society based on these principles would not create the conditions for concentration of power.

One of the most important points of a «monotheistic society», from the point of view of A. Banisadr, is the question of property. Based on the canons of Islam, A. Banisadr indicates that the property belongs to God. However, he gives the following clarification: tools and objects of labor should be in common use and transmitted from generation to generation [8, p. 142]. Property is transferred by the Most High to the general disposal of all mankind. An encroachment on property is an encroachment on the Almighty. If we follow the logic of A. Banisadr, then a person is only the owner of his work. He cannot forcefully acquire other property or the results of another's labor. This excludes the accumulation of property, and, consequently, inequality between people. Only through labor does man become connected with God. The «tauheid» society outlaws any unearned income, since in this society the principle of a person's property only on his own labor dominates.

A. Banisadr considers the imamat to be the most correct form of government and organization of the economic activity of society, since it is free from vices of existing socio-economic systems. Under this form of government, people are not the absolute owners of the results of their labor. Therefore, a person cannot at his own discretion dispose of his work and the results of labor. «Since the nature and natural resources at God's disposal are limited and based on the fact that the goal of Islam is to free a person from unbelief and convert him to faith, a person's property in his work and the results of labor should be limited», A. Banisadr considered [8, c. 273]. In other words, a person in his activity should be guided not only by his personal interests, but also by the interests of society, of which he is a member and the interests of future generations. Therefore, in Islamic society, there must be an organic connection between people, society and God. "The connection of man with God is carried out through the connection of society with God" [8, p. 281]. A tauheid society should be free from class, national, and other differences, since Islamic ideology is based on tauheed: everyone before God is equal, perfect, and pious. A. Banisadr believed that no law can be adopted without taking this principle into account. The Islamic community should be led by an imam whose property cannot be absolute either. He has no authority to deprive anyone of the right to work and labor results. The Imam cannot be the absolute owner of the land as an object of labor; he cannot deprive anyone of working on the earth. All these and other restrictions are imposed on the imam for what A. Banisadr believed, so that he would not become a government.

The construction of a "tawheed" society should begin through the recognition of God and Islam as the only criteria governing human activity and social relations. For this, A. Banisadr noted, it is necessary to eliminate the shah's regime and establish a national order that will restore the country's independence, get rid of economic, political and cultural dependence on foreign states [9, p. 93]. In general, while sharing the basic ideas of A. Banisadr, I. Yazdi believed that the following features should be inherent in Islamic society. Firstly, this society should be independent in economic and political relations from external forces. Secondly, in this society there should be no "concentration of power" and violence. Thirdly, there should not be poverty in Islamic society [9, p. 2]. Fourthly, the principle of equality should prevail in Islamic society. Fifth, in this society wealth should belong to the whole nation.

#### 3.Г. Джалилов<sup>1</sup>, Б.Ш. Батырхан<sup>2</sup>

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#### ИРАНДАҒЫ ИСЛАМДЫҚ БАСҚАРУДЫҢ ИДЕОЛОГИЯЛЫҚ НЕГІЗІ: ШЫҒУ ТАРИХЫ

Аннотация. Түрлі елдің шығыстанушы, философ, саясаттанушы, заңгер мен дінтанушылары «ислам республикасы» түсінігінің мағынасы туралы мәселені әлі де талқылауда. Зерттеушілердің көпшілігі Иран Ислам республикасынның (ИИР) қоғамдық-саяси өмірінің, әлеуметтік-экономикалық өзгеруі және басқа да құбылыстар сипатының ерекшеліктеріне айрықша назар аударып отыр. Осы жерде авторлар исламның идеологиялық негіздерінің ерекшеліктерін мойындау және дінбасын — ерекше мұраттары мен ұйымдық құрылымы бар айрықша топ ретінде жайып көрсету арқылы, Иран революциясындағы діни тұлғалардың рөліне қатысты көзқарастың оңды болуы мүмкін деп есептейді. Оның ішінде ислам республикалық басқару түрінің маңызын анықтап, осы елдегі теократиялық режимге қатысты жеке пікірін білдіреді.

Иран Ислам республикасындағы «ислам республикасының» барлық түсіндірмесі Аятолла Хомейнидің «Хакумат-е-джомхури-эслами» («Ислам республикасын басқару») кітабына және оның әділ мемлекеттік жүйені құру туралы әйгілі баяндамаларына және т.б. негізделген.

Ирандағы мемлекеттік биліктің негізгі орталығы – бір кездері Имам Хомейни басқарған ел басшы лауазымындағы «велаят-и факих» институты. Нағыз имамның «болмауы» кезеңінде исламдық мемлекетке ерекше басқару формасы қажет, ал қасиетті мәтіндерде бұл мәселені шешудің кілті бола алатын бірқатар ережелер бар. Р. Хомейни осындай төрт ережені анықтайды. Бұл – пәтуа, кеңес, мужтахид және мораль туралы ереже.

Егер шиизмге тарихи тұрғыдан қарайтын болсақ, исламның бұл тармағы халифаттың қол астында орталықтандырудан босатылуға ұмтылған сол өңірлер мен халықтардың қарсыласу діні ретінде пайда болды. Шииттердің көзқарасы бойынша имамның беделін елемейтін кез-келген зайырлы билік заңнан тыс деп танылады. Заңды билік – имамдардың күші.

Жалпы, А.Банисадрдың негізгі идеяларын бөлісе отырып, И.Язди исламдық қоғамға келесі ерекшеліктер тән болуы керек деп санайды. Біріншіден, бұл қоғам экономикалық және саяси қатынастарда сыртқы күштерден тәуелсіз болуы қажет. Екіншіден, бұл қоғамда «күш шоғырлануы» және зорлық-зомбылық болмауы шарт. Үшіншіден, исламдық қоғамда кедейлік болмауы керек. Төртіншіден, ислам қоғамында теңдік қағидасы басым. Бесіншіден, бұл қоғамда байлық бүкіл халыққа тиесілі болуы керек.

Түйін сөздер: ислам, әулет, мәжіліс, ұламалар, шииттер, монархия, саясат, идеология.

#### 3.Г. Джалилов<sup>1</sup>, Б.Ш. Батырхан<sup>2</sup>

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#### ИДЕОЛОГИЧЕСКИЕ ОСНОВЫ ИСЛАМСКОГО ПРАВЛЕНИЯ В ИРАНЕ: К ИСТОРИИ ВОПРОСА

Аннотация. Вопрос о содержании понятия «исламская республика» продолжает обсуждаться в разных странах востоковедами, философами, политологами, юристами, богословами. Многие исследователи особое внимание при этом обращают на особенности общественно-политической жизни, характер социально-экономических преобразований и другие явления в Исламской Республике Иран (ИРИ) [1, с. 84]. В данной статье авторы считают, что к правильной позиции по отношению к роли духовных лиц в иранской революции можно прийти, признавая как особенности идеологических основ ислама, так и раскрывая духовенство как особой группы людей, имеющих свои специфические идеалы и организационную структуру. В ней дается определение содержанию исламско-республиканской формы правления и предлагается свое видение теократического режима в этой стране.

Все трактовки «исламской республики» в ИРИ базируются на книге аятолла Р. Хомейни «Хокумат-е джомхури-йе эслами» («Правление исламской республики») и его известных выступлений о построении справедливого государственного устройства и т.д.

Главным центром государственной власти в Иране стал институт «велаят-и факих», пост руководителя страны, который в свое время занимал имам Хомейни. В период же «отсутствия» истинного имама исламскому государству необходима особая форма правления, причем в священных текстах содержится ряд

положений, которые могут служить ключом в подходе к данной проблеме. Р. Хомейни выделяет четыре таких положений. Это положение о фетве, о совете, о муджтахиде и о морали.

Если взглянуть на шиизм исторически, то эта ветвь ислама возникла как религия сопротивления тех регионов и народов, которые добивались освобождения от централизации под эгидой халифата. С точки зрения шиизма, любая светская власть, игнорирующая авторитет имама, находится вне закона. Легитимная власть — это власть имамов.

В целом, разделяя основные идеи А. Банисадра, И. Язди считал, что исламскому обществу должны быть присущи следующие черты. Во-первых, это общество должно быть независимым в экономическом и политическом отношениях от внешних сил. Во-вторых, в этом обществе не должно быть «концентрации власти» и насилия. В-третьих, в исламском обществе не должно быть бедности. В-четвертых, в исламском обществе должен господствовать принцип равенства. В-пятых, в этом обществе богатство должно принадлежать всему народу.

Ключевые слова: ислам, династия, меджлис, улемы, шииты, монархия, политика, идеология.

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#### REFERENCES

- [1] Fisher M. Becoming Mollah: Reflections on Iranian Clerics in a Revolutionary Age // Iranian Studies. 1980. Vol. 13. Nos 1-4. P. 83-113.
  - [2] Ariomand S.A. The State and Khomeini's Islamic Order // Iranian Studies, 1980, Vol. XIII, Nos. 1-4, P. 147-164.
- [3] Kuznecova N. K voprosu o tipologii islamskogo respublikanskogo rezhima v Irane // Islamskaya Respublika Iran (1979-1984 gg.). Byulleten' IV AN SSSR. 1986. №3 (242). p. 7-41.
- [4] Bazilenko I. Bekhaity v Islamskoj Respublike Iran // Islamskaya Respublika Iran. Byulleten' IV AN SSSR. 1986. № 3 (242). S. 155-163.
  - [5] Ayatolla Homejni. Islamskoe pravlenie. Almaty, 1993. 29 s.
  - [6] Banisadr A. Dzhumhuri-ji islami. Tegeran, 1979. 144 s.
  - [7] Rodinson M. Khomeiny ou la primaute du spiritual // Nouvel observateur. Paris. 1979. 19-25 février. № 745. P. 18-19.
  - [8] Banisadr A. Islamskaya ekonomika (Iktisad-i tauhidi). Tegeran, 1979. 426 s.
  - [9] Yazdi I. Du makala dar bare-ji iktisad-i islami. Tegeran, 1979. 62 s.

### Culture

## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# ACTUAL PROBLEMS OF CONSERVATION OF THE INTANGIBLE CULTURAL HERITAGE IN THE CONTEXT OF EURASIAN INTEGRATION

Abstract. The Eurasian cultural space today is based on the thousand-year history of the joint existence of different ethnic groups and peoples. Shared values that ensure the stability of the cultural ties system are intensive intercultural interaction and recognition of the intrinsic value of all ethnocultural phenomena of many continent's regions. Of crucial importance for a new round in the formation of the Eurasian community is culture. Due to the intensification of intercultural interaction in the 19th-20th centuries, a unique situation developed in Kazakhstan. At the same time various traditions together make up a single cultural system: folklore, the work of professionals of the oral tradition (zhyrau, akyns, kuishi, etc.), the national composer school, as well as mass music. One of the first researchers who not only discerned the similarities of the cultures of Eurasia in the 1920-1930s but also made considerable efforts to recognize the common cultural space of European and Kazakh music at the world level was A.V. Zataevich. A Eurocentric approach, the features of which are conservation, conservation, selection, change ("improvement"), alienation, is characteristic for the research and political position regarding national art in the Soviet Union. In the process of creating a unified cultural space, it seems essential to shift the emphasis in ethnomusicological studies from a "hermetic" approach to tradition as a valuable phenomenon in the study of musical traditions in a broad cultural (musical oriental studies) context. Preservation of the intangible heritage in its living, not alienated from the natural environment of life in society, forms should become a pan-Eurasian task. Its most important component is the study of both the past of traditions and their current state.

**Keywords:** preservation of intangible cultural heritage, Eurasian integration, musical traditions of Kazakhstan, interdisciplinary research of cultural heritage.

Philosophers formulate the idea of a Eurasian cultural community in the 1930s (N. Trubetskoy [1], P. Savitsky [2], L. Karsavin [3], later L. Gumilyov [4], A. Bershtein, D. Kartsev [5]). Now it has become the cornerstone in the formation of various political and economic unions that unite a significant part of the Eurasian continent. The Eurasian cultural space today is based on principles of the thousand-year history of the joint existence of different ethnic groups and peoples. The shared values that ensured the stability of the system of cultural ties were, on the one hand, intensive intercultural interaction (especially intensified in the 20<sup>th</sup> century), and on the other, recognition of the intrinsic value of all ethnocultural phenomena belonging to peoples of different regions of the continent.

Kazakhstan, as a country located in the center of Eurasia, at the crossroads from the Far East to Europe, played a vital role in the formation of a new Eurasian community. The most important historical milestone in the creation of the neo-Eurasian movement is the nomination of the idea of the EAU made by N.A. Nazarbayev in 1994 at a meeting with the faculty of M.V. Lomonosov Moscow State University [6]. In the future, Kazakhstan, as the leader of the Eurasian movement in the CIS countries, initiated many projects aimed at expanding the integration processes in the sphere of politics, economy, culture. The result today is the successful activity of such macrostructures of world geopolitics as the Customs Union,

EurAsEC, CSTO, SCO. The initiatives of the Head of Kazakhstan N.A. Nazarbayev, aimed at creating a single Eurasian space, characterize Kazakhstan as a leading organizing and centralizing state in the process of forming the Eurasian Union.

A special place of Kazakhstan in the Eurasian movement is due to many factors reflecting the uniqueness of its geographical location [7, pp. 68-73], a history uniting it with several countries [4, 4], a culture synthesizing the components of traditional cultures of different peoples [8].

Culture has a critical value for a new stage in the formation of the Eurasian community. Understanding our shared history, the cultural similarities and uniqueness of each nation, preserving the spiritual wealth of us today are becoming the key to sustainable joint development. The basis of the collective Eurasian identity is the mythopoetic complex and the traditions of each nation associated with it, which manifested in the renewal of the links between contemporary art and folklore [9]. In this regard, the problems of interaction in the field of preservation of cultural heritage are particularly relevant.

The history of the mutual cultural exchange of the Eurasian peoples dates back more than a thousand years. Its activation in the 19<sup>th</sup> century is associated with a desire for international integration. For a long time, the Russian language and culture were considered the shortest way to enter the world stage, as evidenced by the repeatedly quoted Abay saying of 25 words:

"We need to learn Russian literacy. Spiritual wealth, knowledge, art, and other innumerable secrets the Russian language keeps. To avoid the vices of the Russians, to adopt their achievements, one must study their language, comprehend their science. Because the Russians, having learned other languages, becoming familiar with world culture, have become what they are. The Russian language will open our eyes to the world... Russian science, culture is the key to world treasures. Owning this key, everything else will go without much effort... You need to learn to find out what other peoples know, to become equal among them, to become a defense and support for your people..." [10, p. 142].

It was this path to the wealth of world (or rather European) culture that also appeared in the musical sphere: the Russian model of building a national composer school through collecting, studying and using folklore was made in Kazakhstan thanks to such musical figures as A. Zataevich, A. Zhubanov, L. Khamidi, B. Yerzakovich, E. Brusilovsky.

In Kazakhstan, as in many countries of the former USSR, a unique situation has developed in which, at the same time, various traditions that together make up a single cultural system exist. They include folklore, the work of professionals of the oral tradition (zhyrau, akyn, kuishi, etc.), the national composer school, as well as mass music. All of them have unique features and are essential elements of the system of intercultural interaction of the peoples of Eurasia. In this context, the study and preservation of the intangible heritage of both ancient ethnic traditions and the latest cultural phenomena (composers', pop music) are vital for the existence of the modern Eurasian cultural landscape. They should be carried out based on equivalence, regardless of geographical and historical origin. In this matter, the interaction of representatives of scholar and governing structures should be carried out not only within one national culture but also at the intercultural level.

A striking example is an invaluable contribution to the preservation of the heritage of the musical traditions of the Kazakhs by A.V. Zataevich (1869-1936). It would seem, how is the process of Eurasian integration related to the titanic work of a musical ethnographer? The value of collections of traditional songs and *kuis* and the composer experiments of Alexander Viktorovich in our context is manifested in many layers. As a musical ethnographer, he develops the idea of the phenomenon of oral culture as an object of study and as part of the spiritual life of the people, putting the Kazakh song and *kui* on a par with the masterpieces of written musical tradition. As a composer, he went from harmonizing melodies in the European major-minor system to finding musical material that matches the tona-harmonic features of the original. That is, the essence of his research and composer approach was the recognition of equal value of different cultures, regardless of their oral or written nature.

He begins the preface to the first edition of the collection of "500 Kazakh songs and kuis" by the words of the French writer Henri Barbusse: "All folk songs around the world speak the same language. Despite everything, they talk about the joy of life, about youth, about spring, about the charm of customs, for the human soul, however it may be, is eager for the sun, seeks what it draws to" [11, p. III]. This thought, which practically became the motto of A.V. Zataevich for all his work, even in the 30s of the 20<sup>th</sup> century, was perceived as something extraordinary, new among European scientists and thinkers, whose

position was characterized for many centuries by Eurocentrism. In the introduction to A.V. Zataevich's first collection, the famous composer and researcher of the Russian song A.D. Kastalsky wrote: "In the pre-revolutionary time, A.V. Zataevich could hardly have collected such a quantity of song material: then "at the top" any kind of uplift of national consciousness, especially on the outskirts was considered dangerous; they would try to drown it out in the bud" [12, p. III].

Collecting bit by bit the creative heritage of Kazakh akyns and *kuishi*s of the 19<sup>th</sup> century Dauletkerei, Mukhit, Kurmangazy, Birzhan, Ibrai, and many others, as well as their younger followers, A.V. Zataevich more than once compared the scale of their talent and the sophistication of compositional thinking with European symphony composers. Various scholars repeatedly express the idea of deep incorporation of the "steppe intelligentsia" — the eminent poets and composers of the 19<sup>th</sup> century — into the common cultural space of Eurasia. In one of the books devoted to the history of Kazakh music, T. Jumalieva, expressing this idea, writes: "According to many scholars – M. Auezov, K. Zhumaliev, A. Margulan, E. Ysmailov, M. Karataev and others, in the development of song and poetic art highlighted such topics as the poet's auto-characterization, the life of the people, historical ideas of the development of society, consonant with the works of representatives of many other peoples in the 18<sup>th</sup> – 19<sup>th</sup> centuries" [13, p. 57].

A.V. Zataevich was one of the first who not only saw the similarities but also made considerable efforts to recognize the common cultural space of European and Kazakh music at the world level. One part of this work was the distribution of collections of songs that were not yet published and processed by famous figures of world musical culture. For example, V.P.Dernova notes that on March 17, 1925, the researcher compiled a list of individuals and periodicals for the Kazakhstan Study Society for sending them a collection of "1000 songs," which included 50 recipients. Among them are the most significant Russian composers: S.V. Rakhmaninov, M.M. Ippolitov-Ivanov, N.Ya. Myaskovsky, R.M. Glier, A.K. Glazunov; musical ethnographers V.V. Paskhalov, Y.V. Prokhorov, S.L. Tolstoy; musical scholars and critics B. Asafiev, S.A. Bugoslavsky, E.K. Rosenov; artistic figures K.S. Stanislavsky, Nemirovich-Danchenko, G.P. Lyubimov, foreign musicians Romain Rolland, E. Mlynarsky, G. Fitelberg, and many others. And in 1927, he requested to send additional copies of the collection to M. Gorky, ethnographers and music critics J. Tierso, Calvacoressi, composers S. Prokofiev, I. Stravinsky, M. Ravel, A. Casella, B. Bartok [14, p. 249].

Another, no less significant part of A.V. Zataevich's works on the inclusion of Kazakh music in world cultural processes were his composer searches. "<...> In the 1920-1936, for sixteen years, an intelligent, cultured and highly talented musician, composer, long and hard, with dedication, with warm love and "self-initiation" worked on the creation of national harmony and national instrumental textures for Kazakh folk song," - writes V.P. Dernova [15]. And although she believes that the composer school in Kazakhstan was formed without any influence of Zataevich, there is another opinion. Researcher M. Kokisheva writes that "it can be argued that the composer stood at the origins of the Kazakh composer school as a concept in the artistic direction, and the contribution of A. Zataevich as a collector and composer in its formation is very significant" [16, p. 42].

Thus, the significance of A.V. Zataevich and his legacy in the light of the formation of the modern Eurasian cultural space lies in the following aspects:

- Preservation of the cultural heritage of the peoples of the Central Asian region (Kazakhs, Kyrgyz, Uighurs, Dungans, etc.). It was expressed not only in the songs and instrumental music notations but also in the "zoning" of regional traditions, the accumulation of valuable information about the history of musical traditions, and their representatives.
- The formation of ideas about the Kazakh cultural space as an environment of intense intercultural interaction between the Eurasian peoples through the establishment of ties in the musical art.
  - Promotion of the musical traditions of Central Asia in the world cultural space.
- Contribution to the birth of the national composer school and the Kazakh style of academic music. As a result, a unique structure of musical culture has been formed in Kazakhstan to date, ensuring both the preservation of ancient ethnic traditions and the development of new musical genres and traditions.

All this influenced the formation of a unique, characteristic of the Eurasian, attitude towards the value (more precisely, the equivalence) of national cultures: without a hint of superiority and with deep mutual respect.

Today, the study of traditional music as part of the spiritual life of a nation in the Eurasian space has somewhat distanced itself from the problem of intercultural interaction and a shared cultural heritage. In

the process of creating a unified cultural space, it seems essential to shift the emphasis in ethnomusicological studies from a "hermetic" approach to tradition as a valuable phenomenon in the study of musical traditions in a broad cultural (musical oriental studies [17]) context. It will make it possible to give an objective assessment of the state of individual traditions, to determine ways to preserve its heritage through inclusion in real creative projects and the musical life of our countries.

Musical ethnography played an essential role in shaping the Soviet paradigm of culture in the 1930s and 1950s, with its guidelines for internationalism and universal methods of fixing and representing traditional art. Collecting samples of folk art, and ethnographic concerts with the participation of Kazakh singers and *kuishi* (both in the republic and abroad) had tangible consequences. Their essence lies in the following concepts: *preservation*, *conservation*, *selection*, *change* ("improvement"), *alienation*. All these processes express the attitude of the Eurocentric mode to tradition.

Preservation through fixation (in notes and sound recordings) is one of the apparent goals of ethnography - an important preparatory stage on the path to the use of folklore. Conservation is its side effect, expressed in the extension of the existence of a fixed variant to the detriment of variant diversity. The selection of the most suitable musical items for implementation of the new ideas from the set of fixed art samples highlights only a small part of the artifacts of the tradition for various reasons corresponding to these ideas<sup>1</sup>. The change ("improvement") of the samples of traditional art was associated with their use in new conditions: as a material for composer creativity, treatments for reconstructed instruments, and folk ensembles. At the same time, the transfer of folk music to the equally-tempered system and the pure tones of European instruments (understood as an improvement) changed the essential features of the original ones. All this testifies to the alienation of samples of traditional music from musical traditions, characteristic of the Soviet stage.

Nevertheless, Soviet musical art fruitfully synthesizes the languages of traditional and European cultures. It is proved first of all by its viability, reproduction. The composer school, formed in the 1930-1950s, was not subjected to "conservation," "ossification," but proved openness to innovation. At present, the academic art of Kazakhstan needs to be studied and preserved as part of our common cultural heritage no less than ethnic musical traditions [18].

After 1991, Kazakhstan had to build relations with the former union-states in a new vein. Interaction and integration found a lively response in the works of modern musicians, a vivid example of which is the integration of the ideas of the avant-garde and national art [19]. The concept of free movement of a person across the continent (and wider – the world), his harmony with the natural world and society, is characterizing Eurasianism as a creative attitude. It was reflected in such phenomena as romanticization and artistic understanding of the nomadic way of life, the search for common spiritual roots in the deep past of humankind (neoarchaicism, neotengrianism). In a certain sense, the development of Eurasian culture made another return to the roots, which is manifested in the appeal of many artists (not only composers but also artists and directors) to myth as the basis of a shared cultural code [20].

The fall of the Iron Curtain gave a significant impetus to this kind of creative manifestations that arose in the 1970s and 80s. In visual art, a vivid example of this is the activity of the *Kyzyl Tractor* creative group, which gave rise to a new stylistic direction, which researcher E. Reznikova calls "*transavant-garde shamanism*" [21, p.19]. It is noteworthy that many exhibitions and performances by artists of this group, especially Moldakul Narymbetov, included the performance on creatively reconstructed instruments – tambourines, *kobyz*.

The motive of integration, a dialogue of cultures, while maintaining their originality, is characteristic of the work of many Kazakhstani musicians – composers and performers. Researcher V. Nedlina notes that its various manifestations (reinterpretation of religious and philosophical ideas and musical traditions of shamanism and Tengrianism, a kind of refraction of the World Music art installations - World music, neoarchaicism, "intraoriental synthesis") characterize the whole national musical avant-garde [22, p. 15].

**Conclusion.** Preservation of the intangible heritage in its living, not alienated from the natural environment of life in society, forms should become a pan-Eurasian task. Its most important component is the study of both the past of traditions and their current state. In the process of Eurasian integration, it is necessary to single out the role of the humanities engaged in the study of national cultures and traditions:

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<sup>&</sup>lt;sup>1</sup> For example, for the first performances of the Kazakh State Musical Theater (existed since 1934) Ayman-Sholpan and Shuga, Kazakh classical melodies were selected and transcribed by composers I.Kotsyk and S.Shabelsky [26, p. 31].

ethnography, oriental studies, anthropology, art history, etc. The subject of their research has changed significantly under the influence of the globalization processes of the last century and continues to evolve (for more details, see [23]). The vector of the latest research should also change – from a sealed intracultural to a broad multicultural context. All this, of course, will entail the expansion of the methodology towards interdisciplinary research.

The current stage in the history of the cultures of the Eurasian peoples also needs a joint study by scholars of the countries of Eurasia and in understanding from the standpoint of value, cultural heritage, and intercultural interaction. The words of the First President of the Republic of Kazakhstan N. Nazarbayev can serve as a guide in this process: "<... > It is important that the process of cultural and humanitarian integration does not erode the spiritual and cultural diversity of the Eurasian space by the dominance of any one segment. I consider unacceptable the erosion of the national content of the cultures of any of our countries" [24].

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## ЕУРАЗИЯЛЫҚ ИНТЕГРАЦИЯ КОНТЕКСТІНДЕ МУЗЫКАЛЫҚ ДӘСТҮРДІҢ МАТЕРИАЛДЫҚ ЕМЕС МҰРАСЫН САҚТАУДЫҢ ӨЗЕКТІ МӘСЕЛЕЛЕРІ

Аннотация. Еуразиялық мәдени кеңістік бүгінде түрлі этностар мен халықтың бірлесіп өмір сүруінің мыңжылдық тарихы негізіндегі қағидаттарға бағытталады. Мәдени байланыстар жүйесінің тұрақтылығын қамтамасыз еткен жалпы құндылықтар континенттің түрлі өңірлерінің мәдениетіне жататын этномәдени феномендердің мәдениаралық өзара қатынасы мен өз бағасын мойындаудың көрінісі еді. Еуразиялық емес қозғалыстың қалыптасуындағы маңызды тарихи кезең – Н.Ә. Назарбаевтың 1994 жылы М.В. Ломоносов атындағы ММУ-дың профессор-оқытушылар құрамымен кездесуінде ЕАС идеясын ұсынуы. Еуразиялық қауымдастықты қалыптастырудағы жаңа айналымға мәдениет маңызды. Осыған байланысты мәдени мұраны сақтау саласындағы түрлі деңгейдегі елдің өзара қатынас мәселелері ерекше өзекті мәнге ие болады.

Еуразия халықтарының өзара мәдени алмасу тарихы мың жылдан асады. XIX ғасырда барынша жанданып, халықаралық интеграцияға ұмтылды. Әлемдік (дәлірек европалық) мәдениет байлығына осы жолмен музыка саласы арқылы да өтті: ұлттық композиторлық мектеп құрудың ресейлік үлгісі фольклорды жинау, зерттеу және пайдалану арқылы Қазақстанда А. Затаевич, А. Жұбанов, Л. Хамиди, Б. Ерзақұлы, Е. Брусиловский сияқты музыка қайраткерлерінің арқасында жүзеге асырылды. Бір мезгілде мәдениеттің біртұтас жүйесін құрайтын түрлі дәстүрі бар келесідей бірегей жағдай қалыптасты: фольклор, ауызша дәстүр мамандарының шығармашылығы (жыраулар, ақындар, күйшілер және т.б.), ұлттық композиторлық мектеп, сондай-ақ көпшілікке арналған музыка. Олардың барлығы қайталанбас ерекшелікке ие және Еуразия халықтарының мәдениетаралық өзара қатынас жүйесінің маңызды элементтері болып саналады.

А.В. Затаевич (1869-1936) қазақтың музыкалық дәстүр мұрасын сақтауда баға жетпес үлес қосудың жарқын үлгісі болып саналады. Музыкалық этнограф ретінде ол ауызша мәдениет феномені идеясын зерттеу нысаны және халықтың рухани өмірінің бір бөлігі ретінде дамытады. Композитор ретінде ол еуропалық мажоро-минор жүйесінде ән үйлесімділігінен бастап түпнұсқаның ладогармоникалық ерекшелігіне сәйкес келетін музыкалық материалдарды іздестірді. Яғни оның зерттеу және композиторлық тәсілінің мәні олардың ауызша немесе жазбаша табиғатына қарамастан түрлі мәдениеттің құндылығына тең деп таныды. А.В. Затаевич ұқсастықты жай ғана ашып қоймай, еуропалық және қазақ музыкасының мәдени кеңістігінің ортақтығын әлемдік деңгейде мойындауға көп күш салды.

Бүгінде Еуразия кеңістігіндегі ұлттың рухани өмірінің бір бөлігі ретінде дәстүрлі музыканы зерттеу жұмысы мәдениетаралық өзара қарым-қатынас және жалпы мәдени мұра мәселелерінен біршама қашық болды. Біртұтас мәдени кеңістікті қалыптастыру барысында этномузыкатануда дәстүрге «герметикалық» көзқараспен өзіндік феномен ретінде кең мәдени (музыкалық-шығыстанушылық) контексте музыкалық дәстүрді зерделеуге назар аудару маңызды саналады. Музыкалық этнография 1930-1950 жылдары кеңестік мәдениет парадигмасының қалыптасуында маңызды рөл атқарды. Халық өнерінің үлгілерін жинау және қазақ әншілері мен күйшілерінің (республикада да, одан тыс жерлерде де) қатысуымен өткен этнографиялық концерттер сақтау, консервациялау, іріктеу, өзгерту («жетілдіру»), иеліктен шығару сынды елеулі мәнге ие болды. Бұл үдерістердің барлығы еуропоцентристік модустың дәстүрге деген көзқарасын білдіреді.

1991 жылдан кейін бұрынғы одақтас мемлекеттермен қарым-қатынасты Қазақстан жаңа деңгейде құруына тура келді. Өзара қатынас және интеграция заманауи музыканттардың шығармашылығына қызу үн қатты. Адамның континентке (бүкіл әлемге) еркін жылжу идеясы, оның табиғат әлемімен және қоғаммен

үйлесуі, еуразиялықты шығармашылық орнату ретінде сипаттайтын идеясы романтизация және номадтық өмір салтын көркем ұғыну, адамзаттың арғы заманындағы ортақ рухани тамырды іздеу (неоархаика, неотенгриандық) сияқты құбылыстарда көрініс тапты.

Қоғамда тұрмыстың табиғи ортасынан шеттетілмеген материалдық емес мұраны тірі күйінде сақтау жалпыеуразиялық міндет болуға тиіс. Оның маңызды бөлігі өткен дәстүрді және оның қазіргі жағдайын зерттеу болып саналады.

**Түйін сөздер:** материалдық емес мәдени мұраны сақтау, еуразиялық интеграция, Қазақстанның музыкалық дәстүрі, мәдени мұраны пәнаралық зерттеу.

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#### АКТУАЛЬНЫЕ ПРОБЛЕМЫ СОХРАНЕНИЯ НЕМАТЕРИАЛЬНОГО НАСЛЕДИЯ МУЗЫКАЛЬНЫХ ТРАДИЦИЙ В КОНТЕКСТЕ ЕВРАЗИЙСКОЙ ИНТЕГРАЦИИ

Аннотация. Евразийское культурное пространство сегодня базируется на принципах, основу которых составляет тысячелетняя история совместного существования разных этносов и народов. Общими ценностями, обеспечившими стабильность системы культурных связей, стали интенсивное межкультурное взаимодействие и признание самоценности всех этнокультурных феноменов, принадлежащих культурам разных регионов континента. Важнейшая историческая веха в формировании неоевразийского движения – выдвижение идеи ЕАС Н.А. Назарбаевым в 1994 году на встрече с профессорско-преподавательским составом МГУ им. М.В. Ломоносова. Ключевое значение для нового витка в формировании евразийской общности имеет культура. В этой связи особенную актуальность приобретают проблемы взаимодействия стран на разных уровнях в области сохранения культурного наследия.

История взаимного культурного обмена народов Евразии насчитывает более тысячи лет. Его активизация в XIX веке сопряжена со стремлением к международной интеграции. Именно этот путь к богатствам мировой (точнее европейской) культуры был пройден и в музыкальной сфере: российская модель построения национальной композиторской школы через собирание, изучение и использование фольклора была претворена в Казахстане благодаря таким музыкальным деятелям, как А. Затаевич, А. Жубанов, Л. Хамиди, Б. Ерзакович, Е. Брусиловский. Сложилась уникальная ситуация, в которой в одновременности существуют различные традиции, вместе составляющие единую систему культуры: фольклор, творчество профессионалов устной традиции (жырау, акыны, кюйши и др.), национальная композиторская школа, а также массовая музыка. Все они обладают неповторимыми особенностями и являются важными элементами системы межкультурного взаимодействия народов Евразии.

Яркий пример представляет неоценимый вклад в сохранение наследия музыкальных традиций казахов А. В. Затаевича (1869-1936). Как музыкальный этнограф он развивает идею феномена устной культуры как объекта изучения и как части духовной жизни народа, ставя казахскую песню и кюй на один уровень с шедеврами письменной музыкальной традиции. Как композитор он прошёл путь от гармонизации песен в европейской мажорно-минорной системе до поиска музыкального материала, соответствующего ладогармоническим особенностям оригинала. То есть, сутью его исследовательского и композиторского подхода стало признание равной ценности разных культур, независимо от устной или письменной их природы. А.В. Затаевич был одним из первых, кто не просто разглядел сходство, но и приложил немалые усилия к признанию общности культурного пространства европейской и казахской музыки на мировом уровне.

Сегодня изучение традиционной музыки как части духовной жизни нации на евразийском пространстве несколько дистанцировалось от проблемы межкультурного взаимодействия и общего культурного наследия. В процессе формирования единого культурного пространства представляется важным сместить акценты в этномузыкознании с «герметичного» подхода к традиции как к самоценному феномену на изучение музыкальных традиций в широком культурном (музыкально-востоковедческом) контексте. Музыкальная этнография сыграла важную роль в формировании советской парадигмы культуры в 1930-1950-е годы с её ориентирами на интернационализм и универсальные методы фиксации и репрезентации традиционного искусства. Сбор образцов народного искусства и этнографические концерты с участием казахских певцов и кюйши (как в республике, так и за её пределами) имели ощутимые последствия. Их суть заключается в следующих понятиях: сохранение, консервация, отбор, изменение («усовершенствование»), отчуждение. Все эти процессы выражают отношение европоцентристского модуса к традиции.

После 1991 года отношения с бывшими союзными государствами Казахстану пришлось выстраивать в новом ключе. Взаимодействие и интеграция нашли живой отклик в творчестве современных музыкантов.

Идея свободного перемещения человека по континенту (и шире – миру), его гармонии с миром природы и обществом, характеризующая евразийство как творческую установку нашла отражение в таких явлениях, как романтизация и художественное осмысление номадического образа жизни, поиск общих духовных корней в глубоком прошлом человечества (неоархаика, неотенгрианство).

Сохранение нематериального наследия в его живых, не отчуждённых от естественной среды бытования в обществе формах, должно стать общеевразийской задачей. Важнейшей его составляющей является изучение как традиций прошлого, так и их нынешнего состояния.

**Ключевые слова:** сохранение нематериального культурного наследия, евразийская интеграция, музыкальные традиции Казахстана, междисциплинарные исследования культурного наследия.

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#### REFERENCES

- [1] Trubetskoy N. Yevropa i Chelovechestvo. Moskva: Direkt-Media, 2015.
- [2] Savitsky P. Yevrazystvo: opyt sistematicheskogo izlozheniya.
- [3] Karsavin L. Religiozno-filosofskiye sochineniya. t. 1. Moskva: Renessans, 1992.
- [4] Gumilev L. Drevnyaya Rus i Velikaya Step. Moskva: Nauka, 1992.
- [5] Bershteyn A..K.D. Trety mir. Yedinoye naslediye Chingiskhana. Moskva: Vremya novostey, № 231, 2007.
- [6] Nazarbayev N.A. Proyekt o formirovanii Yevrazyskogo soyuza gosudarstv // Nezavisimaya gazeta, T. 8, 1994.
- [7] Ionova Ye. Tranzitny potentsial Kazakhstana. Moskva: Rossiya i novye gosudarstva Yevrazii, № 1, 2014. pp. 68-73.
- [8] Tleubergenov A. Pretvoreniye etnicheskoy kartiny mira v tvorchestve T. Kazhgaliyeva. Almaty: Diss.na soiskaniye stepeniye doktora filosofii (6D040100), 2016.
- [9] Kulsarieva, A.T.; Sultanova, M.E.; Shaigozova, Zh.N. Folklore and identity: history, memory and myth-making in the modern visual culture of Kazakhstan // News of the national academy of sciences of the Republic of Kazakhstan. Series of social and human sciences. Volume 5, Number 321 (2018), pp.19-25. -. ISSN 2224-5294 https://doi.org/10.32014/2018. 2224-5294.3.
  - [10] Kunanbayev A. Kniga slov. Alma-Ata: Yel, 1993. 130 pp.
  - [11]Zatayevich A.V. 500 kazakhskikh pesen i kyuev. Alma-Ata. 1931. 312 pp.
  - [12]Zatayevich A.V. 1000 pesen kirgizskogo naroda. Orenburg: Kirgizskoye gosudarstvennoye izdatelstvo, 1925. 403 s.
  - [13] Jumaliyeva T. Qazaq khalqynyn dasturli muzykasy. Almaty. 2005.
- [14] A.V. Zatayevich. Issledovaniya, vospominaniya, pisma i dokumenty. ed. V.P.Dernova. Alma-Ata: Kazakhskoye gosudarstvennoye izdatelstvo khudozhestvennoy literatury, 1958. 304 pp.
- [15]Dernova V.P. Kazakhskaya narodnaya muzyka v obrabotkakh A.V.Zatayevicha // V kn.: A. V. Zatayevich. Issledovaniya. Vospominaniya. Pisma i dokumenty, [sb.]. Alma-Ata. 1958. pp. 95-133.
- [16] Kokisheva M.T. Simfonichesky kyuy v tvorchestve sovremennykh kompozitorov Kazakhstana: genezis zhanra, tipologiya i razvitiye: diss.. d-ra filosofii (PhD): 6D040100 / Kokisheva Marlena Tastemirovna. Almaty, 2016. 183 pp.
- [17] Yunusova V.N. Rossyskoye muzykalnoye vostokovedeniye: stanovleniye i perspektivy // VOSTOK (ORIENS), № №3, 2014 pp. 67-76
- [18]Tleubergenov, A.; Jumaniyazova, R.; Begembetova, G.; Myltykbayeva, M.; Kairbekova, A.; Mussakhan, D. Actual trends in modern performing arts of Kazakhstan and the traditional worldview // Ad alta-journal of interdisciplinary research. Vol.9, No. 1. pp. 67-72. ISSN: 1804-7890.
- [19]Tleubergenov, A. A.; Karataeva, V. A. European avant-garde and contemporary musical culture of Kazakhstan // Qazaq memlekettik qyzdar pedagogikalyq universitetinin Khabarshysy. № 2 (78). 2019. pp. 274-280.
- [20]Altybayeva, S.M.; Sagyndykov, Ye.S. Cultural code and myth poetic modeling in the structure of the artistic text // News of the national academy of sciences of the Republic of Kazakhstan. Series of social and human sciences. Volume 5, Number 321 (2018), pp. 5 11. ISSN 2224-5294. https://doi.org/10.32014/2018.2224-5294.1
- [21] Reznikova Ye. Moldakul Narymbetov // Buklet vystavki «Moldakul Narymbetov». Almaty: Gosudarstvenny muzey iskusstv RK imeni A. Kasteyeva, 2013. pp. 18-22.
- [22]Nedlina V.E. Stilisticheskiye tendentsii v akademicheskoy muzyke Kazakhstana 1980–2010 gg. K voprosu o natsionalnom avangarde // Muzykovedeniye, No. 1, 2015. pp. 12-18.
- [23]Gafurbekov, T. B.; Omarova, A. K.; Kaztuganova, A. Z.. The moral impact of national music during globalization era // Bulletin of the National Academy of Sciences of the Republic of Kazakhstan. 2018. №. 3. pp. 96-101.
- [24] Nazarbayev N.A. Ot idei Yevrazyskogo soyuza k novym perspektivam evrazyskoy integratsii: Vystupleniye Prezidenta Respubliki Kazakhstan N.A. Nazarbayeva v Moskovskom gosudarstvennom universitete imeni M.V. Lomonosova. 28 aprelya 2014. URL:http://www.akorda.kz/ru/special/speeches/external\_political\_affairs/ext\_speeches\_and\_addresses/vystuplenie-prezidenta-respubliki-kazahstan-na-nazarbaeva-v-moskovskom-gosudarstvennom-universitete-imeni-mv-lomonosova.
  - [25] Zatayevich A.V. 500 kazakhskikh pesen i kyuev. Alma-Ata. 1931. 312 pp.
- [26]Ocherki po istorii kazakhskoy sovetskoy muzyki / Zhubanov, A.K.; Brusilovsky, Ye.G.; Dubovsky, I.I.; Dernova, V.P.; Goncharova, L.I.; Aravin, P.V.; Kopytman, M.R. Alma-Ata: Kazakhskoye gosudarstvennoye izdatelstvo khudozhestvennoy literatury, 1962. 308 pp.

### Metallurgy

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#### WAYS OF IMPROVEMENT OF TECHNOLOGIES FOR MINING

**Abstract.** Over the past 5 years, the average monthly speed of horizontal workings at non-ferrous mines has increased by 37%, rising by 32%, and the productivity of sinkers has increased by 20%. With the increase in the depth of development and mining pressure, the labor intensity and volume of mining capital and preparatory work has increased, and in some cases, the time spent working out takes more than 60% of the total time for the construction of mines and new horizons. In this regard, there is a need to organize high-speed workings with the effective use of modern means of mechanization.

Recently, non-ferrous metallurgy mines have been equipped with new, more advanced self-propelled drilling, loading and delivery and auxiliary equipment. Using this equipment allows to increase the productivity of tunnellers by 3-4 times with bringing the speed of horizontal capital workings to 200-300 m / month and preparatory rifling workings to 150-250 m / month, while reducing the cost of 1m3 of rock mass by 10-30%. Such speeds allow significantly reducing the time required for preparing the cleaning blocks for excavation.

**Key words:** speed of mining operations, non-ferrous metallurgy, technological schemes, sinking equipment, economic effect, sinking cycle.

Mine shafts in rocks where underground water flows up to 5 m<sup>3</sup> / h are constructed in the usual way; for inflows of more than 5 m<sup>3</sup> / h – in special ways, the use of which is determined not only by the factor of underground water inflow, but also by the stability of the rocks. For example, when conducting horizontal and inclined workings in unstable rocks (sand, sandy loam, etc.), special methods are used for water inflows of less than 5 m3/h, and in stable rocks, water inflows even up to 50 m3/h may not cause the need for a special method. In contrast to conventional methods, special methods are characterized by the production of works on preliminary fixing of the rock mass in which the mining is being constructed, which allows to increase its stability and reduce water flows. Special methods include the following: caisson (see Caisson), injection (see Fixing of soil); freezing of rocks (see freezing of soil); lowering the level of underground water using wells and drainage means (see Draining of mineral deposits); fixing rocks along the contour of the mine workings with a lowering or driving support that protects the face from rock falls, reduces the flow of water into the mine and significantly improves the conditions for excavating the rock in the face and building a permanent support. Experimental work is underway to fuse weak water-bearing rocks with electric current. When constructing vertical shafts and sloping workings in plyvunakh, as a rule, freezing of rocks along the contour of the mine workings is used, and when conducting horizontal workings — solid freezing of the array from the surface or sinking under compressed air (caisson method).[1]

The widespread use of self-propelled machine complexes at all stages of mining is a major achievement of the technical development of the mining industry. At advanced domestic and foreign mines, this equipment is used, despite its high cost, as it provides highly profitable workings for various purposes.

Due to the fact that a large number of various tunneling machines and mechanisms are currently used in non-ferrous metallurgy mines and considerable experience has been accumulated in their application, it became necessary to generalize this experience. Standard projects of high-speed sinking of mine workings for non-ferrous metallurgy mines have been developed, including the following technological schemes:

carrying out horizontal capital workings using rail rollback (17 schemes);

carrying out horizontal workings using self-propelled equipment (8 schemes);

multi-hole horizontal pre-cut workings using self-propelled equipment (6 schemes);

carrying out rising and inclined workings with the help of KPV and KPN complexes (3 schemes);

The developed technological schemes provide for horizontal workings with a speed of 200,300 and 500 m/month, vertical-120 and 140 m/month, inclined - 200 m/month. Analysis of technical data has shown that at present the majority of horizontal capital and preparatory workings are carried out with a cross-section of up to 10m, including 21.1% - up to 6m, 61.2% - from 6 to 10m, and only 17.7% of all workings are carried out with a cross-section of more than 10m.

However, in the next 10-15 years, due to the widespread use of powerful self-propelled equipment, the number of large-section workings will increase to 60-70% and the productivity of tunnellers will significantly increase during the complex mechanization of all technological processes. This will significantly reduce the amount of manual labor in the sinking, eliminate the laying of rail lines in the main workings and reduce the number of workers in the bottom.[3]

Technological schemes provide for the use of the following tunneling equipment: loading machines PPN-2,PPN-3,PNB-3K,drilling machine 2pnb-2K,drilling carriages of II and IV sizes (BUR-2,SBKNS-2, "mini-Burg", "Cavodrill-555", etc.), hand punchers PR-30K, telescopic punchers PT-45, tunneling cars UVG-2.5, waybill plitarazminovka, shunting truck TM-1, loader PSK-1,concrete machine BM-60, pneumatic loader ZP-1 in various COMBINATIONS of COMPLEXES. Single-track and double-track workings intended for rail vehicles are carried out at a speed of 200-500 m / month. Depending on the tunneling equipment used, labor productivity varies from 2.67 to 7.2 m3/person per shift (table 1).

Process	The volume works	Number of		Watch the change					
	for the cycle	workers		1	2	3	4	5	6
Drilling holes, m	98	1	124	•	•				
Charging, blasting, airing	-	4	32			•			
Loading of rock, m <sup>3</sup>	29,8	1	111				٠	•	
Carrying out a drainage ditch, m	2	2	65	•					
Drilling of the rod holes,m	31,5	1	46					•	٠
Mounting with rods, Pcs	15	1-3	65						
Expansion of ventilation pipes	2	2	29		•				
Auxiliary work	-	1-3	328	•	•		•	•	•

Table 1 - Executive cyclogram of work on the development of a cross section with an area of 14.86 m<sup>2</sup>

Capital horizontal workings with a cross section of 11 to 20 m<sup>2</sup>, intended for the movement of self-propelled equipment with single-row movement are carried out on rocks with a fortress of 8-16 on Protodyakonovu with the use of rod support or without attachment at a speed of 200-300 m/month. Two main tunneling complexes of self-propelled equipment are used:

drilling carriage III or IV size (SBU-2m, BKG, "Paramatic", etc.), continuous loading machine PNB-3K and dump trucks MoAZ-6401, "blow Knox", ANF;

drilling carriage of III or IV standard size and loading and delivery vehicle with diesel drive (DK-2,8 D, ST-2B, ST-5A, LK-1, "Toro-500D").

Additionally, two schemes with the use of manual drilling with PR-30K punches are considered. The PT-45 telescopic puncher is used for drilling rod holes. It is recommended to use granulated EXPLOSIVES with mechanized loading of spurs of ZP-1 pneumatic loaders. The productivity of tunnellers varies from 5.1 to 13.9 m<sup>3</sup>/person per shift, depending on the cross-section area of the workings and the self-propelled equipment used.[2]

As an example, a project for organizing work during the development of a cross-section of 14.86 m<sup>2</sup> in rough on rocks with a fortress of 8 with reinforced concrete rods. A sinking complex is planned as part

of the SBU-2m drilling carriage of the IV standard size and the ST-5A loading and delivery vehicle. The PT-45 telescopic puncher is used for drilling rod bores. For rice.1 shows the cyclogram of the organization of work in the face. A link consisting of four tunnellers performs a full tunneling cycle in a six-hour shift. (table 2)

The speed of the working,m/month	200
Podvigina slaughter per cycle, m	2
The number of cycles per shift	1
The number of drifters per shift, man	4
Labor productivity, m3 / person-shift	7,49

Table 2 - Technical and economic indicators of the accepted tunneling complex

The multi-hole method of conducting pre-cut workings is adopted in order to maximize the use of high-performance self-propelled equipment with a speed of workings from 200 to 600 m / month. During these workings, it is planned to use loading and delivery vehicles with pneumatic drive MPDN-1 ("KaVo-310", "KaVo-511"), with diesel drive ST-2B, loading machine PPN-2G, tunneling cars VS-5P and drilling carriages of the II standard size (SBNK-2P, SBKN-2M, "mini-Burg», "Cavodrill-555", "Minimatic") [1].

Labor productivity varies from 6.2 to 12.37 m3/person per shift, depending on the number of faces in the applied sinking system.

Pre-cut workings under favorable mining and geological conditions are carried out without fixing due to their short service life. As an example, the project of technology and organization of work when bringing preparatory rifling workings with two faces with a cross section of 9, 23m2 in rough on rocks with a fortress of 10-12 without fastening is given. In this case, the tunneling complex consists of two drilling carriages of the II standard size and a ST-2B loading and delivery vehicle. Work in both faces is performed by a link of three sinkers.(table 3)

Table 3 - Technical and economic indicators of the accepted tunneling complex

Each project of high-speed horizontal workings includes: characteristics of the production, the list of equipment used, the scheme of its placement in the face, passport, indicators of drilling and blasting operations, technical and economic indicators and the schedule of work organization.[4] The projects provide an overview of the state of mining operations at non-ferrous metallurgy mines, methods for calculating the parameters of drilling and blasting operations and mining operations, and analyze the applied technological schemes and means of mechanization of tunneling operations. The calculation of ventilation in the projects is not given since the choice of the final ventilation scheme, the type and number of fans for local ventilation is carried out taking into account the specific conditions and the length of the work being carried out.

#### **Conclusions**

- 1. Low rates of mining operations are one of the reasons for the long construction and commissioning of new mines.
- 2. The most significant reduction in the cost of 1m3 is achieved at the speed of mining operations from 200 to 400 m / month. At the same time, the greatest economic effect can be obtained when using equipment that allows complex mechanization of all operations of the tunneling cycle.
- 3. The developed technological schemes for the use of self-propelled equipment complexes for mining operations at a speed of 200,300 and 500 m / month allow us to efficiently operate expensive high-performance equipment, to increase the productivity of workers by 3-4 times while reducing the cost of 1m3 of the extracted rock mass.

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#### ПАЙДАЛЫ ҚАЗБАЛАРДЫ ӨНДІРУ ТЕХНОЛОГИЯЛАРЫН ЖЕТІЛДІРУ ЖОЛДАРЫ

Аннотация. Соңғы 5 жылда түсті металлургия кенішінде көлденең қазбаларды үңгілеудің орташа айлық жылдамдығы 37%-ға, өрлемелердікі 32%-ға, ал үңгілеушілердің еңбек өнімділігі 20%-ға өсті. Қазу тереңдігі мен тау-кен қысымының ұлғаюы арқылы тау-кен күрделі және дайындық жұмыстарының еңбек сыйымдылығы мен көлемі артты және жекелеген жағдайда қазбаларды жүргізу уақыт бойынша шахта мен жаңа горизонт салу уақытының 60% астамын алады. Осыған байланысты заманауи механикаландыру құралдарын тиімді пайдалануда қазбаларды жылдам өткізуді ұйымдастыру қажеттілігі туындайды.

Соңғы уақытта түсті металлургия кенішінде үңгілеу жұмыстары жаңа, аса жетілдірілген, өздігінен жүретін бұрғылау, тиеу-жеткізу және қосалқы жабдықтарымен жарақтандырылады. Бұл жабдықты пайдалану көлденең күрделі қазбаларды жүргізу жылдамдығын айына 200-300 м дейін және дайындық-тілме қазбаларын айына 150-250 м дейін жеткізу негізінде тау-кен массасының 1 м³ құны 10-30% азайғанда үңгілеушілердің еңбек өнімділігін 3-4 есе арттыруға мүмкіндік береді. Мұндай жылдамдық тазалау блоктарын қазуға дайындау мерзімін айтарлықтай қысқартуға мүмкіндік тудырады.

Тығыз, жартылай және жартас тау жыныстары арқылы қалыптасқан пайдалы қазба кен орындарының көпшілігі дәстүрлі түрде бұрғылау-жару жұмыстарын қолдану негізінде әзірленеді [2, 4]. Тау-кен жұмыстарының фронты елдімекендерге немесе инфракұрылым нысандарына жақындаған жағдайда жарылыс жұмыстарын жүргізуге көбінесе мүмкіндік тумайды. Бұл ретте тұрғын үйге және басқа нысандарға жақын жерде бұрыннан пайдаланылатын бірқатар кен орындарында пайдалы қазбалардың негізгі және анағұрлым сапалы корлары өнделмей калды. Пайдалы казбаларды байыту және терен өндеу удерісін жетілдірудін перспективалық бағыттары, инновациялардың әлеуметтік-экономикалық тиімділік мәселелері, экологиялық мәселелер мен тәуекелдер қарастырылды. Минералдық кешенді дезинтеграциялаудың энергия сыйымдылығын төмендету аспектілері, энергоэкономикалық конустық ұсақтағыштарды қолдану технологиясын қоса алғанда, кен дайындау бойынша дамытудың перспективалық бағыттары, сондай-ақ алдын ала шоғырлану элементтерін қосу ашылды. Гравитациялық бөлу әдістерінің даму бағыттары қарастырылды. Жүгіретін магниттік өрісі бар сепараторларды қолдануға, сондай-ақ флотация технологиясын жетілдіру саласындағы перспективалы әзірлемелерге, оның ішінде жұқа тұтату кезінде жақын технологиялық қасиеттері бар минералдарды селективті бөлу мәселесін шешу жолдарына назар аударылды. Алмас байыту үдерістерінің мәселелері мен бағыттары талданды, олардың ішінде алдын ала байыту фабрикаларының концепциясын жүзеге асыру және жылдам кесілген нейтрондар әдісімен алмазды кенді алдын ала байыту технологиясын дамыту перспективті болып саналады.

**Түйін сөздер:** кен қазбаларын үңгілеу жылдамдығы, түсті металлургия, технологиялық схемалар, үңгілеу қондырғысы, экономикалық әсері, үңгілеу циклі.

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#### ПУТИ СОВЕРШЕНСТВОВАНИЯ ТЕХНОЛОГИЙ ДОБЫЧИ ПОЛЕЗНЫХ ИСКОПАЕМЫХ

Аннотация. За последние 5 лет среднемесячные скорости проведения горизонтальных выработок на рудниках цветной металлургии возросли на 37%, восстающих — на 32%, а производительность труда проходчиков увеличилась на 20%. С увеличением глубины разработки и горного давления трудоемкость и объем горно-капитальных и подготовительных работ повысились, и в отдельных случаях проведение выработок по времени занимает более 60% от общего времени строительства шахт и новых горизонтов. В связи с этим возникает необходимость организации скоростного проведения выработок при эффективном использовании современных средств механизации.

За последнее время на рудниках цветной металлургии проходческие работы оснащаются новым, более совершенным самоходным буровым, погрузочно-доставочным и вспомогательным оборудованием. Использование этого оборудования позволяет в 3-4 раза повысить производительность труда проходчиков с доведением скорости проведения горизонтальных капитальных выработок до 200-300 м/мес и

подготовительно-нарезных выработок до 150-250 м/мес при снижении стоимости 1м³ горной массы на 10-30%. Такие скорости позволяют значительно сократить сроки подготовки очистных блоков к выемке.

Большинство месторождений полезных ископаемых, сложенных плотными, полускальными и скальными горными породами, традиционно разрабатываются с применением буровзрывных работ [2,4]. В случае приближения фронта горных работ вплотную к населенным пунктам или объектам инфраструктуры ведение взрывных работ зачастую становится невозможным. При этом в непосредственной близости к жилью и другим объектам на ряде давно эксплуатируемых месторождений остались невыработанными основные и наиболее качественные запасы полезных ископаемых. Рассмотрены перспективные направления совершенствования процесса обогащения и глубокой переработки полезных ископаемых, вопросы социально-экономической эффективности инноваций, экологические проблемы и риски. Раскрыты аспекты снижения энергоемкости дезинтеграции минеральных комплексов, перспективные направления развития рудоподготовки, включая технологии с применением энергоэкономичных конусных дробилок, а также включение элементов предварительной концентрации. Рассмотрены направления развития гравитационных методов разделения. Обращено внимание на применение сепараторов с бегущим магнитным полем, а также на перспективные разработки в сфере совершенствования технологии флотации, в том числе пути решения проблемы селективного разделения минералов с близкими технологическими свойствами при тонкой вкрапленности.

**Ключевые слова:** скорость проведения горных выработок, цветная металлургия, технологические схемы, проходческое оборудование, экономический эффект, проходческий цикл.

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#### REFERENCES

- [1] The technological instruction for the production of filling works at the BZK 1, 2 and 3 for the conditions of the Artemyevsky mine, Ust Kamenogorsk Ust Talovka, 2010.
  - [2] Correction factors used in underground and opencast mining. Vostoktsvetmet LLP Ust-Kamenogorsk, 2014.
- [3] Development of a technique for supporting mine workings with weak roof rocks using the example of the Voskhod-Oriel mine ID Arystan, Abdrashev RM, Mataev AK, Kabieva DA Mining Journal of Kazakhstan No. 3 (167) 2019.
- [4] Underground construction: textbook. allowance / A.B. Ponomarev, Yu.L. Vinnikov Perm: Publishing house Perm. nat. researched Polytechnic University, 2014. 262 s.

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# TO THE QUESTION OF THE ESTABLISHMENT OF THE LAW-ABIDING STATE IN THE REPUBLIC OF KAZAKHSTAN

Abstract. It is known that during the historical development the Kazakh people have passed the following types of statehood. First type: the nomadic state, which has been abolished after entry into the structure of the Russian Empire. Second type: the Soviet statehood, where Kazakhstan was the part of the former USSR. Third type of the state: independent statehood, sovereign Kazakhstan. The strategy of modern development of the Kazakh statehood is based on the unity of the country, ensuring national security. Here such phenomena as "integrity of the state", "the state and national security", "sovereignty of the state" are recognized as the supreme values of state and legal life. These ideas have been entirely enshrined in the Development strategy Kazakhstan - 2050. The concept "statehood" is wider, than "state". In the theory of state and law the state is defined as the political power with its own territory. At the same time the statehood is the most difficult complex of elements, structures, institutes of the public power and also the components of non-political character, caused by uniqueness of social, economic, political, spiritual and moral conditions of activity at the certain stage of development of the society. Thus, the statehood is the structure of elements and institutes, expressing the maintenance of the society and state.

**Key words:** Kazakh state, law-abiding state, nomadic civilization, activity of the people, unity of the country, national security, integrity of the state, sovereignty of the state, political power, institutes of the public power.

The relevance of the topic. During the many centuries of the historical development, since ancient times to the sovereignty and independence, our state is well-known all over the world; the Kazakh people followed the complicated and original path from the beginning of their ancient history, from the tribal states of the Kangyles and Usunes in Central Asia. These tribal states had close relations with China, the Huns Empire, southern Siberia, and the lands near the Ural Mountains. Economically, the state was based on extensive nomadic farming. The people's culture and language linked them to the branch of Turkish nomad group.

The first Kazakh state system was formed in the 6-th century within the Turkish Kaganate, stretching across lands from the Altai Mountains in the east to the Caspian Sea in the west, and from Semirechie up to Siberia. Most of the Turkish people continued tribal organization and nomadic way of life. There were already large areas of irrigated and cultivated lands occupied with gardening and vineyards. A lot of towns and settlements were established in ancient centuries. Indeed, at the head of the Turkish Kaganate was a Khan, with unlimited despotic power, with his servants, officials and military leaders.

The Usun union began to disintegrate in the 5-th and 6-th centuries, after successive invasions by the Altai Turks. These Kaganates were complex and stratified societies, consisting of aristocrats, urban traders, oasis farmers and pastoral nomads [1].

In the following centuries, the Kaganate was invaded many times, was in vassal dependence on neighboring China and was incorporated into the Karakhanid state (11-th century, until the beginning of

the 13-th century). Despite the partial islamization of the Kazakhs in direct contact, the majority of Kazakhstan's tribal people continued their nomadic lifestyle, raising cattle on the vast steppe. The Kazakh ethno type was formed by people in more than 100 tribal divisions and nationalities, belonging to various ethnic, anthropological and racial types. Within the modern Kazakh ethno type, the mongoloid element accounts for about 70%.

At the end of the 15-th century and for most of the 16-th century, the Kazakhs were primarily the political union. The Kazakh Khanate and the Kazakh people were synonymous, as people formed by the union of previously disparate clans and tribes of Turkish descent. They converged in the steppe lands around the Chu River and the Betpak-Dala Desert, where political void existed.

In the 17-th century under the rule of Khan Kasym, the Kazakh Khanate achieved political independence. The national name Kazakh means "free" in the sense of independence from other states, and freely moving in the vast steppes of Dashti-Qipchak. Thus, from the beginning of its own Kazakh Khanate, the idea of freedom and independence became the national idea of the Kazakh people.

The independent Kazakh Khanate was based on nomadic cattle, breeding and farming. It had a stable economy and ongoing political and cultural relations with its neighbors. The region supplied neighboring China, the Central Asia Khanates and Russia with the products of animal husbandry, such as cattle, skins, wool and fat, in exchange for wheat, textiles, tools and arms. In the Khanate, Jochi's descendants had dominant positions. Only the descendants could become khans or sultans. Representatives of the Kazakh tribal aristocracy (bii) could occupy the positions of tribal and aul chiefs (equivalent to aldermen). Economic, social and political relations were regulated by common law (adat), whose rules (ereje), were retained only in oral tradition, and passed from generation to generation, gradually becoming perfected. The bii were the experts of the law, who from time to time convened to clarify the rules. At the end of the 18-th century under the guidance of Khan Tauke the law was standardized under the seven most notable experts, who came to be known as Zhiety Zhargy or "The Seven Rules". In Russian sources they were called the "Tauke Khan's Laws (or Acts)"; they represented as the type of Kazakh Common Law Code, which had great importance in Kazakh legal life [2].

Materials and methods of research. The principles of *adat* were applied unequally; so sultans, tribal chiefs and the bii class enjoyed rather well-protected and privileged lives. Kazakh women, during and after the period of islamization, had much freer social, public and legal existence, than women in other muslim societies. They did not wear the face veil *(chadra)*, and the first wife *(baibishe)* was the head of the family.

In spite of the heroic resistance and some military successes attained as the result of a temporary unification of the various zhuz under the three great *bii* leaders, Tole Bii, Kazybek Bii and Aiteke Bii in 1723, Kazakhstan still remain besieged and had to turn to Russia for military assistance. It received this assistance in return for its eventual (in the 1730-s) incorporation into the Russian Empire [3]. The interests of the Tsar and his government in Kazakhstan and Central Asia primarily revolved around extending the size and reach of the Empire, and consolidating its own power at the expense of those peoples conquered. A new phase in the history of the Kazakh people begins with their incorporation into the Russian Empire. Until the 1820-s the Little Zhuz and Middle Zhuz retained their independence, while acknowledging dependence on Russia. However, the Elder Zhuz was finally formally annexed to Russia as the result of invasions against the Kokand and Khiva Khanates. The first conditions agreed to by the Middle and Little Zhuzes as they joined the Empire were:

- (1) to recognize the sovereignty of the Zhuzes;
- (2) to allow passage of Russian merchant caravans;
- (3) to return Russian prisoners and deserters;
- (4) to pay annual per capita taxes;
- (5) to have relations with other countries only with Russia's express consent; and
- (6) khans were force to send sons or other close relations to St. Petersburg as *amanats* (hostages).

The tsarist government, through the Ministry of Foreign Affairs and with the consent of the Military Department, appointed a vice-regent, who resided in Orenburg, exercised power and control in assuring the conditions of the above agreement. At the same time, the Russian military organized the Ural Cossack Army to patrol the border with the Zhuzes. Naturally, the tsar's vice-regent often interfered with the internal affairs of the Zhuzes, and continuously exercised oppression of the khans and local rulers.

Nevertheless, these Zhuzes tried to maintain internal independence until the 1820-s. The legal status of these two regions within the Russian Empire resembled that of protectorates, which some Kazakh scholar's dispute [4].

In the 1820-s, Russia carried out pivotal reforms in the Zhuzes in order to establish semi-colonial regime. The khans' powers were nullified; their successors have received the titles of Russian nobility. The captive amanats received very directed and secular Russian military education, and were rewarded with lavish salaries. Furthermore, The Little Zhuz was divided into the regions for territorial administration with the governors, appointed by the vice-regent in Orenburg. The Middle Zhuz was divided into areas called *okrug* and headed by sultans, elected by the local aristocracy and approved by Russian vice-regents. The Bigger (Elder) Zhuz had been conquered early on and was the subject of Russian military rule until the reforms of the 1860-s.

Research results. The Kazakh Khanate was relatively short-lived and generally unsuccessful political institution. The Kazakh state was unable and ill-equipped to maintain strong military presence in the steppe. The Kazakhs, though descendants of an indigenous warrior culture, were primarily pastoralist and more concerned with grazing than fighting. Their military organization, predicated on temporary periods of service, was no match for the Kalmyk forces [5].

In the 1860-s, Russia introduced a number of progressive reforms with the abolition of serfdom being most notable. Others included: universal military service; land and financial reforms; and improvements in citizens' legal status. At the end of the 1860-s a dual natured reform program, having progressive and colonial aspects, was introduced in Kazakhstan. Russia then divided Kazakhstan into three governorships: the first was Turkestan, with its center in Tashkent, which included Semirechie and all of Central Asia. The Steppes governorship, with its center in Orenburg, included a major portion of the Middle Zhuz; and the Siberian governorship, with its center in Omsk, included the territories of North and East Kazakhstan.

The governor's generals were appointed in Saint Petersburg, and all exercised administrative and military power. The general governorships were divided into *oblasts* (large administrative territories), headed by military governors. In Kazakh territories, the governors wielded military and civilian power, while in Russia itself the governors had no such military power. Oblasts were divided into *uezd* (district), governed by uezd heads. The hierarchy governing in Kazakhstan had clearly military/administrative character. The government apparatus consisted of representatives of Russia and all local nationalities. It was aimed at providing order in the Steppe: levying taxes; fighting crime; providing for an economy.

This system of management in Kazakhstan, as a part of the Russian Empire, was kept with some changes until the 1917 revolutions of February and October. Its rather complicated legal system consisted of: Adat, the Common Law of Kazakhs, as well as Shariat or Muslim Law; and Russian Imperial law.

For the local populations of Kazakhstan, adat was the main source, of course. It better corresponded with the nomadic and semi-nomadic way of life. Norms of Shariat Law were used mainly for regulation of some family relations, considering serious penalty for crimes against Islamic rules [6].

Russian Imperial Law had two kinds of norms. The first is civil law through which Kazakhstan was included into the general economic life of the Empire. Naturally, the law of ownership, the obligatory law of Russia did not differ from the analogues of European states and played a positive role in Kazakhstan. Criminal law and Administrative law played positive roles as more humane and civilized than that of Adat and Shariat.

Many works of Eastern, European, and Russian literature were translated into the Kazakh language, and thus the first Kazakh language newspapers were published. However, the Kazakhs continued to experience their formal and legal inequality in the Russian Empire. It was well known in tsarist Russia that social, professional and legally fixed inequality existed among the Kazakhs. Kazakhs had no nobility, nearly no mercantile or industrial class and no urban lower middle class. Further, since they were Muslims, Kazakhs were excluded from the privileges accorded only the Orthodox. Moreover, they had no representation among local elected officials and establishments, or the state Duma. For the Kazakh people, tsarism meant not only violent deprivation of primordial fertile grounds, but also the deprivation of an opportunity to employ their historical, primordial name "Kazakh". Historically, it was noted, that the Russian administration misapplied the term "Kirghiz-Kaisak" as evidenced through the records of imperial Russia [7, P.49].

Only the October Revolution brought some relief in the legal conditions for the Kazakhs and other aboriginal groups in the Russian Empire. The Soviets acquired tsarist territories and perpetuated the

administrative structures. However, decisions of national problems were postponed until the establishing congress- Uchreditelnoe Sobranie. In 1917 Great October Socialist Revolution under the leadership of the Bolsheviks (Communists), headed by V.I. Lenin gave all the power in the country to the soviet workers, peasants and soldiers' deputies. All the country, including Kazakhstan, entered a new stage of historical development.

The Great Decrees of October adopted at the 2-nd Congress of Soviets in 1917 were entitled "About Peace", "About Land", and also "About Nationalization of Factories, Railways, and Communications". There were also declarations about equality of nations and their right to self-determination, on abolishing rank and its privileges, about gender equality, and the separation of church and state. For their victory against international armies they paid in millions of lives, destruction of the economy, hunger, and continued poverty [8, P.61].

Kazakhstan, along with the rest of the country, was the scene of fierce military struggles. In 1918, the southern region of Kazakhstan was joined to the Turkestan republic with its center in Tashkent. In 1919, a Provisional Committee was formed in Orenburg to manage the area of Kazakhstan in the ongoing Civil War, and to provide for the people's needs. Here, and other places, the population was largely Russian. Yet there were Kazakh supporters of the Bolsheviks, such as T. Ryskulov and S. Seifullin, as well as more democratic national elements.

In 1924-1925, on the initiative of the Central Committee of the VKP(B) (Communist Party) and the USSR government, a national-territorial demarcation was exercised on Kazakhstan and the Central Asia Republics. Indeed, for the first time in the modern history Kazakhstan now comprised all its historic territory. Thus, Kazakhstan formed its own soviet socialist state system, not complete of course, but still the part of the Russian Federation.

According to the census of 1926, Kazakhstan had a population, which included more than six million Kazakhs. During the first decades of the Soviet power in Kazakhstan new economic policy was exercised. Kazakhs were given back the lands, which had earlier been given to the Russian migrants. The economy quickly reconstituted, illiteracy was reduced, secondary schools and higher education centers flourished, new theaters, clubs, museums and reading halls were opened. Thousands of Kazakhs were sent to study in Moscow, Leningrad, Kiev, Novosibirsk, Saratov and Sverdlovsk to be trained for specialized trades and higher education. In nearly all oblast centers, pedagogical centers opened to train teachers for the national schools in Russian and Kazakh [9, P.47].

During World War II many millions of people were evacuated to Kazakhstan from the western part of the USSR, a pattern which continued into the 1950-s. By the 1960-s Kazakhs constituted only about 32% of their republic's population. The policy of russification was established. Kazakh language and culture had both suffered: first, the Arabic alphabet variant, used for Kazakh, was replaced by new Latin substitute (distinct from others in Central Asia), and finally by stylized version of the Cyrillic (Russian) alphabet. Teaching of Kazakh in Russian schools ceased.

This period saw the creation of many institutions, including Kazakh State University, the medical institutes, women's pedagogical institutes, industrial, law, and many other institutes, as well as hundreds of specialized and secondary technical schools. The Kazakh Department of the All Union Academy of Sciences was established in 1945 inside the Kazakh Academy of Sciences, with many scientific institutions and research laboratories [10, P.179].

Twenty nine years of Kazakhstan's history as the sovereign state shows the greatest changes in our country. Within its framework, two main directions can be noted. First, there is state governing of the ethnic processes. The 1995 Constitution of Kazakhstan stated such democratic principles as civic approach to defining of people in the preamble. The principles of uniform and equal citizenship were fixed. All the principles of the Supreme Law gave no place for injury and claims of people against one another.

Second direction in the interethnic relations is the emancipation of the creative potential of ethnic groups. New form of ethnic self-determination principally differs from the previous situation in that it shifts stress from the collective level of national rights to a personal level. The role of legacy model, undoubtedly demanding serious conceptual elaboration and propaganda measures, grows respectively.

**Conclusion.** In the conclusion we would like to note, that the transformation and modernization of Kazakhstan's society is not a single action, but rather a long process of changes, unfolding and yielding a clearer vision of the modern, independent Republic of Kazakhstan.

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### ҚАЗАҚСТАН РЕСПУБЛИКАСЫНДАҒЫ ҚҰҚЫҚТЫҚ МЕМЛЕКЕТТІҢ ҚАЛЫПТАСУ МӘСЕЛЕЛЕРІНЕ

Аннотация. Қазіргі уақытта бұл мәселелерге жалпыадамзаттық идеалдар мен құндылықтар тұрғысынан көзқарас басым. Қоғамдық санада демократиялық қағидаттарға негізделген құқықтық мемлекет қоғамда туындайтын жанжалды реттеудің, онда заңдылық пен құқықтық тәртіпті бекітудің тиімді құралы болуы мүмкін деген ой орныққан. Құқықтық мемлекет қалыптастыру тәжірибесінің барлық жерде өз ерекшелігі бар. Алайда құқықтық қоғам құрылысында жетістіктерге қол жеткізген елдер азаматы бостандыққа, шынайы құқыққа, өз құқығы мен бостандығын қамтамасыз етуге, мемлекетпен бірге құқық басымдығына ұмтылғанымен, анықталатын жалпы ерекшеліктерді де атап өтуге болады. Бұл үшін құқықтық мемлекет қалыптастыру қажетті жағдайлардың болуына тікелей байланысты. Олардың ішінде экономика, мәдениет, адамгершілік, қоғамның рухани әлеуетінің жоғары деңгейде дамығаны маңызды. Құқықтық мемлекет – дамыған демократиялық институттар жұмыс істейтін, азаматтардың және ұйымдарының өзін-өзі басқаруы, олардың бастамасы мен белсенділігі көрініс табатын азаматтық қоғамды, қоғамдық өмір саласын саяси рәсімдеу. Бұл сала билік органдары тарапынан еркін регламенттейтін заңмен қорғалған. Мұндай мемлекетте адам, қоғам құқығы мен бостандығы сақталады; мемлекетке қатысты құқығы басымдықпен қорғалады; мемлекетпен қарым-қатынасында азаматтың қорғаушысы ретінде сот тәуелсіздігі танылады және сақталады. Халықтың өзін-өзі реттеуге жалпы ережелер мен мүдделерге бағынуға дайындығы негізінде сипатталады. Азаматтық қоғам – даралығы мен шығармашылық бастамасын еркін көрсететін тең құқықты адамдар қоғамы. Белгіленген ережелер мен рәсімдерді сақтап, заң негізінде құрылатын барлық мемлекеттік және қоғамдық институттар мен құрылымдардың заңдылығы және олардың мақсаты, міндеті, нысандары мен жұмыс істеу әдістері ресми тәртіппен егжей-тегжейлі регламенттеледі. Белгілі болғандай, қазақ халқы тарихи дамуы барысында мемлекеттіліктің келесі түрлерінен өтті. Бірінші түрі – Ресей империясының құрамына кіргеннен кейін жойылған көшпелі мемлекет. Екінші түрі – Қазақстан КСРО құрамына кіргеннен кейін кеңестік мемлекет атануы. Үшінші түрі – тәуелсіз мемлекеттілік – егемен Қазақстан. Қазақ мемлекеттілігінің қазіргі заманғы даму стратегиясы ұлттық қауіпсіздікті қамтамасыз ете отырып, ел бірлігін сақтауға негізделген. Мұнда мемлекеттің және заңды өмірдің жоғары құндылықтары «мемлекет тұтастығы», «мемлекеттік және ұлттық қауіпсіздік», «мемлекеттің тәуелсіздігі» сияқты құбылыстар деп танылады. Бұл идеялар «Қазақстан-2050» даму Стратегиясында» толық бекітілген. «Мемлекеттілік» тұжырымдамасы «мемлекет» ұғымынан кеңірек. Мемлекет және құқық теориясында мемлекет белгілі бір аумақта саяси билік ретінде анықталады. Сонымен бірге мемлекеттілік – қоғам дамуындағы белгілі бір кезеңде белгілі бір адамдар өмірінің әлеуметтік-экономикалық, саяси, рухани және адамгершілік жағдайының бірегейлігіне байланысты элементтердің, құрылымдардың, қоғамдық билік институттарының, сондай-ақ саяси емес сипаттағы компоненттердің күрделі жиынтығы болып саналады. Сондықтан, мемлекеттілік дегеніміз – қоғам мен мемлекет мазмұнын білдіретін элементтер мен институттар құрылымы деп танылады.

**Түйін сөздер:** қазақ мемлекеті, құқықтық мемлекет, көшпелі өркениет, халықтың тіршілік әрекеті, ел бірлігі, ұлттық қауіпсіздік, мемлекеттің тұтастығы, мемлекет егемендігі, саяси билік, көпшілік билік институттары.

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#### К ВОПРОСУ О СТАНОВЛЕНИИ ПРАВОВОГО ГОСУДАРСТВА В РЕСПУБЛИКЕ КАЗАХСТАН

Аннотация. В настоящее время преобладает взгляд на эти проблемы с точки зрения общечеловеческих идеалов и ценностей. В общественном сознании все больше утверждается мысль о том, что основанное на демократических принципах правовое государство может стать эффективным орудием урегулирования конфликтов, возникающих в обществе, утверждения в нем законности и правопорядка. Практика формирования правовой государственности всюду имеет свои особенности. Можно, однако выделить и общие черты, определяемые тем, что граждане стран, в которых достигнуты успехи в строительстве правового общества, стремились к свободе, подлинному праву, обеспечению своих прав и свобод, приоритету права над государством. Формирования правового государства в той или иной мере сопряжено с наличием необходимых для этого условий. Среди них важное значение имеет достаточно высокий уровень развития экономики, культуры, нравственности, духовного потенциала общества. Правовое государство — политическое оформление гражданского общества,

сферы общественной жизни, где действуют развитые демократические институты, имеют место самоуправление, инициатива и активность граждан и их организаций. Эта сфера ограждена законами от произвольной регламентации ее со стороны властных органов. В таком государстве соблюдаются права и свободы человека и общества; право приоритетно по отношению к государству; признается и соблюдается независимость суда как защитника гражданина в его отношениях с государством. Население характеризуется определенной способностью к саморегулированию готовностью подчиняться общим правилам и интересам. Гражданское общество представляет собой общество равноправных людей, свободно проявляющих свою индивидуальность и творческую инициативу. Легитимность всех государственных и общественных институтов и структур, которые создаются на основании закона, с соблюдением установленных правил и процедур, и их цели, задачи, формы и методы функционирования детально регламентируются в официальном порядке. Как известно, в ходе своего исторического развития казахский народ прошел следующие типы государственности. Первый тип: кочевое государство, которое было упразднено после вхождения в состав Российской империи. Второй тип: советская государственность, где Казахстан был частью Союза ССР. Третий тип государства: независимая государственность, суверенный Казахстан. Стратегия современного развития казахской государственности основывается на всемерном поддержании единства страны, обеспечении национальной безопасности. Здесь высшими ценностями государственно-правовой жизни признаются такие явления, как «целостность государства», «государственная и национальная безопасность», «суверенитет государства». Эти идеи были всецело закреплены в Стратегии развития Казахстан- 2050. Понятие «государственность» является более широким, чем «государство». В теории государства и права государство определяется в качестве политической власти в рамках определённой территории. В то же время государственность - это сложнейший комплекс элементов, структур, институтов публичной власти, а также компонентов неполитического характера, обусловленных уникальностью социальноэкономических, политических, духовно-нравственных условий жизнедеятельности конкретного народа на определенном этапе развития общества. Таким образом, государственность - это структура элементов и институтов, выражающая содержание общества и государства.

**Ключевые слова:** казахское государство, правовое государство, кочевая цивилизация, жизнедеятельность народа, единство страны, национальная безопасность, целостность государства, суверенитет государства, политическая власть, институты публичной власти.

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#### REFERENCES

- [1] Martha Brill Olcott. The Kazakhs. 2-Edition. Stanford. California. USA. 1995.
- [2] Kliashtornyi S., Sultanov T. Kazakhstan: The Chronicle of Three Millenniums. St.Perersburg. 2002.
- [3] Irmuchanov B.B. Kazakhstan: Historical and Public Views. 2016.
- [4] Kussainov S. The State of Kazakhs: Adat and Shariat. Kazakhstanskaya Pravda. October 30. 2015.
- [5] Zubareva Ju.V. Recognition and enforcement of judgments of foreign family courts in the Russian Federation // Young Scholar. 2017. V.15. P.254-258. URL https://moluch.ru/archive/149/42253/ https://doi.org/10.32014/2018.2518-1483.
- [6]. Marysheva N.I. Family relations with foreigners: legal regulation in Russia. M.: Walters Kluver, 2007 https://doi.org/10.32014/2018.2518-1483.
- [7]. Ayupova Z.K., Kussainov D.U., Winston Nagan. To the question of pre-trial adjusting of the conflicts in the modern legal system of the Republic of Kazakhstan // Reports of the Academy of sciences of the Republic of Kazakhstan. 2018. Vol. 6. P.49-56. https://doi.org/10.32014/2018.2518-1483.26
- [8]. Ayupova Z.K., Kussainov D.U. Features of formation of statehood and law in the Republic of Kazakhstan // Reports of the National Academy of Sciences of the Republic of Kazakhstan. 2018. Vol. 5. P.61-65 https://doi.org/10.32014/2018.2518-1483.8
- [9]. Ayupova Z.K., Kussainov D.U., Nagan Winston. On the state mechanisms of ensuring social policy in the Republic of Kazakhstan // Reports of the National Academy of Sciences of the Republic of Kazakhstan. 2019. Vol. 1. P.47-51 https://doi.org/10.32014/2019.2518-1483.6
- [10]. Issayeva A.Z., Aitimov B.Zh. Some issues of the procedural peculiarities of reviewing civil cases on labor disputes in courts of appeal/ / Reports of the National Academy of Sciences of the Republic of Kazakhstan. 2019. Vol. 1. P.179-184 https://doi.org/10.32014/2019.2518-1483.30

### **Ecology**

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# ECOLOGICAL FACTORS' IMPACT ON THE CONDITION OF MAUSOLEUM OF KHOJA AHMED YASAWI

Abstract. The article gives the results of experimental and estimated researches on ascertainment of ecological factors' impact on the condition of mausoleum of Khoja Ahmed Yasawi. Main types of anthropogenic sources, existing near historical monument area were detected. Chemically polluted precipitation was determined as the main source of air pollution, generated due to burning of fossil fuel, tires and various waste, accumulation of domestic, construction and other production wastes, transport emissions. It was ascertained that black dust, greenhouse and ozone depleting gas, aerosols of acid, salt, hydrocarbon and its derivatives, heavy metals constitute a special hazard for conservation of mausoleum and its facilities. Vegetation, especially a locust tree was selected for creation of barrier on the spread of corrosive dust and gas mixtures as absorbents. It is planted along conservation zone border. We developed the understratum of new composition to plant the locust tree due to absence of fertile layer in the nekrozem. It represents a mixture of mass. %: vermitea (20), sawdust (20), grey perlite containing waste (5), wood ash (1), the rest is sierozem (nekrozem).

Key words: mausoleum of Khoja Ahmed Yasawi, monitoring, grey perlite containing waste.

**Introduction.** As known that the environment, created by culture of ancestors and by human itself is also important for human life apart from conservation of surrounding natural environment. If the nature is needed for human for his biological life, but the cultural environment is also necessary for its spiritual, ethical life, ethical self-discipline and social life. In connection with this the conservation of the monument of history and culture, namely a mausoleum of Khoja Ahmed Yasawi – an object of world heritage is an important goal of social political nature [1-3].

The Mausoleum of Khoja Ahmed Yasawi is an irreplaceable monument of architecture of the end XIV and beginning of XV centuries, the mausoleum has been included in the UNESCO list since 2000 and is under protection of international organizations. Inclusion of the object in the list of World heritage – it is not just honourable international status, but high responsibility to world community. Conservation of this unique monument of architecture of the whole religious Islamic world, which is considered to be the second Mecca, is one of the main goals in the field of the world heritage safeguard and protection.

This object, being located in the territory, where active economic activity is maintained like other historical and cultural heritage objects including Kultobe, is under negative impact of factors. Most of frequent problems are nonobservance of temperature and humidity regime inside of the building, presence of rodents, insects, birds, growth of fungic and mold as well as pollution of air basin. In total different factors both of natural (natural-climatic, biological physical etc.) and man-made origin (pollutant emissions, vibration, new construction, disturbance of geologic medium, salinity of ground water etc.) influence the object under study.

From year to year evolutionary transformation of historical territories of Turkistan town accelerates acceleration of processes connected with impact of anthropogenic factors. And anthropogenic factors rise by geometric progression, which can result in violation of integrity of this unique architectural complex.

We earlier showed that emissions of production facilities from heating systems of housing complex of the residential area, surrounding the Mausoleum of Khoja Ahmed Yasawi as well as release from cars promote quick pollution of frontispieces and they form chemically corrosive environment coupled with atmospheric precipitation causing destruction of frontal materials (brickwork, plasterwork, modeling, painted coats, decor) [4-6]. Ecologically corrosive environment accelerates natural destruction of the monument because of aging process. Thus any ecological damage — first of all, which damages the monument has to be recorded and conservation measures have to be taken on the facto of damage. Averse anthropogenic factors affecting the integrity of an immovable historical and cultural monument are reactive substances in the form of gases and dust, which contribute to the development of corrosion processes in their building structures especially in the urban environment. [7-8].

In Turkistan, after obtaining the status of an oblast center, the works on demolition of old and construction of new houses, structures began in the neighboring territories to the monument. In this regard, while conducting large-scale construction works in large quantities, the emissions come from vehicles, from furnaces of residential and industrial facilities, from processing plants for various purposes used in construction as well as from waste generated.

We can note the greenhouse (CO<sub>2</sub>, CH<sub>4</sub>, NO<sub>x</sub>, H<sub>2</sub>S etc.) and ozone depleting gas (nitrogen oxides, halogen-containing hydrocarbons, carbon tetrachloride, organic solvents, freon gas, mercapatan, dioxin, furan etc.) as harmful emissions, concentrated in the air.

There is a need to develop scientifically feasible measures to protect historical and architectural monuments from negative factors to ensure environmental safety for the Khoja Ahmed Yasawi mausoleum, including the restored socially significant object Kultobe (old Turkestan). At the same time, green spaces play a large role in the localization of pollution created by anthropogenic sources. They serve as a natural barrier to the dispersion of pollutants. As known, the pollution is reduced by 1,5-2,0 or more times due to screen planting [9-11]. The work objective is to conduct monitoring of the air and searching the ways to protect the mausoleum complex of Khoja Ahmed Yasawi.

**Methods and objects of research.** Studies on monitoring of atmospheric air were carried out in different seasons of the year in years of 2018-2020. Analysis of atmospheric air samples was done for dust, methane, hydrogen sulfide, sulfur dioxide, ammonia, carbon dioxide, carbon monoxide, nitrogen oxides, hydrocarbons, dioxin, mercaptans content, from metals - lead, iron, mercury, copper, zinc content.

Gas analyzer ΓAHK-4 was used to determine gaseous products, volt amperometrical method using Ta-lab instrument for metals, gravimetric analysis (sulfates, chlorides), photometry (humic acids) and other classical methods for other components were used [12-14].

We began the work on formation of a green strip from locust tree along the protected area border for improving the atmospheric air around the mausoleum of Khoja Ahmed Yasawi. The selection of this plant is related to its functional ability to absorb gases and adsorb dusty substances on leaf surfaces [15].

The locust tree was grown from seeds, as they are covered with a very thick dense peel, impervious to moisture; we carried out their preliminary preparation by hydrothermal method. The seeds were put in the vessel and hot water with temperature 70-80 °C was poured and kept approximately for 12 hours. Swollen seeds were mixed with sand and kept in humid condition in the vermitea solution of 0,01% at 20-25 °C during 4-5 days. Planting of seeds initially was initially in open ground through each 25 cm. Then the seedlings were transferred to permanent place in the early spring of next year.

In connection with absence of a fertile layer in the soils of the territory designated for planting, an artificial substrate was used, which has a fertilizing, reclamation and nutritional property. Namely, it is a mixture of agricultural waste utilization products in the form of worm wee (vermitea), sulfur-perlite-containing waste from sulfuric acid production, sawdust and wood ash.

For preparation of artificial substrate the sawdust was soaked during 2-3 days with vermitea at mass ratio 1:1, and it was mixed with sulfur-perlite-containing waste (SPCO), ash and soil, taken from pit for planting. Correlation of components in a mass %: vermitea: sawdust: SPCO: ash: sierozem soil = 20:20:5:1:40.

Vermitea is an intermediate product, which is generated when vermicomposting in the production site of SRI «Ecology» of IKTU K.A. Yasawi [16]. It is rich with digestive micro Californian worm, ferments, vitamins, biological active and other substances. Antibiotic features, are characteristic to vermitea due to

its composition, which prevent from development of disease-producing microflora, keeping under the saprogenic processes.

Apart from that the vermitea contains complex mixture of humus substance maromolucules (humic acid, fulvic acid, humins) of changeable composition and irregular structure. As shown by the results of our previous experimental studies, vermitea has a growth-promoting effect on plants and increases the fertility of the soil system [17]. When it is used combined with sulfur-perlite-containing waste, a synergistic effect arises, as a result of which biological activity is enhanced and the mixture already serves as both fertilizer and ameliorant [18].

**Results and discussion.** The feature of atmospheric air state in the environment of Turkistan town was determined by comparing the actual pollution level with values of the following background concentrations of pollutants, presented by Republican State Enterprise "Kazhydromet".

Background concentration for Turkistan town:

Dust (suspended substance) - 0,3 mg/m<sup>3</sup>

Carbon oxide - 0,8 mg/m<sup>3</sup>

Nitrogen dioxide - 0,015 mg/m<sup>3</sup>

Sulphur dioxide - 0,05 mg/m<sup>3</sup>.

As follows from the results of experimental studies in determination of a number of harmful substances in the atmospheric air at different periods of the year their greatest number is observed in winter during heating season, which indicates mainly on contribution of electric power plants. According to the calculated emission data, more than 30 thousand tons of harmful substances are formed annually only from them. The deterioration of the Khoja Ahmed Yasavi mausoleum state, a historical monument, to a certain extent, evidently, is associated with pollution of town air basin of not only by sources of local origin, but also by salts, coming from atmospheric air movement from Aral Sea [19]. This contributes to the rapid contamination of facades and, in combination with precipitation, they form a chemically aggressive acidic and saline environment, causing the destruction of building materials (brickwork, plaster work, modeling, painting layers, etc.).

Very often, due to the frequent wind in the town, dust storms are observed with duration of 1,5 to 5,5 hours, consisting mainly of solid particles of natural or man-made origin with a radius of  $10^{-6}$  to  $10^{-2}$  cm.

As known, dust in the atmosphere is not only chemically neutral, but depending on its composition, it can display acidic or alkaline reactions in contact with a water-containing system [20-21]. Many types of dust are distinguished that differ in both qualitative and quantitative composition. For example, fine soot dusts, formed at combustion of solid, liquid and gaseous fuels, consist of soot on which harmful substances of an organic and mineral nature are in an adsorbed state. Such types of atmospheric air dust can act as an active damaging agent for the monument [22].

Dust samples were collected, which are formed in the surface layer of air during windy weather (15-20 m/s) as well as in the smoke emissions of a boiler house and individual heating furnaces houses to characterize the impact of stored waste and other sources near the mausoleum (distance of 150-500 m). A content of gases, heavy metals (HM) was determined in them. Significant amounts of HM enter the atmosphere with solid smoke particles from the furnaces (table 1).

Smoke dust composition	Concentration of HM, mg/m <sup>3</sup>	Smoke dust composition	Concentration of HM, mg/m <sup>3</sup>
Zinc	2,679	Cadmium	0,056
Lead	1,875	Mercury	0,001
Copper	0,354	Chrome	0,033
Arsenic	0,120	Nickel	0,098
Iron	3,043	Manganese	0,768

The average metal content in dusty smoke particles from a centralized boiler house in micro-districts

HMs themselves do not directly affect the condition of monument's materials; their danger lies in acting as catalysts in many secondary reactions occurring between pollutants in the air [23]. An example can be oxidation of sulfur oxides to a higher valence form, i.e.  $SO_2$  to  $SO_3$  in the presence of iron, manganese, etc. Heavy metals can also stimulate the photooxidation of many organic compounds adsorbed on the surface of solid particles, such as soot [24].

According to figures from our experimental studies, the amount of dust settling on 1 m<sup>2</sup> of surface per week is 1,7-3,8 g at weak wind (up to 2 m/s), at strong wind (25 m/s or more) this content increases in dozens, hundreds of times. Particles from historical ash and other wastes are included in the air at strong winds. Atmospheric factors have a significant effect on the chemical properties of dust components and on the nature of its subsidence.

Dust rising from the surface of long-term cluttered ash dump, solid domestic waste (SDW) and other industrial waste from the protected area consists on average of 30-40% silicic acid, 5-10% lime and gypsum, up to 5% sulfur, up to 0,3% HM and other harmful substances of inorganic and organic nature. Considering the chemical composition of soot and other types of dust, we can conclude doubtless that these dust particles of atmospheric air have a significant aggressive action on the state of a monument under consideration. In this regard, studies on regular monitoring are necessary both to determine the quantitative and qualitative composition of dust and its effect on the stability and conservation of historical and restoration building materials.

As per a number of indicators, primarily in terms of mass and distribution of harmful effects, *sulfur dioxide* is considered to be a number one atmospheric pollutant. It is generated during oxidation of sulfur contained in fuel and as part of various kinds of waste. Emissions of *nitrogen oxides* generated during the oxidation of atmospheric nitrogen increase in connection with the increase of solar energy flow every year to the earth surface, with the growth of car fleet and number of heat supply systems. The entry of large amounts of sulfur and nitrogen oxides into the atmosphere leads to a noticeable decrease in the pH of atmospheric precipitation. It happens owing to entry of gaseous products above with atmospheric moisture forming the strong acids - sulfuric and nitric.

Dust particles containing HM play the role of catalysts in formation of corrosive acids. Below are reactions to the formation of secondary pollutants in the atmosphere:

$$\begin{split} 2SO_2 + O_2 + 2H_2 O & \longrightarrow 2H_2SO_4; \\ 4NO_2 + 2H_2O + O_2 & \longrightarrow 4HNO_3. \end{split}$$

Apart from these basic reactions, intermediate ones also occur in an atmospheric air with formation of a number of other products. Formation of acids in atmospheric air leads to precipitation of "acid rains", i.e. pH changes [25]. Air acidification also affects the state of soils and water, making many components into a soluble active state, which activates the degradation of structures and decorative ornaments of the architectural complex of the Khoja Ahmed Yasawi Mausoleum.

Presence of the solid domestic waste (SDW) landfill of historical, i.e. long-term nature, leads to the creation of conditions for generation and emission of greenhouse gases - CO<sub>2</sub>, CO, CH<sub>4</sub>, NO<sub>x</sub>, aerosols of halogen-containing hydrocarbons and other compounds, which also play a significant role in destruction of the monument's materials.

MPC excesses of some substances were observed in the surface layer of atmosphere, where the factors polluting the environment are aerogenic emissions and precipitation containing toxicants. In accordance with our estimates, annually about 15-20 thousand tons of harmful chemicals are delivered to the surface layer of the atmosphere of Turkistan from stationary sources, of which at least 4873 tons are nitrogen oxides, 4623 tons of sulfur dioxide, about 36 tons of heavy metals, including iron, cadmium, cobalt, copper, manganese, lead, chromium, nickel, zinc. Iron compounds –21,233 t/year (84,7% of the total heavy metal emissions) are prevailing. 1,1 t/year (4,5%) of manganese and zinc enters the atmosphere, 0,380 t/year (1,5%) - copper, 0,185 t/year (0,7%) - lead, 0,211 t/year (0,8%) –chrome.

Aerotechnogenic emissions of heavy metals by volume prevail in the eastern part of the town (the area where the mausoleum is located), they are about 35,2% of all emissions in the town altogether. The main contributors to atmospheric air pollution by heavy metals are ash waste from a former precast concrete factory, accumulated in the mausoleum's protected area, power boilers and furnaces of heating systems, vehicles (45,6% of emissions); construction organizations (28,2%) and other households (2,8%).

Based on of experimental and estimated data using «Era-vozduh» program, the nature of pollutants' dispersion in the surface layer of atmospheric air is established. According to the estimated data, there is an excess of MPC (maximum permissible concentration) of nitrogen oxides by 1,5 -2,7 times, carbon oxides by 6,5 -25,0 times and sulfur oxides from 5,0 to 6,5 times in the air of the Turkistan town. These data refer to the summer months. On basis of experimental measurements in winter during thick smog, an

excess of harmful substances (nitrogen, sulfur, carbon oxides) was to be 20-30 times higher than in summer period. In addition to these pollutants, carbon monoxide, mercaptans, dioxins, hydrocarbons, hydrogen sulfide, soot particles were detected in the atmospheric air during winter.

For purification the atmospheric air around the Yasawi Mausoleum, there was a need to build up green areas along the protection zone borders using the locust tree. Formation of a green protecting strip of locust tree, which acts not only as a sorbent of harmful emissions and a protective fence with its spiny branches, but also its flowering properties improve the aesthetic and visual perception of the architectural complex. Conservation of this monument of history, culture and architecture is the main objective to contribute to development of tourism and international cooperation.

#### **Conclusions**

- 1. Monitoring studies of the atmospheric air of Turkistan town were conducted in different seasons of the years 2018-2019. Based on experimental studies, the following excess concentrations of dust, including soot, were to be 15–20 times, sulfur oxides 10–12 times or more, nitrogen oxides 18–24 times, hydrogen sulfide 2–3 times, and hydrocarbons 4–6 times each in comparison with a permissible norm.
- 2. In order to reduce the impact of anthropogenic factors on the facilities of the mausoleum of Khoja Ahmed Yasawi complex, it is proposed to build up a green strip of locust tree along conservation zone.
- 3. Conditions for the phased cultivation of locust tree from seeds are selected. The hydrothermal method was selected for seed treatment and as a growth-promoting agent, a 0,01% vermitea solution obtained as a by-product of vermicomposting was selected.
- 4. A new composition of soil material was developed for planting of locust tree from a mixture of vermitea, sulfur-perlite-containing waste of sulfuric acid production, sawdust, wood ash and local gray earth soil. The proposed composition contains components that are characterized by loosening, nutritious, growth-promoting, fertilizing and a number of other useful properties.

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#### ҚОЖА АХМЕТ ЯСАУИ КЕСЕНЕСІНІҢ ЖАҒДАЙЫНА ЭКОЛОГИЯЛЫҚ ФАКТОРЛАРДЫҢ ӘСЕРІ

Аннотация. Мақалада Қожа Ахмет Ясауи кесенесінің жағдайына әсер ететін экологиялық факторлардың әсерін анықтау бойынша тәжірибелік және есептеу жұмыстарының нәтижелері келтірілген. Тарихи ескерткіш орналасқан аймаққа жақын орналасқан антропогендік көздердің негізгі түрлері анықталды. Ауаның ластануының негізгі көздері ретінде жанармайдың, автокөлік доңғалақтарының және әртүрлі қоқыстардың жануы, тұрмыстық, құрылыс және басқа өндірістік қалдықтардың жиналуы, көлік құралдарының шығарылуы нәтижесінде пайда болатын химиялық ластанған жауын-шашындар анықталды. Кесененің және оның объектілерінің сақталуына күйе шаңдары, парниктік және озон бұзатын газдар, қышқылдар, тұздар аэрозолдары, көмірсутектер және олардың туындылары, ауыр металдар ерекше қауіп төндіретіні анықталды.

Қожа Ахмет Ясауи кесенесі кешенінің нысандарына антропогендік факторлардың әсерін азайту үшін қауіпсіздік аймағының бойында ақ қарағанның жасыл жолағын жасау ұсынылады.

Тұқымдардан ақ қарағанды кезең-кезеңмен өсіру шарттары таңдалды. Тұқымдарды өңдеу үшін гидротермиялық әдіс таңдап алынды, вермикомпостау кезіңде қосалқы өнім ретінде алынған 0.01~% вермичай өсімді ынталандырушы агент ретінде алынды.

Агрессивті шаң мен газ қоспаларының таралу жолында кедергі жасау үшін оларды сорбциялаушы ретінде біз ағаш өсімдіктерін, атап айтқанда ақ қарағанды таңдап алдық. Ол қауіпсіздік аймағының шекарасы бойымен отырғызылған. Сұр топырақтың құнарлы қабаттының болмауына байланысты біз ақ акация көшеттерін отырғызу үшін жаңа құрамды субстрат әзірледік. Ол келесі компоненттерінің массалық қоспасы болып табылады. %: вермичай (20), ағаш қалдығы (20), күкірт перлит құрамды қалдық (5), ағаш күлі (1), қалған сұр топырақ.

2018-2019 жылдың әртүрлі мезгілдерінде Түркістан қаласының атмосфералық ауасына мониторингтік зерттеулер жүргізілді. Тәжірибелік зерттеулер негізінде шаң концентрациясының, оның ішінде күйе 15-20 есе, күкірт оксидінің 10-12 есе және одан да көп, азот оксидінің 18-24 есе, күкіртсутегінің 2-3 есе, көмірсутектердің 4-6 есе артуы анықталған.

Түйін сөздер: Қожа Ахмет Ясауи кесенесі, мониторинг, вермичай, күкірт перлит құрамды қалдық.

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#### ВОЗДЕЙСТВИЕ ЭКОЛОГИЧЕСКИХ ФАКТОРОВ НА СОСТОЯНИЕ МАВЗОЛЕЯ ХОДЖИ АХМЕДА ЯСАВИ

**Аннотация.** В статье приведены результаты экспериментальных и расчетных исследований по установлению воздействий экологических факторов, влияющих на состояние мавзолея Ходжи Ахмеда Ясави. Выявлены основные виды антропогенных источников, существующих вблизи зоны нахождения исторического памятника. В качестве основных источников загрязнения атмосферного воздуха выделены химически загрязненные осадки, образуемые вследствие сжигания ископаемого топлива, шин и различных мусоров, скопление бытовых, строительных и других производственных отходов, эмиссии транспортных средств. Установлено, что особую опасность для сохранности мавзолея и его объектов представляют сажевые пыли, парниковые и озоноразрушающие газы, аэрозоли кислот, солей, углеводороды и их производные, тяжелые металлы.

С целью снижения воздействий антропогенных факторов на объекты комплекса мавзолея Ходжи Ахмеда Ясави предложено создание зеленой полосы из белой акации вдоль охранной зоны.

Подобраны условия для поэтапного выращивания белой акации из семян. Для обработки семян выбран гидротермический способ, в качестве ростостимулирующего агента -0.01% раствор вермичая, получаемого как побочный продукт при вермикомпостировании.

Для создания барьера на пути распространения агрессивной пыли и газовых примесей в качестве сорбирующих их поглотителя нами выбрана древесная растительность, а именно белая акация. Она высажена вдоль границы охранной зоны. В связи с отсутствием в некроземе плодородного слоя нами разработан для посадки саженцев белой акации субстрат нового состава. Он представляет собой смесь следующих компонентов в масс. %: вермичай (20), опилка (20), сероперлитсодержащий отход (5), древесная зола (1), остальное серозем (некрозем).

В разные сезоны года 2018-2019 гг. проведены мониторинговые исследования атмосферного воздуха города Туркестан. На основе экспериментальных исследований установлены следующие превышения концентрации пыли, включая сажу, на 15-20 раз, оксидов серы в 10-12 раз и более, оксидов азота — в 18-24 раза, сероводорода — в 2-3 раза, углеводородов — 4-6 раз по сравнению с допустимой нормой.

**Ключевые слова**: мавзолей Ходжи Ахмеда Ясави, мониторинг, вермичай, сероперлитсодержащий отход.

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#### REFERENCES

- [1] Medved A. N., Razmustova T. O. (2000) Problemy sokhraneniya arkheologicheskogo naslediya v sovremennoy Rossii [Problems of preserving the archaeological heritage in modern Russia]. Ekologiya kul'tury. M., 198 p (in Russ).
- [2] Robert Boyd., Peter J. Richerson. (2009) Culture and the evolution of human cooperation. *Philos Trans R Soc Lond B Biol Sci.* vol. 364(1533), pp. 3281–3288. https://doi.org/10.1098/rstb.2009.0134.
- [3] Shin Maekawa, Franciza Toledo. (2001) Sustainable Climate Control For Historic Buildings In Hot And Humid Regions. *The 18th Conference On Passive And Low Energy Architecture*, Florianópolis Brazil, 7-9 November 2001 Paper Code PL01-386, PLEA 2001.
- [4] Akbasova A.D., Sainova G.A., Dzhumanova G. (2014) Otsenka sostoyaniya mavzoleya H.A.Yasavi [Evaluation of the state of the mausoleum of H.A. Yasavi]. *Materialy Mezhd. nauchno-prakt. konf. «Nauka i obrazovaniye v XXI veke»* Rostov, pp. 14-16 (in Russ).
- [5] Akbasova A.D., Sainova G.A., Beisembaeva L.S., Toychibekova G.B., Sunakbaeva D.K. (2016) Impact Assessment of Environmental Natural-Climatic and Anthropogenic Factors on State Of H.A.Yasawi Mausoleum. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. vol. 7(1), pp. 2068-2074.

- [6] Abasova A.Zh., Sainova G.A. Toychibekova G.B. (2014) Ingibirovaniye protsessa razrusheniya arkhitekturno-istoricheskogo pamyatnika mavzoleya H.A.Yasavi [Inhibition of the destruction of the architectural and historical monument of the mausoleum of H.A. Yasavi]. Vol. 5 (2), pp. 77-78 (in Russ).
- [7] Akbasova A.Zh. (2012) Vliyaniye faktorov ekologicheskikh riskov na sokhraneniye kul'turnogo naslediya [The influence of environmental risk factors on the preservation of cultural heritage]. *Vestnik MKTU im. KH.A. Yasavi. Seriya yestestvennykh nauk.* vol.3(78). pp. 105-110 (in Russ).
- [8] Kuzmicheva A.A., Loboykob V.F. (2016) Impact of the Polluted Air on the Appearance of Buildings and Architectural Monuments in the Area of Town Planning. *Procedia Engineering*. vol. 150. pp. 2095 2101.
- [9] Rakhimov T.U. (2016) Vliyaniye sernistogo angidrida na listovuyu plastinku nekotorykh porod derev'yev [The effect of sulfur dioxide on the leaf blade of some tree species]. Zhivyye i biokosnyye sistemy. vol 15.pp.10-11 (in Russ).
- [10] Hamada, S., Ohta T. (2010) Seasonal variations in the cooling effect of urban green areas on surrounding urban areas. *Urban Forestry Urban Greening*. vol. 9. pp. 15-24.
- [11] Chirkova A.I., Litvinov P.V. (2017) Zelonyye nasazhdeniya kak metod zashchity ot shuma i vrednykh vybrosov dvigateley vnutrennego sgoraniya v sel'skoy mestnosti [Green spaces as a method of protection against noise and harmful emissions of internal combustion engines in rural areas]. Molodoy uchenyy. Vol. 11. pp. 173-176 (in Russ).
- [12]PND F 16.1:2:2.2:2.3.46-06. (2008) Metodika vypolneniya izmereniy massovoy doli kislotorastvorimykh form tyazhelykh metallov i toksichnykh elementov (Cd, Pb, Cu, Zn, Bi, Tl, Ag, Fe, Se, Co, Ni, As, Sb, Hg, Mn) v pochvakh, gruntakh, donnykh otlozheniyakh [The method of measuring the mass fraction of acid-soluble forms of heavy metals and toxic elements (Cd, Pb, Cu, Zn, Bi, Tl, Ag, Fe, Se, Co, Ni, As, Sb, Hg, Mn) in soils, soils, bottom sediments , sewage sludge by inversion voltammetry] ZAO AKVILON. 9p.
- [13] Gromovik A.I., Yonko O.A. (2010) Sovremennyye instrumental'nyye metody v pochvovedenii. Teoriya i praktika [Modern instrumental methods in soil science. Theory and practice]. *Voronezh* 60 p (in Russ).
- [14]Reff, A., P.V. Bhave, H. Simon, T.G. Pace, G.A. Pouliot, J.D. Mobley., M. Houyoux. (2009) Emissions Inventory of PM<sub>2.5</sub> Trace Elements across the United States. *Environmental Science & Technology*. vol. 43, pp. 5790-5796.
- [15] Wei-Kang Zhang, Bing Wang, Xiang Niu. (2015) Study on the Adsorption Capacities for Airborne Particulates of Landscape Plants in Different Polluted Regions in Beijing (China). *Int J EnvironRes Public Health*. vol. 12(8). pp. 9623–9638.
- [16]Baihamurova M.O., Akbasova A.D., Sainova G.A.(2017) Vliyaniye preparata «S-vermichay» na kachestvennyy sostav kartofelya [The effect of the drug "S-vermicay" on the qualitative composition of potatoes.] *Vestnik nauchnykh konferentsiy* «*Perspektivy razvitiya nauki i obrazovaniya*», vol. 12-1 (28), pp. 26-27 (in Russ).
- [17] Musa S.I., Njoku K.L., Ndiribe C.C., Oke F.M. (2017). The Effect of vermi tea on the growth parameters of Spinaciaoleracea L. (spinach). *J. Environ. Sci. Pollut. Res.* vol.3 (4). pp. 236–238. https://doi.org/10.13140/RG.2.2.25268.71041.
- [18]Akbasova A.D., Isakov O.A., Sainova G. (2015). Ekologizatsiya sel'skogo khozyaystva putem ratsional'nogo ispol'zovaniya vermiproduktsiy i biopreparatov na ikh osnove. monografiya. Almaty: Izdatel'stvo «Nurly Alem»,176 p (in Russ).
- [19] Akbasova A.D., Aubakirov N.P., Nursultan A.N. (2017) Korrozionnyye yavleniya na stroitel'nykh konstruktsiyakh mavzoleya Khodzhi Akhmeda Yasavi [Corrosion phenomena on the building structures of the mausoleum of Khoja Ahmed Yasawi]. *Mezhdunarodnyy zhurnal prikladnykh i fundamental'nykh issledovaniy.* vol 3 (2), pp. 1260-1263 (in Russ).
- [20] Peng Zhang, Tianzeng Chen, Jun Liu, Changgeng Liu, Jinzhu Ma, Qingxin Ma, Biwu Chu, Hong He. (2019) Impacts of SO2, Relative Humidity, and Seed Acidity on Secondary Organic Aerosol Formation in the Ozonolysis of Butyl Vinyl Ether. *Environmental Science & Technology*. vol. 53 (15).pp. 8845-8853. https://doi.org/10.1021/acs.est.9b02702.
- [21]Zhirnova O. V., Suleimenov B. A., Toigozhinova A.Zh., Wojcik W. T. Construction of mathematical model the combustion of biogas to reduce greenhouse gas emissions // News of the national academy of sciences of the republic of Kazakhstan series of geology and technical sciences. 2017.- Vol. 1. (421). -P. 177 185.
- [22] Inchik V.V. (2000) Solevaya korroziya kirpichnoy kladki [Salt corrosion of masonry]. Stroitel'nyye materialy, vol. 8(548). pp.55-67 (in Russ).
- [23] Dultseva G.G., Dubtsov S.N., Skubnevskaya G.I. (2008) Vklad fotookisleniya al'degidov v obrazovaniye atmosfernogo organicheskogo aerozolya [The contribution of aldehyde photooxidation to the formation of atmospheric organic aerosol], *Khimiya v interesakh ustoychivogo razvitiya*. vol. 6. pp. 303-309 (in Russ).
- [24] Toichibekova G.B., Koyshieva G. (2011) Vozdeystviye vzveshennykh pylevykh chastits na sostoyaniye mavzoleya KH.A. Yasavi [Impact of suspended dust particles on the state of the H.A. Yasavi mausoleum]. *Vestnik MKTU im.KH.A. Yasavi*. vol. 3. pp.143-147 (in Russ).
- [25] Sainova G.A., Akbasova A.D., Abdikarim G.G., Kalieva N.A., Ali Ozler Mehmet. Environmental monitoring on the landfill of solid domestic wastes of the town Kentau // News of the National Academy of Sciences of the Republic of Kazakhstan Series of Geology and Technical Sciences. Vol. 1. №433. 2019- P. 57-62. https://doi.org/10.32014/2019.2518-170X.6

# REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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МРНТИ 37.27 УДК 556

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### FORECASTING OF THE STATE OF THE SMALL ARAL SEA BASED ON OPEN DATA SOURCES

Abstract. The study of the dynamics of the level and volume of water in the Aral Sea is an urgent scientific task due to the need to understand the mechanisms of natural and anthropogenic processes that have induced a radical change in its water and salt balance over the past 60 years. In particular, the study of the dynamics of water balance components in the basin of the Small Aral Sea is the most important task when planning scenarios for water use in the region. In the proposed work, based on the methods of machine learning (for the implementation of computational functions in the program), two statistical models were developed: a forecast model for the monthly values of river flow in the Syrdarya river and the forecast of variability of the water volume of the Small Aral Sea. Based on the simulation results, forecasts were made for the values of the Syrdarya drainage and the water volume of the Small Aral Sea. In conditions of low availability of field observations data, the operational estimates of the water balance component are the most important source of information on the changes occurring in the basin under investigation. The proposed technique can also be used to obtain initial conditions in experiments on hydrodynamic modeling, as well as to calculate climatic scenarios for the development of the hydrological system of the Aral Sea.

**Keywords:** Small Aral Sea, sea level, machine learning, river discharge, basins, Syrdarya, hydrodynamic modeling.

**Introduction.** The research of the dynamics of the level and volume of the Aral Sea is an urgent scientific task due to the need to understand the mechanisms of natural and anthropogenic processes that have induced a radical change in its water and salt balance over the past 50 years.

Since the late 60's, the volume of the sea decreased by 90%, the salinity of its water increased by an order of magnitude [1]. The research of the processes of the hydrological cycle of the Aral Sea is hampered by the almost complete absence of data from modern measurements of the water balance composing it. Since the 60s the Aral Sea is undergoing irreversible changes in the water and salt regimes, cardinal changes have affected not only the ecosystem of the sea itself, but also affected its entire basin. Over the past 15 years, the tendency of the Aral Sea to separate water bodies has deepened: the deep-water western and shallow eastern basins of the Greater Aral, the Small Aral Sea, and the Tushi Baza (figure 1). Thus, the eastern basin of the Greater Aral Sea in recent years has virtually ceased to be a permanent reservoir, becoming an ephemeral lake, whose existence is determined by the magnitude of the seasonal full-water flow of the Amu Darya river.. The northern basin of the Aral Sea (or the Small Aral Sea) has in recent years almost lost contact with other basins - both due to natural causes of drying up of the western and eastern basins, and due to the construction of a dam designed to minimize water exchange between the basins [2].

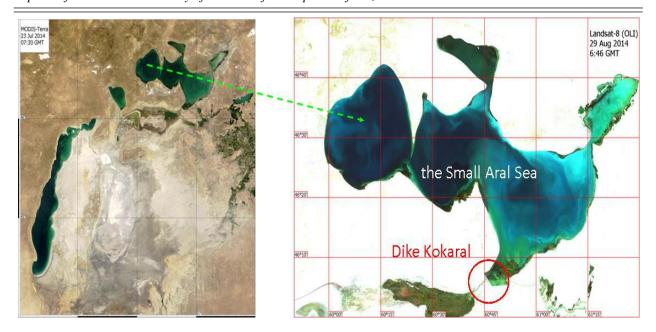


Figure 1 - Satellite image of the Aral Sea in July 2014 (left), satellite image of the Small Aral in August 2014 (right)

In this paper, we have emphasized the research of the dynamics of the water volume of the Small Aral Sea. In recent years, after minimizing its water exchange with other parts of the sea, it began to establish a relatively stable water-salt regime, similar in characteristics to the "conditionally-natural" regime of the Aral Sea, before drying began. Nevertheless, the significant shortage of these direct observations of the water balance component for this region is still felt as sharply. Modern field observations on all parts of the Aral Sea are episodic, most of the regime monitoring hydro-meteorological stations and stations ceased to exist in the first half of the 1990s, so in this work we used the database of indirect water level observations as well as climate reanalysis database. The main goal of this work is to research the possibility of modeling the dynamics of the water volume of a basin located in arid conditions using the data of indirect measurements of open sources (Fig. 2). Key modeling concept is based on implementation of a simple Decision Tree model in case of regression task [3]. Typical Decision Tree model is a "white box" consists of the range of boolean classifiers which split our samples to tiny "leaf" nodes where all samples constantly refers to the one target value [4]. Single tree-based implementation of Decision Tree algorithm faced with the case of overfitting and robustness lack that lead to limited using in real world examples [5]. In our work we used three cutting-edge machine learning techniques based on ensemble approach to predictions: Random Forest, Extra Trees and Gradient Boosting [6]. All of them are based on ensembles of simple Decision Tree models and provide useful tricks such bagging, bootstraping, prunning etc. which totally reduce overfitting and make our models suitable to provide robust predictions [7-9].

**Materials and methods.** As the research material, was selected the analysis period from 2002 to 2014, all daily (reanalysis) and decadal (water level) measurements were taken to mean monthly values. Below is given a more specific description of the data used:

- 1. Sea level variability based on satellite altimetry data from 1992 to 2014 (decadal values), DAHITI project [10].
- 2. River runoff. Syrdarya (post Kazalinsk), historical monthly values 1979-1986, Global Runoff Data Center (GRDC) [11]
  - 3. Atmospheric forcing: reanalysis Era-Interim, resolution 1x1 degree, daily values [12]

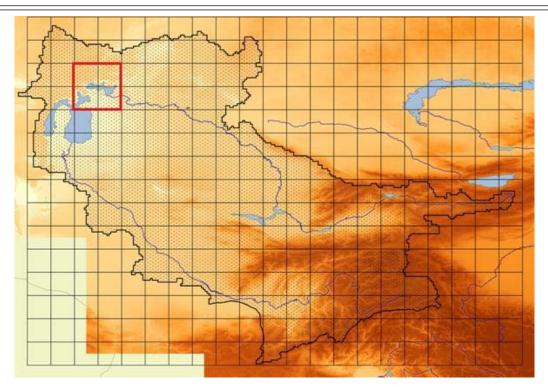


Figure 2 - Study area - the Small Aral Sea and the Aral Sea basin

A hypsometric relationship between the sea surface layer and the water volume was obtained for the entire range of sea level variability according to the DAHITI data for the period under research on the basis of a detailed bathymetric map of the Small Aral [13].

As a model linking the average monthly rates of fluctuations in climatic characteristics with the dynamics of river flow values [14-16], a regression model of solving trees was chosen, which in general is a nonparametric model of machine learning - a simple model of the "white box" solutions of which can be described by a set of simple Boolean functions. Advantages of the regression model of decision trees are: interpretability, quick learning, high tolerance for incomplete data [17]. As shortcomings, usually distinguished: high ability to retrain, instability with the dominance of one decisive class, the difficulty of finding the exact structure of the tree.

Results and discussion. On the basis of the described method, two statistical models were developed: a model for predicting the monthly values of river flow Syrdarya rriver and the forecast of variability of the water volume of the Small Aral. In the first model, the predictors used air and precipitation values for the current and previous six months averaged over the entire Aral Sea basin. The model was trained on the period from July 1979 to December 1985 according to the monthly values of the river flow at the Kazaly station (Figure 3). As a result, it was used to simulate river flow values for the period from January 1986 to September 2015 - for this period, the actual measurements of the river flow were not available (Fig. 4). These data, together with reanalysis data (air temperature, wind speed, precipitation) were used to train the second statistical model for predicting small-Aral volume fluctuations on satellite altimetry data for the period from October 1992 to November 2014 (Fig. 5). In conclusion, a forecast was made for the monthly values of the water volume of the Small Aral Sea in 2015 (Figure 6). Analysis of the significance of the signs showed that the parameters of mean temperature, precipitation amount and total evaporation are most significant for the results of constructing the model of decision trees, so only they were chosen as predictors of the final model - this made the model less susceptible to noise (robust), and also minimized the risk of retraining.

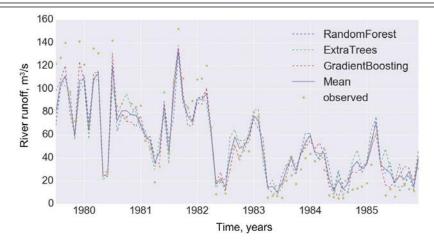


Figure 3 – Training of the model of river flow formation for the period from July 1979 to December 1985

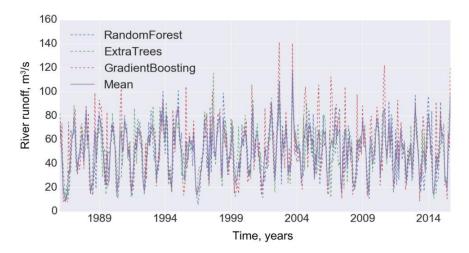


Figure 4 – Simulation of monthly river flow values for the period from January 1986 to September 2015

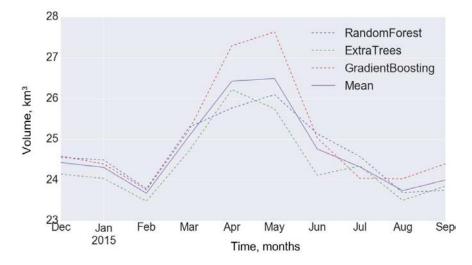


Figure 5 – Training model for forecasting the water volume of the Small Aral Sea, the period from October 1992 to November 2014

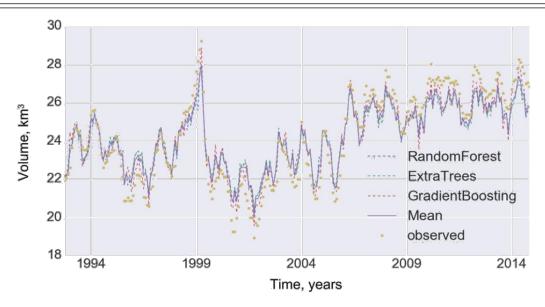


Figure 6 - Modeling of monthly values of the water volume of the Small Aral Sea in 2015

Conclusion. As a result, it should be noted that despite the serious shortage of these direct measurements of the main components of the water balance, such as the sea surface level and river runoff, the proposed method makes it possible to accurately predict the volume of waters of the Small Aral on the basis of open databases. The introduction of the factor of influence of the Kokaral dam into the model will help improve the quality of the forecast. The proposed technique can be used to obtain initial conditions in hydrodynamic simulation experiments, as well as to calculate climatic scenarios for the development of the hydrological system of the Aral Sea. Directions of further studies of the dynamics of the water volume of the Small Aral Sea are seen in the use of episodic data of field measurements for verification and more detailed adjustment of the model used, Syr Darya for the restoration of the values of natural water inflow into the Small Aral Sea.

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#### ПРОГНОЗИРОВАНИЕ СОСТОЯНИЯ МАЛОГО АРАЛЬСКОГО МОРЯ НА ОСНОВЕ ДАННЫХ ОТКРЫТЫХ ИСТОЧНИКОВ

Аннотация. Исследование динамики уровня и объема вод Аральского моря является актуальной научной задачей в силу необходимости понимания механизмов природных и антропогенных процессов, индуцировавших радикальное изменение его водного и солевого балансов за последние 60 лет. В частности, исследование динамики компонент водного баланса бассейна Малого Аральского моря является важнейшей задачей при планировании сценариев водопользования в регионе. В предлагаемой работе на основе методов машинного обучения (для внедрения вычислительных функции в программу) были разработаны две статистические модели: модель прогноза месячных значений речного стока р. Сырдария и прогноза изменчивости объема вод Малого Арала. По результатам моделирования были получены прогнозы значений

стока Сыр-Дарьи и объема вод Малого Аральского моря. В условиях малой обеспеченности данными натурных наблюдений полученные оперативные оценки компонет водного баланса являются важнейшим источником информации о происходящих изменениях в исследуемом бассейне. Предлагаемая методика также может быть использована для получения начальных условий в экспериментах гидродинамического моделирования, а также для расчета климатических сценариев развития гидрологической системы Арала.

Исследование процессов гидрологического цикла Аральского моря затруднено практически полным отсутствием данных современных измерений составляющих его водных балансов. За последние 15 лет тенденция Аральского моря к разделению водных объектов углубилась: глубоководные западные и мелководные восточные бассейны Большого Аральского моря, Малого Аральского моря и Туш-базы. Таким образом, восточный бассейн Большого Аральского моря в последние годы практически перестал быть постоянным водохранилищем, превратившись в эфемерное озеро, существование которого определяется величиной сезонного полноводного стока реки Амударьи. Северный бассейн Аральского моря (или Малый Арал) в последние годы практически утратил контакт с другими бассейнами как из-за естественных причин пересыхания Западного и Восточного бассейнов, так и из-за строительства плотины, призванной свести к минимуму водообмен между бассейнами.

В данной работе мы акцентировали внимание на исследовании динамики водного объема Малого Аральского моря. В последние годы, сведя к минимуму свой водообмен с другими частями моря, он начал устанавливать относительно стабильный водно-солевой режим, сходный по своим характеристикам с "условно-естественным" режимом Аральского моря, еще до начала высыхания. Тем не менее, столь же остро ощущается и значительный дефицит этих прямых наблюдений за компонентом водного баланса для данного региона. Современные полевые наблюдения на всех участках Аральского моря носят эпизодический характер, большинство режимных гидрометеорологических станций и станций прекратили свое существование в первой половине 1990-х годов, поэтому в данной работе мы использовали базу данных косвенных наблюдений уровня воды, а также базу данных реанализа климата. Основной целью данной работы является исследование возможности моделирования динамики объема воды бассейна, расположенного в засушливых условиях, с использованием данных косвенных измерений открытых источников.

Введение в модель фактора влияния Кокаральской плотины позволит повысить качество прогноза. Предложенная методика может быть использована для получения начальных условий в гидродинамических имитационных экспериментах, а также для расчета климатических сценариев развития гидрологической системы Аральского моря. Модель была подготовлена на период с июля 1979 года по декабрь 1985 года по месячным значениям речного стока на станции Казалы. Направления дальнейших исследований динамики водного объема Малого Аральского моря видятся в использовании эпизодических данных полевых измерений для верификации и более детальной корректировки используемой модели Сырдарьи для восстановления значений естественного притока воды в Малое Аральское море. Анализ значимости признаков показал, что параметры средней температуры, количества осадков и общего испарения являются наиболее значимыми для результатов построения модели деревьев решений, поэтому только они были выбраны в качестве предикторов конечной модели — это сделало модель менее восприимчивой к шуму (робастной), а также минимизировало риск переквалификации.

**Ключевые слова:** Малый Арал, уровень моря, машинное обучение, речной сток, бассейны, Сырдарья, гидродинамическое моделирование.

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#### КІШІ АРАЛ ТЕҢІЗІ ЖАҒДАЙЫН АШЫҚ ДЕРЕККӨЗ НЕГІЗІНДЕ БОЛЖАУ

Аннотация. Арал теңізі суларының деңгейі мен көлемінің динамикасын зерттеу соңғы 60 жылда оның су және тұз теңгерімінің түбегейлі өзгеруін индукциялаған табиғи және антропогендік үдеріс тетіктерін түсіну қажеттігіне байланысты өзекті ғылыми міндет болып есептеледі. Атап айтқанда, шағын Арал теңізі бассейнінің су балансы компонентінің динамикасын зерттеу өңірдегі су пайдалану сценарийлерін жоспарлауда маңызды саналады. Ұсынылып отырған жұмыста машиналық оқыту әдістерінің негізінде (бағдарламаға есептеу функциясын енгізу үшін) екі статистикалық модель жасалды: Сырдария өзені

ағысының айлық мәні мен Кіші Арал суының өзгергіштігін болжау моделі. Үлгілеу нәтижелері бойынша Сырдария ағынының мәні мен Кіші Арал теңізі су көлемінің болжамы алынды. Табиғи бақылау деректерімен аз қамтамасыз етілген жағдайда алынған жедел бағалар су балансының компоненті зерттелетін бассейнде болып жатқан өзгерістер туралы ақпараттың маңызды көзі болып саналады. Ұсынылған әдістеме сондай-ақ гидродинамикалық үлгілеу эксперименттеріндегі бастапқы жағдайларды алу үшін, сондай-ақ аралдың гидрологиялық жүйесін дамытудың климаттық сценарийін есептеу үшін пайдаланылуы мүмкін.

Арал теңізінің гидрологиялық циклі үдерістерін зерттеу оның су балансын құрайтын қазіргі заманғы өлшеу деректерінің толық болмағандығынан қиындайды. Соңғы 15 жылда Арал теңізі су нысандарын бөлу беталысы тереңдеді. Үлкен Арал теңізінің, Кіші Арал теңізінің терең батыс және таяз Шығыс бассейндері және Туш-базаларын атап айтуға болады. Осылайша, үлкен Арал теңізінің шығыс бассейні соңғы жылдары эфемерлік көлге айналып, Амудария өзенінің маусымдық толық су ағынының шамасы арқылы анықталады. Арал теңізінің солтүстік бассейні (немесе Кіші Арал) соңғы жылдары Батыс және Шығыс бассейндерінің құрғауының табиғи себептеріне байланысты бассейндер арасындағы су араластыруды барынша азайтуға бағытталған бөгет құрылысы барысында басқа бассейндермен байланысты жоғалтпады.

Жұмысымызда Кіші Арал теңізінің су көлемінің динамикасын зерттеуге назар аудардық. Соңғы жылдары теңіздің басқа бөліктерімен су араластыруды барынша азайтып, Арал теңізінің «шартты-табиғи» режимімен сипаттамалары бойынша ұқсас салыстырмалы түрде тұрақты су-тұз режимін орната бастады. Дегенмен, осы өңір үшін су теңгерімінің компонентін тікелей бақылаудың айтарлықтай тапшылығы сезіледі. Арал теңізінің барлық учаскелерінде қазіргі заманғы далалық бақылаулар эпизодтық сипатта болады, режимдік гидрометеорологиялық станциялар мен станциялардың көпшілігі 1990 жылдардың бірінші жартысында тоқтады, сондықтан осы жұмыста біз су деңгейін жанама бақылау дерекқорын, сондай-ақ климат реанализінің дерекқорын пайдаландық. Жұмыстың негізгі мақсаты ашық дереккөздердің жанама өлшеу деректерін пайдалана отырып, қуаң жағдайда орналасқан бассейн су көлемінің динамикасын модельдеу мүмкіндігін зерттеу болып саналады.

Кокарал бөгетінің әсер ету факторының моделіне енгізу болжамның сапасын арттыруға мүмкіндік береді. Ұсынылған әдістеме гидродинамикалық имитациялық эксперименттерде бастапқы жағдайды алу үшін Арал теңізінің гидрологиялық жүйесін дамытудың климаттық сценарийін есептеуде пайдаланылуы мүмкін. Модель 1979 жылдың шілде айынан 1985 жылдың желтоқсан айына дейін Қазалы стансасындағы өзен ағынының айлық мәні бойынша дайындалды. Кіші Арал теңізі су көлемінің динамикасын одан әрі зерттеу бағыттары Кіші Арал теңізіне судың табиғи ағынының мәнін қалпына келтіру үшін Сырдария моделін верификациялау және неғұрлым егжей-тегжейлі түзету үшін дала өлшемдерінің эпизодтық деректерін пайдалануда көрінеді. Белгілердің маңыздылығын талдау барысы көрсеткендей, орташа температура, жауын-шашын мөлшері және жалпы булану параметрлері ағаштардың шешім моделін құру нәтижелері үшін ең маңызды саналады, сондықтан олар тек соңғы модельдің предикторы ретінде таңдалған, бұл модель шуға (робастты) азырақ бейімдеді, сондай-ақ қайта мамандану қаупін барынша азайтты.

**Кілт сөздері:** Кіші Арал, теңіз деңгейі, машиналық оқыту, өзен ағысы, бассейндер, Сырдарья, гидродинамикалық моделдеу.

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#### REFERENCES

- [1] Zavialov, Peter O. Physical oceanography of the dying Aral Sea. Springer Science & Business Media, 2007. Zhang, H., Si, S., and Hsieh, C.-J.: GPU-acceleration for Large-scale Tree Boosting, http://arxiv.org/abs/1706.08359, 2017
- [2] Izhitskiy A.S., Ayzel G.V., Zavialov P.O., Kurbaniyazov A.K. Estimation of the Aral Sea state predictability based on the open data sources and the unique field observations. GeophysicalResearchAbstracts. Vol.18, EGU2016-6131, 2016a.
  - [3] Breiman L., Friedman J., Stone C.J., Olshen R.A. Classification and regression trees. CRC press, 1984: 360 p.
- [4] Hastie T., Tibshirani R., Friedman J., Franklin J. The elements of statistical learning: data mining, inference and prediction. Springler, 2005: 758 p.
- [5] Freund Y., Schapire R.E. A decision-theoretic generalization of on-line learning and an application to boosting. Journ. of computer and system sciences. 1997, 55 (1): 119–139. doi: 10.1007/3-540-59119-2\_166

- [6] Ayzel G.V. Use of machine learning techniques for modeling of snow depth. Ice and Snow. 2017;57(1):34-44. (In Russ.) DOI:10.15356/2076-6734-2017-1-34-44
- [7] Friedman J.H. Greedy function approximation: a gradient boosting machine. Annals of Statistics. 2001, 29(5): 1189–1232
- [8] Kohavi R. A study of cross-validation and bootstrap for accuracy estimation and model selection. Intern. Joint Conf. on Artificial Intelligence (Ijcai). 1995, 14 (2): 1137–1145
  - [9] Schapire R.E., Freund Y. Boosting: Foundations and algorithms. MIT press, 2012: 528 p
- [10] Schwatke, C. et al. DAHITI an innovative approach for estimating water level time series over inland waters using multi-mission satellite altimetry, Hydrol. EarthSyst. Sci., 2015, 19, 4345-4364
  - [11] www.bafg.de
- [12] Dee D.P. et al. The ERA-Interim reanalysis: configuration and performance of the data assimilation system. Q.J.R. Meteorol. Soc.(2011), 137: 553–597. doi: 10.1002/qj.828
- [13] Izhitskiy A.S. et al. Present state of the Aral Sea: diverging physical and biological characteristics of the residual basins. Scientific Reports, 6, 23906 (2016b) doi:10.1038/srep23906
- [14] Ayzel G.V., Izhitskiy A.S. (2016). Issledobanie dinamiki urovnyavodi Aralskogo moray podannym distancionnogo zondiro vanya I klimaticheskogo reanalaza //Vodnye resursy: izuchenye I upravlenye (limnogologi- cheskaya shkola-praktika), [Dynamics of the Aral Sea Mountaineering in the range of remote sensing and climatic reanalysis]Water resources: learning and governance (limnological school-practice). Tom 2. P.p 189-19
- [15] Mason L., Baxter J., Bartlett P. L., Frean M. R. (2000). Boosting algorithms as gradient descent. In Advances in neural information processing systems (pp. 512-518).
  - [16] Monthly runoff data. The Global Runoff Data Centre, 56068 Koblenz, Germany. www.bafg.de
- [17] Kurbaniyazov A.K. et.al. Research of transformation of biogenous elements in water ecosystems of the southern Aral Sea area News Of The National Academy Of Sciences Of The Republic Of Kazakhstan Series Of Agricultural Sciences ISSN 2224-526X Volume 3, Number 51 (2019), 33 36 https://doi.org/10.32014/2019.2224-526X.32

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# RESEARCH ON THE CHEMICAL COMPOSITION OF SNOW OF ALMATY CITY

**Abstract.** The article shows that according to the data of Kazgidromet from 2014-2015 years, Almaty takes one of the first places among the cities of Kazakhstan in terms of air pollution. Currently, Almaty is one of the 25 cities in the world in terms of air pollution. The main source of air pollution is harmful substances coming out of the exhaust pipes of vehicles. According to data from the traffic police, 540,000 vehicles have been registered in Almaty. Their number is increasing to 40,000 annually. Every day 250 thousand cars are driven into and out of the city. Polluting substances appear everywhere, their harmful influence on organisms of people, animals and plants is various: they increase metal corrosion, damage respiratory tract of population and animals, have negative influence on vegetation cover. During windless days they accumulate as smoke (smog) over the city of Almaty.

**Key words:** carbon oxides, Natrium, Magnesium, Silicon, Potassium, Calcium, Sodium, Iron, Chrome, Copper, Cadmium, Polyphosphates; characteristics of snow in Almaty.

Currently, about 3000 kg of carbon dioxide (CO<sub>2</sub>) and oxides (CO), sulphur dioxide (SO<sub>4</sub>) and other incomplete combustion residuals are emitted every day. Each year, cars produce around 280,000 tons of carbon monoxide, 56,000 tons of hydrocarbons and 28,000 tons of nitrogen. These gases contain over 200 complex compounds (Pb, Hg, Cd, other heavy metals, gases of internal combustion engines -benzapyrenes, aldehydes) [1-11].

Among them are harmless - nitrogen, oxygen, hydrogen, water vapor, harmful - carbon monoxide, nitrogen oxide, ethylene, benzene, ethane, methane, toluene, benzapyrene, soot, sulfur smoke, etc. These physical and chemical compounds are most harmful to humans, animals and plants when breathing. The pollutants are released into the air when the car is heated up and driven at low speeds.

During traffic jams the cars were stopped, but while the engine was running, hydrocarbons and carbon monoxide were emitted, while the engine was running, nitrogen oxide was emitted. Cars with a diesel engine have more CO, NO emissions than those using petrol. This is because they emit a lot of smoke and have a bad impact on human health. It has been found that the atmosphere of carbon dioxide contains 25-27% of lead, and 40% reaches 2 meters.

It is known that they are stored in the air for a long time, and then enter the human body with them. Car emissions have a harmful effect on green plants - even pollutants can cause diseases in plants, and their leaves suffer from chemical burns.

Air pollution is directly related to the technical condition of the vehicle. According to public surveys along urban roads, 80% of car exhaust emissions contained pollutants 3-4 times higher than normal [1-9].

Cars often pollute the air before traffic lights and in traffic jams. This is due to the fact that in these places the car is more concentrated and when the engine is running at low speed, toxic gas is emitted into the atmosphere. Some people say that while Almaty, with a population of 2 million, has air pollution, what about cities with 20 million people. But in terms of pollution, our city is in front of cities such as Mexico with a population of over 20 million, Tehran, Shanghai with a population of about 17 million, New York with a population of 10-15 million, Los Angeles, London, Istanbul, Tokyo, Moscow. It is very alarming that we cannot improve the environment of Almaty compared to them.

**Purpose of the research:** to determine the chemical composition of snowfall in Almaty.

Objectives of the research: 1. to determine the physical and chemical characteristics of snow water;

2. Determination of snow water hardness; 3. Study of the chemical composition of snow water.

**Research methods:** titrimetry, pH-metry, refractometry, low-vacuum electron microscope brand JSM-6510LA.

The subject of the research was snow cover from January to February of 2014-2015 years. The snow cover was collected at the intersection of the railway station - Almaty-1, Raiymbek-Seifullin street, Tole Bi Street - Seifullin Street. PH of solutions was determined in pH-meter type "I-160MI". Snow water density was determined by the pycnometric method and refractometric refraction index. Snow water hardness and CO<sub>2</sub> content were determined by the titrimetric method.

The results are shown in tables 1-4 and figures 1 below. According to table 1, the pH of snow water of Almaty Railway 1 is 7,681, and the pH of snow water at the intersection of Raiymbek-Seifullin Street is 8,485, while the pH of snow water at Tole Bi-Seifullin Street is 7,818.

The smallest amount of temporary hardness was demonstrated by the melting of snow at the Raiymbek-Seifullin crossing and the largest snowfall on Tole Bi-Seifullin Street (table 1).

№	raw snow water	pН	n refractive	p, g/sm <sup>3</sup>	sourness, r	sourness, mmol/L	
			index	pycnometer	temporary	total	
1	Railway station - Almaty 1	7,681	1,3320	1,006	4,3	5,75	88
2	Raiymbek-Seifullin	8,485	1,3320	1,008	3,15	6,25	22
3	Tole bi - Seifullin	7,818	1,3320	1,008	5,65	5,075	44

Table 1 – Physical and chemical indicators of snow water

The total hardness should not exceed 3 mmol/L in drinking water. However, the hardness of snow is approximately 1.5-2 times higher. We see that the amount of carbon dioxide contained in snowfalls at the Tole bi - Seifullin streets is twice high than snow water as in Raiymbek-Seifullin intersection, and almost 4 times higher in water at the Railway-Almaty-1 intersection.

$N_{\underline{0}}$	Elements	Tole bi - Seifullin		Raiymbek-Seifullin		Railway station - Almaty 1	
		MAC, mg/l	Detected, mg/l	MAC, mg/l	Detected, mg/l	MAC mg/l	Detected, mg/l
1	Chrome	0,05	0,013	0,05	-	0,05	-
2	Copper	1,00	0,024	1,00	0,43	1,00	0,94
3	Cadmium	0,001	2,52	0,001	0,08	0,001	0,017
4	Polyphosphates	3,50	3,28	3,50	0,96	3,50	6,44
5	Total	100	100	100	100	100	100

Table 2 – Content of heavy metals in snow water

Table 3 – Content of elements in snow water, %

No	Elements	Tole bi - Seifullin		Raiym	Raiymbek-Seifullin Railway station - Almaty 1		Raiymbek-Seifullin		tion - Almaty 1	MAC
		Mass	Atomic mass	Mass	Atomic mass	Mass	Atomic mass	mg/l		
1	Carbon	11,9	19,76	22,67	33,87	14,29	23,36			
2	Oxygen	38,4	47,52	38,17	42,10	37,34	45,83			
3	Natrium	1,44	1,24	1,48	1,16	1,39	1,19	200		
4	Magnesium	2,32	1,89	1,89	1,39	2,69	2,17	50		
5	Aluminium	9,80	7,19	7,65	5,09	7,77	5,66	0,2		
6	Silicon	24,9	17,52	19,33	12,35	24,94	17,43			
7	Potassium	4,19	2,12	1,22	1,19	2,87	1,44	50		
8	Calcium	1,92	0,95	4,99	0,55	1,39	0,68	180		
9	Iron	5,02	7,78	1,60	1,60	6,00	2,11	0,3		
10	Lead	-	-	-	-	1,32	0,13	0,1		

Table 2 shows that the chromium content in snow water from Tole Bi-Seifullin streets did not exceed MAC. And the other two places have no chromium content in the snow. At the same time, the copper content in all places did not exceed MAC. The content of polyphosphate in snow water at the intersection of Raiymbek and Seifullin streets is 3.5 times lower than the maximum permissible concentration, and at the intersection of Railway Station Almaty-1 it is twice higher. As for cadmium, we noticed that the content of cadmium in the snow at the intersection of the railway - Almaty-1 was 17 times higher, at the intersection of streets Raiymbek and Seifullin 80 times higher, and in the snow at the intersection of Tole bi-Seifullin streets the content of cadmium in the snow was 252 times higher than MAC.

No	Elements	Tole bi - Seifullin	Raiymbek-Seifullin	Railway station - Almaty 1
1	Iron	259333.33 times	53333.3 times	70,000 times
2	Natrium	62 times	5.8 times	5.95 times
3	Magnesium	378 times	27.8 times	43.4 times
4	Aluminium	359500 times	25,950 times	283.000 times
5	Potassium	424 times	23.8 times	288 times
6	Calcium	52.78 times	30.55 times	37.77 times
7	Lead			13.000 times

Table 4 – Data showing the extent of snow water elements higher than MAC in drinking water

#### 1 Diagram of snow water elements

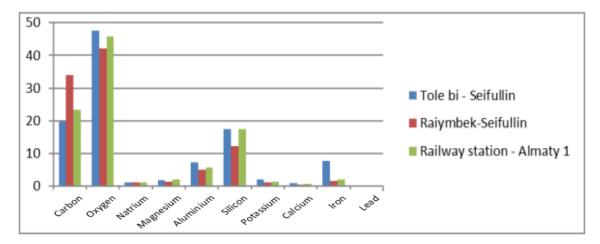


Table 4 shows that lead levels were found only in snow water at the crossing of the railway station -Almaty 1. Its amount is 13,000 times higher than the MAC.

It was found out that the amount of iron in the snow water at the intersection of the railway station -Almaty 1 is 70,000 times higher than the maximum permissible concentration, in the amount of snow water taken from the intersection of Raiymbek and Seifullin Streets - 53333 times higher, at the intersection of Tole Bi and Seifullin Streets - 259333 times higher.

The amount of calcium is 37.77 times higher than the maximum allowable concentration at the crossing of the railway station - Almaty 1, and 30.55 times higher than the maximum allowable concentration at the crossing of Raiymbek and Seifullina streets and 52.78 times higher than the maximum allowable concentration at the crossing of Tole bi and Seifullina streets.

Potassium content was found to be 288 times higher at the intersection of the railway station - Almaty 1, and 23 times higher than the MAC at the intersection of Raiymbek-Seifullin streets and 424 times higher at the Tole Bi-Seifullin streets.

The content of aluminum in the intersection of the railway station - Almaty-1 is 28300 times higher than the MAC, and in snow water from the streets of Raiymbek - Seifullin 25 450 times more, and in Tole bi -Seifullin streets it is more 359500 times.

The amount of magnesium in the snow water at the intersection of the railway station - Almaty-1 is 43.4 times higher than the maximum allowable concentration, and in the snow of Raiymbek - Seifullin streets - 27.8 times higher, in the snow water at the intersection of Tole bi and Seifullin streets 378 times higher.

The content of sodium is 5.95 times higher than MAC at the intersection of railway station - Almaty-1, 5.8 times higher at the intersection of Raiymbek and Seifullina streets, and 62 times higher than MAC at the intersection of Tole Bi and Seifullina streets.

Conclusion. As society develops, its civilization and technology are growing, which causes significant damage to the atmosphere. As a result, people do not notice that they are using the biosphere for their own benefit and that they have a negative impact on the ecological situation. Assessing the chemical composition of melting snow in these conditions, assessing the environmental situation in Almaty, we found that the problem in Almaty is serious, and its main adverse impacts are related to polluted air, health of its population, plant and animal life, water and soil. Therefore, in order to reduce carbon dioxide, lead and other waste emissions in the air of Almaty, it is necessary to reduce traffic jams two times. The article defines the physical and chemical composition and hardness of snow water, the amount of MAC of snow water. According to the research, it was found that the amount of iron in snow water at the crossing of the railway station - Almaty 1 is 70000 times higher than the maximum allowable concentration, and the amount of snow water at the intersection of Raiymbek and Seifullin streets is 53333.3 times higher, as well as at the intersection of Tole bi and Seifullin streets is 259333.33 times higher. Therefore, improving air quality and ecology in Almaty is a complex and urgent task.

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#### АЛМАТЫ ҚАЛАСЫНДАҒЫ ҚАР СУЫНЫҢ ХИМИЯЛЫҚ ҚҰРАМЫН ЗЕРТТЕУ

Аннотация. Мақалада 2014-2015 жылғы Казгидрометтің бақылау нәтижелерінің қорытындысы бойынша Алматы қаласы Қазақстан қалаларының ішіндегі ауа ластануының жоғары деңгейін көрсетіп, алдыңғы орынға шыққан. Бүгінде Алматы дүниежүзіндегі 25 ластанған қаланың тізіміне еніп отыр. Қаламыздың Қазақстандағы ең лас қала аталуының басты себебі – ауаның ластану жолдарының негізгі көзі – автокөліктен шығатын зиянды заттар болып есептеледі. Қалалық жол полициясының есебі бойынша, Алматы қаласында 540 мыңған астам көлік машиналары тіркелген. Оның қатары жылына 40 мыңға дейін көбейеді. Қалаға күнделікті 250 мыңның астам автомобильдер келіп-кетіп жатады. Ластағыш заттар түрлі металдардың коррозиясын үдетіп, адамның, жануарлардың тыныс жолдарының кілегей қабаттарына, терісіне теріс әсер етеді, өсімдіктер де бүлінеді. Мақалада қала үстіне желсіз күндері жиналған улы қара түтін, өнеркәсіптік кәсіпорнынан атмосфераға үлкен мұржалар арқылы шығарылатын, адам организміне зиянды улы түтін заттардың қалдығы туралы айтылған.

**Ғылыми жұмыстың мақсаты:** Алматы қаласындағы қардың химиялық құрамын анықтау.

**Зерттеу әдістері:** титриметрия, pH-метрия, pефрактометрия, JSM-6510LA маркалы төмен вакумды электронды микраскоп.

Зерттеу нысанасы ретінде 2014-2015 жылдың қаңтар-ақпан айларында жауған қар алынды. Олар: Алматы-1 – Темір жол вокзалы, Райымбек-Сейфуллин, Төле би-Сейфуллин көшелерінің қиылысынан жинап алынды. Ерітінділердің рН-ы "И-160МИ" маркалы рН-метрде анықталды. Қар суының тығыздығы пикнометрлік және сыну көрсеткіші рефрактометрлік әдіс арқылы анықталды. Қар суының кермегі және CO<sub>2</sub> мөлшері титриметриялық әдіс негізінде анықталды.

Зерттеу нәтижелеріне қарағанда, *қорғасын* мөлшері Алматы 1 – Темір жол вокзалы көшелерінің қиылысындағы қар суынан ғана табылған. Оның мөлшері ШРК-дан 13000 есе жоғары.

Алматы-1 – Темір жол вокзалы көшелерінің қиылысындағы қар суында *темір* мөлшері ШРК-дан 70000 есе жоғары, ал Райымбек-Сейфуллин көшелерінің қиылысынан алынған қар суының құрамында 53333 есе, Төле би-Сейфуллин көшелерінің қиылысындағы мөлшері 259333 есе жоғары екені анықталды.

*Кальций* мөлшері Алматы-1 — Темір жол вокзалы көшелерінің қиылысында ШРК-дан 37,77 есе, Райымбек-Сейфуллин көшелерінің қиылысында 30,55 есе, Төле би-Сейфуллин көшелерінің қиылысында 52,78 есе жоғары.

*Калий* мөлшері Алматы-1 – Темір жол вокзалы көшелерінің қиылысында ШРК-дан 288 есе, Райымбек-Сейфуллин көшелерінің қиылысында 23,8 есе, Төле би-Сейфуллин көшелерінің қиылысында 424 есе жоғары екені анықталды.

Алюминий мөлшері Алматы-1 — Темір жол вокзалы көшелерінің қиылысында ШРК-дан 28300 есе жоғары, ал Райымбек-Сейфуллин көшелерінің қиылысынан алынған қар суының құрамында 25450 есе, Төле би-Сейфуллин көшелерінің қиылысындағы мөлшері 359500 есе жоғары.

Алматы-1 – Темір жол вокзалы көшелерінің қиылысындағы қар суындағы *магний* мөлшері ШРК-дан (шекті рауалды концентрация) 43,4 есе жоғары, ал Райымбек-Сейфуллин көшелерінің қиылысынан алынған қар суының құрамында 27,8 есе, Төле би-Сейфуллин көшелерінің қиылысындағы мөлшері 378 есе жоғары екені анықталды.

*Натрий* мөлшері Алматы-1 — Темір жол вокзалы көшелерінің қиылысында ШРК-дан 5,95 есе, Райымбек-Сейфуллин көшелерінің қиылысында 5,8 есе, Төле би-Сейфуллин көшелерінің қиылысында 62 есе жоғары.

Қар суының химиялық құрамын зерттеу барысында Алматы қаласының экологиялық жағдайын бағалай отырып, Алматының проблемасы күрделі екендігін, оның негізгісі ластанған ауаның, қала тұрғындарының денсаулығына, флорасы мен фаунасына, суы мен топырағына теріс әсер тигізетінін байқадық. Соған байланысты Алматы қаласының ауасындағы өмірге зиянды көміртек оксиді, қорғасын, темір, кальций, калий, алюминий, магний, натрий, хром, мыс, кадмий, полифосфат, т.б. қалдықтарды азайту үшін автокөліктердің көшедегі кептелісін 2 есе азайту керек. Сондықтан Алматы қаласы ауасының тазалығын, экологиясын жақсарту – күрделі әрі кезек күттірмейтін мәселе.

**Түйін сөздер:** көміртек оксидтері, қорғасын, темір, кальций, калий, алюминий, магний, натрий, хром, мыс, кадмий, полифосфаттар, Алматы қаласындағы қар сипаттамасы.

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#### ИЗУЧЕНИЕ ХИМИЧЕСКОГО СОСТАВА СНЕГА г. АЛМАТЫ

Аннотация. В статье показано, что по данным 2014-2015 гг. Казгидромета, среди городов Казахстана по степени загрязнения атмосферы г.Алматы занимает одно из первых мест. В настоящее время по уровню загрязнения воздуха Алматы вошел в число 25 городов мира. Основной источник загрязнения атмосферы – это вредные вещества, выходящие из выхлопных трубов автотранспортов. По данным дорожной полиции, в городе Алматы зарегистрировано 540 тыс. автомобилей. Их число ежегодно увеличивается до 40 тыс. единиц. В город ежедневно прибывает и убывает 250 тыс. автомобилей. Загряняющие вещества поступают везде, их вредное влияние на организмы людей, животных и растений разнообразно: повышают коррозию металлов, повреждают дыхательные пути людей и животных, оказывают отрицательное влияние на растительный покров. В безветренные дни скапливаются в виде дыма (смога) над городом Алматы.

**Цель и задача научных работ.** Изучение и определение химического состава снега, выпавшего в г.Алматы.

**Методы исследования:** титриметрия, pH-метрия, peфpактометрия, низковаумный электронный микроскоп марки JSM-6510LA.

**Объекты исследования.** Образцы взяты из снега, выпавшего в 2014-2015 гг. в городе Алматы. Место взятия образцов: железнодоржный вокзал Алматы 1; на пересечении ул. Райымбека – Сейфуллина; Толе би – Сейфуллина; рН растворов определены на рН-метре марки "И-160МИ". Плотность воды из снега определена методом пикнометрии; показатель преломления определен рефрактометрическим способом; кислотность воды из снега и объем (количество) СО<sub>2</sub> определяли методом титрования.

Результаты исследования показывают, что определенное количество *свинца* найдено в растворе из снега, взятого на пересечении улицы Железнодорожный вокзал – Алматы 1, его количество превышает ПДК в 13000 раза.

Количество *железа* в растворе снега, взятого на перекрестке Железнодорожный вокзал – Алматы 1, превышает ПДК в 70 000 раза, а в растворе снега, взятого на пересечении Раймбека – Сейфуллина – в 53333 раза, в растворе снега, взятого на перекрестке Толе би – Сейфуллина – в 259333 раза.

Содержание *кальция* в растворе снега, взятого на перекрестке Железнодорожный вокзал — Алматы 1, превышает величины ПДК в 37,77 раза, в растворе снега, взятого на пересечении улицы Раймбека — Сейфуллина, превышает ПДК в 30,55 раза, а в растворе снега, взятого на пересечении улицы Толе би — Сейфуллина, превышение составляет — в 52,78 раза.

Количество *калия* в растворе из снега, взятого на перекрестке Железнодорожный вокзал – Алматы 1, превышает величины ПДК в 288 раза, в растворе снега, взятого на перекрестке Раймбека-Сейфуллина, превы-шает ПДК в 23,8 раза, в растворе снега, взятого на пересечения улицы Толе би-Сейфуллина – в 424 раза.

Содержание *алюминия* в растворе из снега, взятого на перекрестке Железнодорожный вокзал – Алматы 1, превышает величины ПДК в 28300 раза, в растворе снега, взятого на пересечении улицы Раймбека – Сейфуллина, превышает ПЛК в 25450 раза, в растворе снега, взятого на пересечении улицы Толе би-Сейфуллина, превышение составляет в 359500 раза.

Содержание *магния* в растворе из снега, взятого на перекрестке Железнодорложный вокзал – Алматы 1, превышает величины ПДК в 43,4 раза, в растворе снега, взятого на пересечении улицы Раймбека-Сейфуллина, превышает ПДК в 27,8 раза, в растворе снега, взятого на пересечении улицы Толе би-Сейфуллина – в 378 раза.

Количество *натрия* в растворе снега, взятого на перекрестке Железнодорожный вокзал — Алматы 1, превышает величины ПДК в 5,95 раза, в растворе снега, взятого на пересечении улицы Раймбека-Сейфуллина, превышает ПДК в 5,8 раза, в растворе снега, взятого на пересечении улицы Толе би-Сейфуллина — в 62 раза.

В результате изучения химического состава снега установлено, что экологическое состояние в г.Алматы сложное. Загрязненный воздух оказывает негативное влияние на здоровье людей, а также на состояние флоры и фауны в городе и его окрестностях. В связи с этим, с целью уменьшения содержания  $CO_2$ , свинца, железа, калия, кальция, алюминия, натрия, магния, хрома, кадмия, полифосфатов следует уменьшить пробки на улицах Алматы в 2 и более раза.

**Ключевые слова:** характеристика снега г.Алматы, оксиды углерода, монооксид, оксид серы, альдегиды, этилен, бензол, этан, метан, толуол, бенз(а)пирен, оксиды.

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#### REFERENCES

- [1] Revich B.A., Avaliani S.L., Tikhonova G.I. Ecological epidemiology. M.: 2004.
- [2] Dmitriev A.N., Shitov A.V. Technogenic influence on natural processes of the Earth // V Coll.: Problems of Global Ecology. Almaty. 2003.
  - [3] Akimov T.A., Haskin V.V. Ecology (Textbook). 2005. 302 p.
  - [4] Sadanov A.K. Workshop on Ecology and Environmental Protection. 2007. 105 p.
  - [5] The newspaper "Ecological Bulletin". April 4, 2010. 2 p.
  - [6] Guidelines for drinking water quality control. T. 1-3. WHO-2003.
  - [7] Hotko N.I., Dmitriev A.P. Water factor in infection transmission. Penza. 2002.
  - [8] Bozhbanov A.J., Medeuova Y.J. Ecotoxicology. Textbook. Almaty: Economist. 2014. 254 p.
  - [9] Zhailybay K.N., Nurmash N.K. Biological ecology. (Textbook). Almaty: women university. 2016. 530 p.
- [10] Amerkhanova Sh.K., Zhurinov M.Zh., Shlyapov R.M., Uali A.S., Imankulova F.E. Physical and chemical properties of interpolymeric complex polyvinyl alconol-polyacrylamide and application in waste water treatment systems // News of NAS RK. Series chemistry and technology (http://chevistry-technology.kz/index.php/en/arhiv). Vol. 1, N 421. 2017. P. 115-122; ISSN 2518-1491 (Online), ISSN 2224-5286 (Print). https://doi.org/10.32014/2018.2518-1491.00
- [11] Tulemiusova G.G., Abdinov R.Sh., Batyrbaeva G.U., Kabdrakhimova G.Zh., Mustafina A.Zh. Current conditions of hydrochemical regime in rivers of Ural-Caspian Basin // News of NAS RK. Series chemistry and technology (http://chevistrytechnology.kz/index.php/en/arhiv). Vol. 1, N 421. 2017. P. 96-100. ISSN 2518-1491 (Online), ISSN 2224-5286 (Print). https://doi.org/10.32014/2018.2518-1491.00

### **Economy**

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### HUMAN CAPITAL MANAGEMENT FROM PSYCHOANALYTIC PERSPECTIVE

Abstract. The article presents a psychoanalytic interpretation of organizational hierarchy in the aspect of human capital, considering the positive and negative consequences for all organization members. Its aim is to present the psychoanalytic understanding of the capital which is constituted by organization members. It is them who decides about the effects of the operations of an organization, both its successes and failures. This article attempts at describing the psychological mechanisms which determine the complex phenomenon called 'human capital' of an organization. The concept of 'human capital' has been confronted with one of the key attributes of an organization, that is the hierarchy of the organization's structure. The article presents a psychoanalytic interpretation of organizational hierarchy in the aspect of human capital, considering the positive and negative consequences for all organization members.

Keywords: human capital, psychoanalysis, hierarchy, project management.

**Introduction.** The article below is of theoretical nature. Its overarching goal is to present an application of psychoanalytic theories to the sciences of organization and management. The specific objective is an attempt at psychoanalytic interpretation of the phenomena and processes that comprise the so-called human capital of an organization. The application of concepts that are derived from psychoanalysis to organizations lets us not only better understand the mechanisms of functioning of the individuals forming an organization, but, most of all, provides knowledge indispensable for more efficient management of organizations, both of the profit and non-profit type. The psychoanalytic perspective provides a deeper interpretation of the motives for acting of the individuals, as it reaches beyond the people's declarations [Barabasz 2008].

This article presents an attempt at identification of the psychological mechanisms which influence the shape of the complex social object described as an organization's 'human capital.' Members of an organization determine its successes or failures, challenges taken up and defeats suffered; they also determine its value; they define the climate and culture of the organization, the ways of coping with serious crises and everyday difficulties; they shape the process of everyday communication and the way of finding an understanding in emergencies. Creating the relational capital of the organization, people attribute to it intangible and priceless value. It is not without grounds that the definitions of the concept of 'human capital' emphasize the importance of trust and loyalty towards the organization. In this article, the concept of human capital is confronted with one of the key characteristics of organizations, that is the hierarchy of organizational structure. The concept is discussed based on its psychoanalytic interpretation.

Literature review. Learning about an organization requires focusing on its main actors, that is organization members, the management. It seems, however, that what is one of the most fascinating

features of an organization as a social entity is the fact that it escapes full cognition, remaining, in a way, an unfathomed entity. It is a challenge for both theoreticians and practitioners of management to try to grasp what an organization is by means of more general categories that describe its features, nature, and at the same time the uniqueness of that living social entity. One of such categories, which has become the basis for formulation of guidelines for organizational management, is the concept of human capital.

The theory of human capital was developed in the 1970's by G. Becker [1993], based on the fundamental assumption that people are the most precious resource of an enterprise [organization]. Then, the main characteristics of human capital are competitiveness and exclusiveness. The human capital model implemented in the practice of management is based on the belief that human is a being that is capable, willing to learn and striving for self-fulfillment by self-development. This approach leads, among other things, to paying attention to employee's psychological competencies. Thus, what an important asset during recruitment are the personality characteristics of a job candidate. There are usually teamwork skills, willingness to develop, loyalty, as well as other characteristics, specific for the needs of a given organization.

According to L. Edvinsson [2001, p. 34] the term human capital comprises "...all skills, knowledge and experience of employees and managers of an enterprise...

Human capital must also incorporate the creativity and innovativeness of the organization."

Then, B. Mikuła [2006, p. 96] defines human capital as all resources, "which are carried by people, such as knowledge [explicit and implicit, declarative and procedural], abilities, values, norms, attitudes, believes, emotional intelligence, etc. Human capital forms configurations of those resources, which are directed at the other resources of the organization, they activate the organization to create value. Its value depends on mutual adjustment and the structure of links between all resources."

Next, A. Szałkowski [2006, p. 19] writes that, with reference to the individual, capital is composed of abilities, health, knowledge, motivations and vital energy, as well as time. Human capital is a specific resource embodied in people and may be either increased or decreased...". The author draws attention to the long tradition of the category of human capital, indicating that the concept of human capital derives from the works of Adam Smith, and it was developed into the human capital theory in the works of G. Becker and T.W. Schultz.

In some further definitions, M. Przybyła [2007, p. 91] emphasizes that "human capital is the abilities and entrepreneurship of employees, their interpersonal skills, competencies, knowledge, experience, involvement, emotional intelligence, morale, mutual trust and motivation."

There is no doubt that all the above definitions refer to psychological qualities, desired from organization members. Despite numerous, similarly phrased definitions, the term 'human capital' remains multi-dimensional and happens to be understood in various ways. The differences are not surprising when we consider the fact that the term 'human capital' comprises two complex, ambiguous concepts, and its intuitive understanding draws attention towards the psycho-sociological aspects of organization's functioning. At the same time, in the sciences of organization and management, a different term, cognate and close to human capital, is used, that is the concept of social capital. That term from the border of economics and sociology means the capital [as an element of the process of production and life in an organized society], the value of which is based on mutual social relations and trust of individuals, which can therefore achieve better bene fits [from the economic and social points of view]. The term 'social capital' was introduced into sociological literature also in the 1970's by P. Bourdieu and was popularized by J. Coleman [1988]. J. Coleman's approach has been taken over by R. Putnam, according to whom social capital means the totality of norms, networks of mutual trust, loyalty, interdependencies in a given social group [Putnam, Leonardi, Nanetti 1995, p. 258]. This article employs the concept of 'human capital' as closer to psychology, while the term 'social capital' seems to be closer to the sociological approach, although both terms concern the same phenomena to a high degree.

Materials and methods. Psychologists who represent not only the psychoanalytic or psychodynamic approaches, point out that the perception and ideas concerning the social reality, including organizations, are not neutral [Vansina-Cobbaert 2008, pp. 20-27]. They remain under the influence of current emotions, as well as prior life experiences, which shape the personality of every individual. Looking at the actions of an organization only from the perspective of rational knowledge, neglecting the emotional aspects and others which escape direct cognition or are hidden under the surface of observable behaviors, does not

guarantee full comprehension, thus adequate interpretation of what is happening in an organization [cf.: Stapley 2013, pp. 19-20]. Failing to understand the internal processes that occur under the surface of consciousness, it is difficult to comprehend the mechanisms that govern the functioning of a group and organization. The psychoanalytic theory seems, therefore, to be the most adequate tool for learning about and examining the complex intra- organizational processes. It has been used in the sciences of organizations and society for at least 50 years, although, in the Polish context, it is mostly applied in the area of psychotherapeutic interactions targeted at individuals. The use of psychoanalysis in the context of organizations is, however, slowly developing in Poland. Its application to organization exceeds examination of pathologies or dysfunctions. Psychoanalysis provides, most of all, the concepts that facilitate understanding of the functioning of an organization, also about the category as general, and at the same time as complex as human capital of an organization. It is possible because the psychoanalytic conceptual apparatus enables interpretation of the motives of actions carried out by members of groups and organizations, both at the level of individual behaviors, and behaviors observed in the context of the organization viewed holistically.

The central concept in the psychoanalytic theory is the unconscious, despite many changes that it has undergone over the decades. Of course, Z. Freud did not 'invent' the unconscious, but found a place for it within two models, a topographic one and a structural one, which describe the functioning of the human psyche. Z. Freud [1999] treated the unconscious as an aspect of human psyche which can be examined, and he proposed a system of analytic interpretations and constructs for assessment and examination of the unconscious. According to the originator of psychoanalysis, unconsciousness is a state which is made up by the thoughts and desires which have been repressed, that is forced out of consciousness. What has been repressed, therefore, is the prototype of the unconscious [Laplanche, Pontalis 1996].

Unconscious thoughts and desires do not operate in the same way as the conscious processes. Introspection does not, however, yield access to them; they cannot be changed by way of logical arguments or material evidence, supplied in an intellectual discussion. Above all, unconscious thoughts and desires are not subject to free discussion, as the immense powers of the psyche keep them in the state of repression. People expends plenty of energy while defending against disturbing, inconvenient desires or thoughts, trying to confine them in the area of the unconscious [cf.: Freud 1997; Gabriel 2004; Stapley 2013].

Beside unconsciousness, what is another concept that is extremely important for understanding the relations in organizations is the phenomenon of transference. Psychoanalysis, initially focused on understanding of the behavior of individuals, has become, as time passed, it has also become occupied with the relations in groups and organizations. Z. Freud and S. Ferenczi, and later their successors, sought to explain processes which lead to the formation of a group, as well as described the way of functioning of group members, whether and how participation in the life of the group affects individual behaviors of its members. S. Ferenczi [1952] argued that transference, as a phenomenon key for the psychoanalytic theory, develops in the everyday life of individuals, who constantly redirect their repressed feelings onto others. He developed a theory which combines two important phenomena, that is transference and projection. He has indicated that identification through projection [externalization] and through introjection [internalization] are of fundamental importance for the functioning of groups, especially when we want to deal with the superior-subordinate relations. Z. Freud [1975] thought that the forces that bind a group together stem from the emotional relationships between its members, and every individual builds a positive tie with his or her leader, and a similar tie is formed with the other group members. One of the mechanisms included in the libidinal processes is the identification mechanism, that is the process which makes a person want to be the same as someone else, important for that person. Identification is considered by psychoanalysis to be the most important form of emotional tie with a different person. In the process of identification, the person who wants to be like someone else, makes an introjection of that person into his or her own Ego. Z. Freud [quoted in: de Board 2003, p. 15] claims that "the basic group is a collection of individuals who substituted their ideal ego with one and the same object and, as a consequence, they identify themselves with one another in their ego". The process then is responsible for creation of group ties between the leader and the other group members and between specific people making up that group, team or organization.

Another phenomenon which we understand thanks to psychoanalysis, important for interpretation of the actions of organization members, are defense mechanisms understood as unconscious ways of coping with difficult and undesirable emotional states, mainly coping with anxiety. Explanation of the functioning of groups, organizations, and institutions in terms of anxiety and defense against it has been initiated in 1950's, when E. Jaques [1951] stated that the social system supports the individual in his or her psychological defenses against anxiety. The significance of the social system of defenses is similarly described by I. Menzies-Lyth [1988], according to whom individual defense mechanisms are inscribed into the system of social defenses. The task of the system is to avoid anxieties and internal conflicts by organization members, especially those that concern the basic tasks implemented in the organization. Individuals shape and support those elements of the social system, which support the most rigid and primordial individual defense mechanisms. I. Menzies-Lyth [1988] calls the forms of defenses that develop in an organization "defense techniques." Subordination to the defenses in conditions of joint work facilitates identification of individuals with the team, group, and organization. At the same time, each organization member unconsciously supports those defense mechanisms, which he or she applies him or herself. As a result, there form harmonized defense mechanisms within the group and organizations. Defense mechanisms typical for specific individuals [group members] are reflexively supported and reinforced. The participation of specific people in the construction of the social structure of the organization gains, therefore, the nature of mutual exchange. The concept of human capital, from the psychoanalytic viewpoint, refers to precisely those processes and mechanisms. They are described through references to a deeper, unconscious level of functioning of groups and organizations.

**Discussion.** The issue of human capital in the psychoanalytic perspective invites the reference to one of the attributes of the organizational structure, which seems to be particularly vital for the issue at hand. It is the organizational hierarchy, an attribute typical for all populations, not only those composed of people, but characterizing all communities. Psychoanalytic interpretation of the meaning of hierarchical relations for human capital of an organization refers to the commonness of hierarchical relations in the world of living creatures. For already the order of birth determines manifestation of privileges and obligations, which, sometimes explicitly, and sometimes implicitly influence the structure of personalities of children in the family [Freud 1999; Gabriel 2004, p. 85].

Pursuant to the definition provided by S łownik Języka Polskiego [Dictionary of the Polish Language][1996] hierarchy means an established order according to a specific criterion, such as importance, or a group of people holding power, especially in Churches. As regards management sciences, hierarchy is defined as one of the dimensions of the organizational structure, beside centralization and formalization [Weber 1990, pp. 344-350]. Hierarchy is understood as a configuration of various levels in the organization structure, at the top of which there is the chief officer or a group of officers, responsible for the operations of the organization. What is a vital element in the process of establishing the hierarchical structure is establishment of such links which will not only define who reports to whom in an organization? Such ties are an element of a broader concept, that is the organizational ties. The ties are relations of interdependence existing between elements of a given structure, which serve the purpose of implementation of the goals of the whole system. The nature of organizational ties consists in the superior's power to assign tasks to subordinates [Stoner, Freeman, Gilbert 1997, pp. 309-311].

Pursuant to the definition, organizational hierarchy refers to authority and responsibility of the people occupying higher positions in the organizational structure. Within it, the superiors are vested with some rights, usually the right to give orders, to reward and punish. At the same time, they are responsible for both their own actions and the actions of their subordinates. On the other hand, subordinates are obliged to act in accordance with the instructions of their superiors, submit to the system of principles and regulations, developed and binding in the organization. It is key that, from the perspective of the organizational hierarchy, the authority and responsibility are not assigned a priori to an individual, they are attributed to a specific place in the intra-organizational structure.

Y. Gabriel [2004, pp. 85-87] writing on the organizational hierarchy, emphasizes that it is based on authority; he refers to the way, in which individuals cope with the authority of their superiors, how they experience themselves in contact with people with authority, how they solve conflicts with people with authority resulting from the place occupied in the hierarchy of power. According to the psychoanalytic

theory, the aforementioned aspects of the relation subordinate-superior reach to the child-father relation [the internal conflict phase, manifested in the form described as the Oedipus complex], as well as they refer to the conflict with the instance called Superego [in the structural model of the psyche]. For it is owing to the development of the Superego that we are able to submit, be subordinated to people with authority, be employees capable of respecting superiors and all other people who embody a similar kind of authority to the one we used to bestow on the father.

In accordance with the psychoanalytic theory, a person perceived as a leader has the power to reinforce self-acceptance and building self-confidence among organization members [Freud 1975]. On the one hand, loyalty and submission of a subordinate ensures protection and gives a sense of safety to the subordinates; it makes the relation bilateral and mutual. At the same time, however, the organization's hierarchical nature means for the employees [organization members] the requirement of obedience and submission to the people who are appointed 'officers,' playing the roles of people with authority, often only due to the place occupied in the organizational structure. Besides, it is known, that those people are just as susceptible to trauma, the experience stress and suffer defeats, in addition, they are subordinated to their superiors too. Y. Gabriel [2004, p. 86], writing about the relations based on hierarchical dependence emphasized that the power of the superior to protect subordinates corresponds to his or her ability to maintain his or her position in the organizational structure. Some leaders shape the loyalty of their reports by strengthening their formal authority by their personal authority. Unfortunately, it does not pertain to all people occupying managerial positions in companies. It can happen that the superior has neither personal competences, nor even professional ones; this makes it more impossible or at least difficult for them to reinforce loyalty and involve subordinates [Levinson 1991; Barabasz 2012].

In the process of exercising power, individuals who do that as a result of the position occupied in the hierarchical structure of the organization may experience various kinds of limitations. Usually, they are consequences of the fact that they are responsible for situations, over which they have no control; they experience their limitations also when the reality confronts them with unforeseeable situations. What is another source of discomfort, or even a strong stress causing factor, is the feeling of being assessed by the superior, who does not have enough or any knowledge whatsoever about the work performed by the subordinate? The unfavorable mental distance between the superior and the subordinate develops whenever the superiors do not provide the subordinates with support and protection in the scope and of the sort that the subordinates need. The distance is extremely easy to transform into lack of trust and fear of the superiors. As a result, this may lead to intensification of the process of attacking authority by the subordinates.

Rivalry between organization members who compete for promotion, especially if the promotion principles and criteria are unclear and ambiguous, is another aspect of hierarchy, important in the context of human capital. According to Y. Gabriel [2004, p. 87], promotion is a tool of building the feeling of selfesteem, especially desired and appreciated by members of an organization with narcissistic personality structure. As regards the attitude of cynical distance, demonstrative the feeling of superiority and idealizing the organizational past are typical forms of coping with wounded vanity applied by people with narcissistic personality structure. These attitudes occur both among subordinates and superiors. Such people suffer when they do not occupy positions that they find satisfactory, and those should usually be positions appropriately high in the organizational hierarchy. These are some of the reasons why promotion prospects are a strong and effective motivating factor. In an attempt to fully utilize the motivating power of organizational hierarchy, organizations keep looking for new possibilities of luring employees with status markers. Thanks to those status markers and symbols, they build their employees' conviction that they participate in a process of constant development and ongoing change. This leads to strengthening and solidifying of the incessant race for higher salaries, titles, positions, perks, status symbols, which in turn again incite in the organization members the feelings of jealousy or envy, as well as upset those who failed to fulfil their professional aspirations, obtain specific markers testifying to the occupied attractive position in the organizational hierarchy.

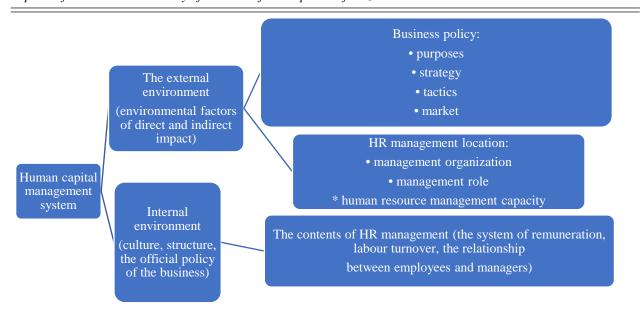


Figure 1 - human capital management System

Hierarchy does not only cause negative psychological consequences for organization members. It also offers some benefits, which are psychologically significant for many members of organizations. Firstly, appropriately high place in the hierarchy gives, in the long-term perspective, a feeling of development, growth and progress. That feeling, even if it turns out to be illusory, strengthens the organizational ties and have the power of motivating organization members for trying and taking up challenges, at least for some time. The conviction of participation in actions aimed at progress, especially with fair, mature form of competition, may be a strong motivational factor, especially for young employees; it may encourage them to put in a great deal of effort in order to achieve ambitious professional goals. Such employees, especially those with high aspirations, are likely to show a lot of involvement, even total dedication to the organization and implementation of their own personal desires. Secondly, the hierarchical configuration of an organization facilitates quick satisfaction of the employees' need for power; even if they do not have the right competences, they have a clearly laid path and specific conditions that they should meet if they want to find legitimation of their need to dominate. It eliminates the need of verification of actual competencies, costly for the whole organization, as specific organization members get involved on their own imitative in the intense struggle for maintaining once occupied position. Therefore, despite the inconveniences described above, the hierarchical nature of an organization means legitimation of the existing power structure. It also means support and encouragement to exercise power granted by the position in the organizational structure. At the same time, it happens that it creates opportunities for the most talented individuals of really quick progression, without the need to wait for leaving of someone higher up in the hierarchy and without the necessity of elimination of competitors, who strive for the same position, in a way that would be aggressive and destructive for the whole organization. Thirdly, the hierarchical nature of an organization may protect the organization members against pressures coming from other sources than those that result directly from the reporting structure. It reduces the possibility of the occurrence of conflicts of loyalty, which usually concern employees subordinated to several superiors, as it happens in the matrix organization. Finally, the last important, psychologically positive consequences of the hierarchy is the reduction of anxiety in organization members [Gabriel 2004, p. 89]. The effect is achieved thanks to the existence of clear reporting and subordination principles, as well as the use of career paths in accordance with the adopted principles.

Conclusions. Direct influence of superiors on the actions of organization members subordinated to them is the essence of organizational hierarchy. Each superior [manager, head, leader] has formal entitlements, which result from his or her position in the organizational structure. The entitlements are of no great significance if they are not used properly or fully. Their effective use requires their acceptance by

subordinates at every step of the organizational ladder. Meeting this condition results in the fact that the relations between members of hierarchically ordered organization become really [rather than just declaratively] bilateral and mutual, based on loyalty, involvement and responsibility, adequate for the position occupied by each organization member. Only then will the concept of 'human capital of an organization' gain appropriate meaning and fill with the substance consistent with its definition. It stops being an abstract determination, very difficult to define in a satisfactory way, and even more difficult to operationalize in the everyday functioning of an organization.

The interpretation of human capital in the context of organizational hierarchy presented in the article is based on the findings of psychoanalytic theories. The approach assumes that, trying to understand an organization, one should reach beyond the rational level and to contents repressed, that is unconscious motives, feelings, desires, fantasies and imaginations. The contents, included in the mind of every organization member, form his or her internal world, which determines the behavior in the external world. Knowledge of the dynamics of group processes, not only at the level of interpretation of behavioral acts, but also deep underlying mechanisms, seems useful not only for a narrow circles of group analysts and experts, but also practicing managers. It enables drawing conclusions on the behaviors of specific organization members, both at the level of behavior of individuals, groups, and the whole organization. It sheds new light on the relations between members of an organization, at the same level of its structure, but, most of all, it permits a much better look at the relations based on dependence. For those relations are the essence of the hierarchical order of each organization. Therefore, if there are hierarchical organizations, the knowledge and conceptual framework enabling description of complex relations between superiors and subordinates are needed. Some of those issues have been identified in this paper.

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#### ПСИХОАНАЛИТИКАЛЫҚ АДАМИ КАПИТАЛДЫ БАСҚАРУ

Аннотация. Мақалада ұйым мүшелеріне оң және теріс салдарын ескере отырып, адами капитал аспектісіндегі ұйымдық иерархияның психоаналитикалық түсіндірмесі берілген. Оның мақсаты — ұйым мүшелері қалыптастырған капитал туралы психоаналитикалық түсінік беру. Нақты мақсат — ұйымның адам капиталы деп аталатын құбылыстар мен үдерістерді психоаналитикалық тұрғыда түсіндіруге тырысу. Психоанализге негізделген тұжырымдамаларды ұйымға қолдану бізге ұйым құратын жеке тұлғалардың жұмыс істеу тетіктерін жете ұғынумен қатар, ұйымды оңтайлы және коммерциялық емес басқаруды тиімді басқаруға қажетті білім береді. Психоаналитикалық перспектива жеке тұлға әрекетінің себептерін тереңірек түсіндіруді қамтамасыз етеді, өйткені ол адам пікірінің шеңберінен шықпайды [Вагаbasz 2008].

Мақалада ұйымның «адам капиталы» ретінде сипатталған күрделі әлеуметтік нысан формасына әсер ететін психологиялық механизмдерді анықтау жолдары ұсынылған. Ұйым мүшелері оның жетістігін немесе сәтсіздік, қиындық және жеңілген тұстарын, сонымен бірге оның маңызын да анықтайды; олар ұйымның ахуалы мен мәдениетін, күрделі дағдарыстар мен күнделікті қиындықтарды жеңудің жолдарын айқындайды; олар күнделікті қарым-қатынас үдерісін және төтенше жағдай кезінде түсіну жолдарын қалыптастырады. Ұйымның реляциялық капиталын қалыптастыра отырып, адамдар оны материалдық емес, баға жетпес құндылық деп атайды. «Адам капиталы» түсінігінің анықтамалары ұйымға деген сенімділік пен адалдықтың маңыздылығын көрсетеді.

Мақалада «адам капиталы» ұғымы классикалық тұрғыда қарастырылады және аталған терминнің түрлі анықтамалары салыстырылады. Анықтамалардың ұйым мүшелерінің психологиялық сапасына қатынасы көрсетіледі.

Мақалада «адам капиталы» ұғымы психология негізінде, ал «әлеуметтік капитал» ұғымы әлеуметтанулық көзқарас аясында сарапталады, дегенмен екі термин бір-біріне тығыз байланысты болып келеді.

Фрейд сипаттаған бейсаналық және байыпталмаған жағдайды ұйым мүшелерінің психоанализі негізінде қарастырамыз. Ұйымның әр мүшесі өзі қолданатын қорғаныс механизмдеріннен хабары болмай жатады. Нәтижесінде топта және ұйымда келісілген қорғаныс тетіктерінің нысаны пайда болады. Әдетте, жекелеген адамға (топ мүшелеріне) арналған қорғаныс механизмдері рефлексивті қолдау негізінде күшейтіледі.

Адамдардың құрылымға қатысуы – өзара алмасудың сипатын білдіреді. Психоаналитикалық тұрғыдан «адам капиталы» ұғымы дәл осы үдерістер мен механизмдерге қатысты болып келеді. Олар топ пен ұйым жұмысының жан-жақты және бейсаналық деңгейі арқылы сипатталады.

Мақалада адами капиталдың ұйымдық иерархия аспектісі талданады. Ұйымдық иерархия ұйым құрылымын білдіреді. Онда бастықтарға бірқатар құқық берілген. Сонымен бірге, олар өздерінің әрекеттері үшін де, қоластындағы адамдар үшін де жауап береді. Екінші жағынан, қоластындағы адамдар оларды ұйымдастыру ережелеріне сәйкес әрекет етуі тиіс. Ең бастысы, ұйымдық иерархия тұрғысынан алғанда, өкілеттік пен жауапкершілік ұйымішілік құрылымда белгілі бір орынға бөлінбейді.

Мақалада биліктің ұйым иерархиясына тікелей әсері қарастырылады. Әрбір жетекші (менеджер, жетекші) оның ұйым құрылымындағы лауазымы бойынша пайда болатын ресми құқыққа ие. Дұрыс немесе толық пайдаланылмаған құқық маңызды емес. Олардың тиімділігі ұйымдастырушылық сатының әр кезеңінде қоластындағы адамдардан қабылдауды талап етеді. Бұл шарттың орындалуы ұйым мүшелері арасындағы және екі жақ қарым-қатынасының маңызын арттыра түседі. «Адам капиталы» ұғымы туралы қорытынды тұжырым – аталған ұғымның нақты анықтамасын қалыптастырады, ал оны толықтай анықтау мен оған сүйеніп қорытынды жасау өте қиынға соғады. Адами капитал ұғымы психоаналитикалық теория нәтижесіне негізделген ұйымдық иерархия тұрғысында түсіндіріледі. Бұл тәсіл ұтымды деңгейден асатын ұйымды түсінуге тырысу, яғни бейсаналық мотивация, сезім, тілек пен қиялдау деп болжанады. Мазмұны сыртқы әлемді құрайтын ұйымның әрбір мүшесінің санасына енеді. Топтық үдеріс динамикасын, сонымен қатар тәжірибе жетекшісін, терең механизмдерді білу – жеке адам, топ және ұйымның мінез-құлқы туралы қорытынды жасауға мүмкіндік тудырады. Бұл ұйым мүшелерінің арасындағы қарым-қатынасты бұзғанымен, қарым-қатынас үшін әр ұйымның иерархиялық тәртібінің мәні білдіреді. Яғни, иерархиялық ұйымдарға білім мен тұжырымдамалық негіз қажет. Мақалада оның кейбір мәселелері анықталған. Сондай-ақ «адам капиталы» ұғымы ұйымның басты белгілерінің бірі – ұйымдық құрылымының иерархиясы аясында ашылады. Тұжырымдама психоаналитикалық түсіндірмесі негізінде талқыланады.

Түйін сөздер: адам капиталы, психоанализ, иерархия, жобаны басқару.

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#### ПСИХОАНАЛИТИЧЕСКОЕ УПРАВЛЕНИЕ ЧЕЛОВЕЧЕСКИМ КАПИТАЛОМ

Аннотация. В статье представлена психоаналитическая интерпретация организационной иерархии в аспекте человеческого капитала с учетом положительных и отрицательных последствий для всех членов организации. Его цель — представить психоаналитическое понимание капитала, составленного членами организации. Конкретной целью является попытка психоаналитической интерпретации явлений и процессов, составляющих так называемый человеческий капитал организации. Применение концепций, основанных на психоанализе к организациям, позволяет нам не только лучше понять механизмы функционирования отдельных лиц, образующих организацию, но, прежде всего, дает знания, необходимые для более эффективного управления организациями, как прибыльными, так и некоммерческими. Психоаналитическая перспектива обеспечивает более глубокое толкование мотивов действий отдельных лиц, поскольку оно выходит за рамки заявлений людей [Вагаbasz 2008].

В статье представлена попытка выявить психологические механизмы, которые влияют на форму сложного социального объекта, описываемого как «человеческий капитал» организации. Члены организации определяют ее успехи или неудачи, принятые вызовы и потерпевшие поражения; они также определяют его ценность; климат и культуру организации, способы преодоления серьезных кризисов и повседневных трудностей; они формируют процесс повседневного общения и способ найти понимание в чрезвычайных ситуациях. Создавая реляционный капитал организации, люди приписывают ему нематериальную и бесценную ценность. Недаром в определениях понятия «человеческий капитал» подчеркивается важность доверия и лояльности по отношению к организации.

В статье рассматривается понятие «человеческий капитал» с точки зрения классиков и сравниваются различные определения терминологии. И делается корреляция определений с психологическими качествами членов организации.

В статье используется понятие «человеческий капитал» как более близкое к психологии, в то время как термин «социальный капитал», по-видимому, ближе всего к социологическому подходу, хотя оба термина в высокой степени связаны с одними и теми же явлениями.

Рассматривается бессознательное и неосознанное состояние, описанное Фрейдом, с психоанализом членов организации. Каждый член организации неосознанно поддерживает те защитные механизмы, которые он или она применяет самостоятельно. В результате в группе и организациях возникает форма согласованных защитных механизмов. Механизмы защиты, как правило, для конкретных лиц (членов группы) рефлексивно поддерживаются и усиливаются. Участие людей в строительстве, следовательно, характер взаимного обмена. Понятие человеческого капитала с психоаналитической точки зрения относится именно к этим процессам и механизмам. Они описываются через более глубокий, неосознанный уровень функционирования групп и организаций.

В статье анализируется человеческий капитал в аспекте организационной иерархии. В соответствии с определением, организационная иерархия относится к организационной структуре. В нем начальство наделено некоторыми правами. В то же время они несут ответственность как за свои действия, так и за своих подчиненных. С другой стороны, подчиненные обязаны действовать в соответствии с правилами своей организации. Ключевым является то, что с точки зрения организационной иерархии полномочия и ответственность не закреплены за определенным местом во внутриорганизационной структуре.

В статье рассмотрено прямое влияние начальства на иерархию организацию. Каждый руководитель (менеджер, руководитель) имеет формальные права, которые вытекают из его или ее положения в организационной структуре. Права не имеют большого значения, если они не используются правильно или полностью. Их эффективность требует их принятия подчиненными на каждом этапе организационной лестницы. Выполнение этого условия приводит к тому, что отношения между членами организации и отношения между двумя сторонами очень важны. Делается заключение о понятии «человеческий капитал» в его определении, что перестает быть абстрактным определением, его очень трудно определить удовлетворительным образом и еще сложнее оперировать. Интерпретируется понятие человеческого капитала в контексте организационной иерархии, основанной на результатах психоаналитических теорий. Подход предполагает, что, пытаясь понять организацию, которая должна быть за пределами рационального уровня и подавлять, то есть бессознательные мотивации, чувства, желания, фантазии и фантазии. Содержание включается в сознание каждого члена организации, который формирует внешний мир. Знание динамики групповых процессов, но и практикующих менеджеров, но и глубоких механизмов. Это позволяет делать выводы о поведении отдельных лиц, групп и всей организации. Это проливает на отношения между членами организации, но это не так. Для этих отношений суть иерархического порядка каждой организации. Таким образом, если существуют иерархические организации, необходимы знания и концептуальная основа. Некоторые из этих проблем были определены в этой статье.

В этой статье раскрывается, как концепция человеческого капитала сталкивается с одной из ключевых характеристик организаций – иерархией организационной структуры. Концепция обсуждается на основе ее психоаналитической интерпретации. Концепция «человеческого капитала» столкнулась с одним из ключевых атрибутов организации, а именно с иерархией структуры организации. Представлена психоаналитическая интерпретация организационной иерархии в аспекте человеческого капитала с учетом положительных и отрицательных последствий для всех членов организации.

Ключевые слова: человеческий капитал, психоанализ, иерархия, управление проектами.

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#### REFERENCES

- [1] Barabasz A. [2008], Osobowość organizacji. Zastosowanie w praktyce zarządzania, Wyd. Akademii Ekonomicznej we Wrocławiu, Wrocław.
- [2] Barabasz A. [2012], Dylematy współczesnego menedżera dobry menedżer czyli kto?, Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław, nr 273, Wrocław.
- [3] Becker G.S. [1993], Human capital: a theoretical and empirical analysis with special references to education, The University of Chicago Press, Chicago.
- [4] Board R. de [2003], The psychoanalysis of organizations. A psychoanalytic approach to behavior in groups and organizations, Brunner-Routledge, New York.
  - [5] Botakoz Baisalova [2019], Agile methodology of human capital management, THE JOURNAL
  - of Economic Research & Business Administration, Almaty, Kazakhstan.
  - [6] Coleman J. [1988], Social Capital in the Creation of Human Capital, "American Journal of Sociology", vol.94.
  - [7] Edvinsson L. [2001], Kapitał intelektualny, Wydawnictwo Naukowe PWN, Warszawa.

- [8] Ferenczi S.[1952], First Contributions to Psychoanalysis, Hogarth Press, London.
- [9] Freud Z. [1975], Psychologia zbiorowości i analiza ego, w: Poza zasadą przyjemności, PWN, Warszawa.
- [10] Freud Z. [1997], Pisma psychologiczne, przekł. R. Reszke, Wydawnictwo KR, Warszawa.
- [11] Freud Z. [1999], Dzieła, przeł. R. Reszke, Wydawnictwo KR, Warszawa.
- [12] Gabriel Y. [2004], Organization in the depth, Sage Publications, London.
- [13] Jaques E. [1951], The Changing Culture of Factory, Tavistock Publications, London.
- [14] Laplanche J., Pontalis J.-B. [1996], Słownik psychoanalizy, Wydawnictwa Szkolne i Pedagogiczne, Warszawa.
- [15] Levinson H. [1991], "Diagnosing organizations systematically", w: M. Kets de Vries [ed.], Organizations on the couch, Jossey-Bass, San Francisco.
  - [16] Menzies-Lyth I. [1988], Containing Anxiety in Institutions. Selected Essays, vol.1, Free Association Books, London.
  - [17] Mikuła B. [2006], Organizacje oparte na wiedzy, Wyd. Akademii Ekonomicznej w Krakowie, Kraków.
- [18] Przybyła M. [red.] [2007], Zarządzanie kontekst strategiczny, kulturowy i zasobowy, Wyd. Akademii Ekonomicznej we Wrocławiu, Wrocław.
  - [19] Putnam R. [2008], Samotna gra w kręgle, Wydawnictwa Akademickie i Profesjonalne, Warszawa.
- [20] Putnam R., Leonardi R., Nanetti R. [1995], Demokracje w działaniu: tradycje obywatelskie we współczesnych Włoszech, Społeczny Instytut Wydawniczy Znak, Kraków.
  - [21] Słownik Języka Polskiego [1996], PWN, Warszawa.
  - [22] Stapley F. L.[2013], Ukryta dynamika, Oficyna Wolters Kluwer business, Warszawa.
  - [23] Stoner J.A., Freeman R.E., Gilbert D.R. [1997], Kierowanie, PWE, Warszawa.
  - [24] Szałkowski A. [2006], Podstawy zarządzania personelem, Wyd. Akademii Ekonomicznej w Krakowie, Kraków.
- [25] Vansina-Cobbaert M-J. [2008], Original, Primary Mental Processes, w: L.S. Vansina, M-J. Vansina-Cobbaert [eds.], Psychodynamics for consultants and managers, Wiley-Blackwell, Chichester.
  - [26] Weber R.A. [1990], Zasady zarządzania organizacjami, PWE, Warszawa.

### REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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#### INNOVATIVE ACTIVITY OF HUMAN CAPITAL

**Abstract.** The article discusses the transformation of the role of the human factor in the processes of reproduction in an innovative and knowledge-based economy. An analytical comparison of the categories of human capital and human potential was conducted. A new look at the social sphere is indicated, the importance of which in the modern economy has grown and acquired new content as a conductor of investment flows that the government directs to the development of human potential. The level of the national economy receives a macroeffect from investments in human capital, despite the fact that economists tend to ignore the instrumental value of such investments, because the effect obtained by improving the quality of the population is too dispersed, manifested itself after a long time and is difficult to measure.

The production potential of new technologies depends on the quality of training systems at the level of qualification that they provide. Growth dynamics of modern innovation and information economy, both global and local, is not determined by a simple increase in production in all sectors, and that part which is generated by a variety of innovative and qualitative changes in the production process of goods and services. Further intensification of the innovative process in recent decades due to the formation of a new type of economic development based on the continuous change of the production base, and the nature of the products with the continuous creation of fundamentally new technologies as well as new types of goods and services. In fact, mastering high-quality skills and experience and improving them creatively becomes a necessary response to changes in production technology and rapidly changing requirements for quality and productivity. Education, health care, vocational training, the search for economically significant information, labor mobility, education and childcare are the main areas of "investment in human capital".

The core of the development of modern competitive countries is the availability of innovative systems and human potential that can support and develop these systems. Despite the conceptual incompleteness of the theory of human capital, a causal relationship between the level of education, healthcare and mobility of human resources and the level of competitiveness of the national economy is scientifically substantiated and recognized by the international community. Accordingly, it remains an indisputable fact that the improvement of the country's human potential occurs in the social sphere, for the activity of which the state bears full responsibility.

**Keywords.** Human capital, human potential, competitiveness, investment, innovation, knowledge-based economy.

Growth dynamics of modern innovation and information economy, both global and national, is not determined by a simple increase in the volume of production in all sectors, but by that part of it which is generated by a variety of innovative and qualitative changes in the production of goods and services. Further intensification of the innovation process in recent decades due to the formation of a new type of economic development based on the continuous change of the production base and the nature of the products, the continuous creation of new technologies and new types of goods and services. In the context of globalization, that tightened competition in world markets and actualized the problem of competition novelty and quality, innovation has become the main vector of economic development. [1]

The innovative nature of development has changed the character of the production processes. The main part of innovation shifts generated in the processes of human activities outside the scope of mass production, or in the development of the idea of the goods and services, or in the sale of a product on the market. Mass production processes become more transparent, streamlined available for copying. Academics and practitioners have recognized that the role of material factors is becoming increasingly

mediated, depending on inbuilt in the national economic structure creation of new ideas of organizational, scientific, technical nature.

For the first time the idea of the new human's role in economic development was mentioned by T.Shults [2], based on research of E. Denison [3]. The latter proved on a large statistical data set that only half of gross domestic product growth, resulting in the twentieth century the United States was made at the expense of technological innovation and production equipment. Understanding the global scientific community a new role of man in the production process and theoretical generalization of this new socioeconomic form of abilities of a man to labor has introduced the category of "human capital" in the world of science.

Skills and abilities acquired by a person increase their quality as productive units (as pointed out by Marx). Therefore, skills and abilities of the person are essential qualities of the employee and hardly appropriate to talk about them apart from the individual [2].

It should be noted that scientific thought in the previous era, anyway, recognized the importance of the level of training of labor for the production process.

The origins of this concept can be traced in the works of classical economics, as the idea that the labor force is one of the factors of production and the process of reproduction in the broadest aspect includes not only the reproduction of goods, but labor is revealed in the writings of Adam Smith, K. Marx G. Stuart Mill and many other theorists.

Of particular importance in the consideration of the economic category of human capital and the process of its reproduction are the views and theoretical principles of Karl Marx, who described them in many works. Considering the views of Karl Marx one cannot help noticing that he was considering the category of "labor" and not the category of "human capital", believing, as we know, this distinction is fundamental.

Moreover, he led a discussion with some representatives of the classical school, who identified labor and capital, which, in their opinion, brings the interest in the form of wages. In the third volume of "Capital", he cites two arguments in favor of his point of view:

- The worker must work hard to get their "interests", and he cannot turn capital cost of his workforce in money for transferring to another.
- The annual cost of labor is equal to its average annual wages, and by means of his work, he must reimburse the buyer for his workforce this value plus surplus-value, i.e. its growth. [4]

In fact, Marx believed that the employee has a property of his workforce, which as a commodity by buying and selling alienated from the worker, taking the form of variable capital owned by the employer. "We must carry out the following distinction: the labor force in the hands of the workers is a commodity, not capital; it is determined by income for him only because he can repeat it constantly sale; capital as it operates after the sale in the hands of the capitalist, during the production process itself. It is buying and selling of labor determines it as an element of capital, so that capital represents the creator of the goods" [4].

From this point of view the category of "human capital" has an eclectic character, based on the mechanical connection of concepts "labor" and "capital." This point of view considers the capital and wealth as a basic concept that is outside any specific social relations. In today's economic Encyclopedia published under the editorship of L.I. Abalkin, capital is called "what is able to generate income." R.M. Nureev, in his writings gives the value of capital in the broadest sense - is any resource that is created with the aim of producing a large number of economic benefits. [5]

These are the most general terms, considering capital as a technical factor in terms of its role in the production process, rather than capital, as a category of public relations.

From the perspective of the concept of "human capital" with acquiring education person becomes a holder of two factors: labor and human capital. Each of them creates marginal revenue, amounting to a total of wages. And a smaller part of it (which is unknown) is supplied to the employee for normal work, but most - to bring human capital. In other words, the modern wage worker is considered as a combination of the market price of simple labor and rental income from investment in human capital. But the mechanism of formation of rental income also remains unexplained as revenue sharing income from employee to simple labor and rental income on human capital. [6]

At the same time, it should be noted that scientific thought, agreeing with the interpretation of "human capital", focused on education and investment in education as the main factor determining the value of

human capital in the market. Classics of this tendency such as E.Denison, T.Schults, G.Bekker, L.Turou, J. Mintzer, I.Higuchi focused in their research programs on the establishing a link between the level of education the individual employee and benefit from it to him, and society as a whole.

G. Kendrik proposed a method for estimating the accumulation of human capital at the macro level, which is based on the method of "perpetual inventory", considering the cost of the family and society in the following types: maintenance of children until they reach working age and get a specific profession; retraining; professional development; labor migration; health and others.

Along with these he considered investments in housing, household durables stocks of goods in families, as well as the costs of research and development. [7]

Education and health are considered long-acting factors, as the product of the process is the formation of a qualitatively new labor force with a high skill level, ability to the work of great difficulty and at a greater time interval.

With this interpretation we come to the concept of human development, which is the main indicator of the level of socio-economic development of society in the modern world and is recognized by all international organizations: UNDP, ILO and others.

Unconditional novelty of methodological approach of founders of the theory of human capital is the formation of a new view on economic development in the 20th century. Traditionally, the research study on the factors that shape the labor force (such as education, health, demographic trends) is not carried out within the framework of the investment approach.

Human capital theory has allocated the problem of "human capital investment" and introduced indicators covering the entire life cycle of the employee (such as lifetime earnings, the level of health, etc.). [8,9,10]

National economic level justifies the macro effect of investment in human capital. According to G.Myurdal economists have long been "tending to ignore the instrumental value of such investments, for the reason that the effect obtained by improving the quality of the population is too scattered, manifested a long time later and difficultly measured." [11]

However, in the late 20th century, the World Bank team substantiated the concept of expansion of national wealth, specifying its three main components: human capital; natural capital; reproducible capital (basic production and non-productive assets, working capital, household goods). [12]

This concept is methodologically based on the theory of human capital by T.Shults, as the country's accumulated costs of reproduction of labor power, regardless of their source of coverage (family budgets, current production costs, government spending on social needs). The results of these investments are: accumulation of a person's ability to work, his creative activity in society, the maintenance of the life and health of people. [2]

He also justified the need for broad interpretation of a number of categories of reproduction, especially accumulation. (In the current system, most of the SNA cost of reproduction of the human factor is recognized in current consumption indicators, such as the actual final consumption, transfers to states and corporations in cash, in-kind transfers of state, etc.) T. Schults suggested that produced from in the society of the product on the accumulation of human capital is used not ¼, according to scientists in the early 20th century, but ¾ of its total value. According to these calculations, the share of human capital in national wealth in the regions differs significantly in terms of economic development, of greater magnitude than the other two types of capital. In the most developed regions and the respective countries (North America, Western Europe, East Asia) have the highest proportion of 75-76%.

Such results of an analysis of the national wealth, based on theoretical investigations and discoveries of T. Shults, E. Denison and others reflected the process that has existed in the economic systems since the middle of the 20th century - the emergence of a new role of human capital in the modern economy. The increasing role of human capital was a response to changes in technological processes, which were updated more than once in 35-40 years, as before, an average of 10-8 years. In the early 21st century, the average period of renewal of technologies and equipment decreased to 4-5 years, and in most developed industries to 2-3 years. This naturally affected the requirements for employees. If in the 19th and early 20th century, the vast numbers of professionals needed to learn a range of knowledge, skills and abilities and perform their duties in accordance with once and for all, in the second half of the 20th century the

requirements changed. Today an employee requires a creative approach to their professional knowledge and responsibilities, ability to learn new methods of professional activity.

In the words of K. Henning, the researcher of "new economy", in which the economic system is closely related to the information revolution, there is a sharp change in the relationship between the physical and human capital. "The decisive factor became the human capital, or rather its ability to turn information into knowledge. Physical capital has not disappeared, but has lost its dominant position." [14]

The intellectual capital of the company and the country as a whole is becoming a prerequisite for inclusion of firms and countries into the world economy with the greatest benefit for the country and the standard of living of its citizens. Among the four main determinants included in M. Porter's "national diamond" of competitiveness, human capital factor is a mandatory part of defining the country's competitiveness in the global economic system. Full and productive participation of the country in the new economy that is growing on a global scale is impossible without modern quality of human capital. Effective implementation of human capital in the context of globalization of economic life is unthinkable without the inclusion of innovation networks, which are a feature of the global division of labor. For a modern economy phenomenon is divided into four main types of work: the production of high value products related to high technology; production of mass production, competitiveness on the world market which is determined by low labor costs; production of raw materials; unclaimed in modern conditions. The rapid pace of production of high-tech goods (VTT) and the growth of employment in these sectors suggest increasing the intellectual capital in the global economy.

Productive potential of new technologies depends on the quality of training systems on the skill level that they provide. In fact, the mastery of high-quality skills and expertise and creative their improvement becomes necessary response to changes in production technology, rapidly changing requirements for quality and productivity.

At the same time the importance of the country's system of education, scientific base, networks, institutions and culture increases dramatically. M. Porter wrote about this phenomenon as follows: "Globalization leads to a paradox. It is tempting to assume that the home country no longer plays a role in ensuring the success of its international businesses. At first glance, the company became more important than the country. But in fact, the competitiveness of advanced industries is increasingly determined by the particular knowledge, skills and level of innovation that is increasingly embodied in skilled labor and organizational arrangements. Processes of preparing skilled labor, as well as some important factors influencing the pace of innovation, are determined by the local origin. Paradoxically, the more open global competition increases the importance of the local base". [15]

Self-sustaining innovation system in the modern economy is based on the expansion and strengthening of relations, not only within the cluster groups, but also other economic actors, between them and society, between society and the state.

Therefore, education, health, training, search for economically significant information, the mobility of labor, education and childcare are referred by Western economists as the main areas of "investment in human capital."

Qualitative shift in the standard of living of the population must be based on the development of human resources and the quality of modern social infrastructure. [16]

State's investment flows in human capital pass through social sphere, the value of which in this regard, firstly increased, and secondly, acquired the new content. Earlier, the social sphere was considered as the need for state paternalism socially vulnerable members of society, since all the other layers may be a private education, health, etc. At the present stage the need to provide a high level of social infrastructure for all, make it available to every member of society, to provide high quality human resources for the nation as a whole, not just its individual groups.

Summarizing all the mentioned above, the following conclusions are made. The core of the development of modern competitive countries is the availability of innovative systems and human capacity, capable of maintaining and developing these systems. Despite the conceptual incompleteness of human capital theory, the causal relationship between the level of education, health and mobility of human resources and the level of competitiveness of the national economy is scientifically substantiated and recognized by the international community. Accordingly, an immutable fact remains that the improvement of the human potential of the country takes place in the social sphere, for the operation of which the state is fully responsible.

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#### АДАМ КАПИТАЛЫНЫҢ ИННОВАЦИЯЛЫҚ БЕЛСЕНДІЛІГІ

Аннотация. Макалада инновацияға және білімге негізделген экономикадағы өндіру үдерісіндегі адам факторы рөлінің өзгерісі туралы айтылады. Адами капитал мен адам әлеуеті санатын аналитикалық салыстыру жүргізілді. Әлеуметтік салаға жаңа көзқарасты білдіретін тұжырымдар берілген, оның маңыздылығы қазіргі экономикада үкімет адам әлеуетін дамытуға бағыттайтын инвестициялық ағындардың өткізушісі ретінде жаңа мазмұнға ие болды. Ұлттық экономика деңгейі адам капиталына салынған инвестициялардан макроэффект алады, бірақ экономистер мұндай инвестициялардың аспаптық құндылығын ескермеуге тырысады, өйткені халық сапасын жақсарту нәтижесінде алынған әсер тым бытырап кетеді, ұзақ уақыттан кейін көрініс табады және оны өлшеу қиынға соғады. Жаңа технологиялардың өндірістік әлеуеті оқыту жүйесінің сапасына, олар ұсынатын біліктілік деңгейіне байланысты. Жаһандық және жергілікті заманауи инновациялық және ақпараттық экономиканың өсу динамикасы барлық саладағы өндірістің дамуымен қатар, тауар мен қызметтерді өндіру үдерісінде түрлі инновациялық және сапалы өзгерістер негізінде анықталады. Соңғы онжылдықтағы инновациялық үдерістің одан әрі күшеюі өндірістік базаның ұдайы өзгерісіне негізделген экономикалық дамудың жаңа түрінің қалыптасуымен, сонымен қатар түбегейлі жаңа технологияларды, тауарлар мен қызметтердің жаңа түрлерін ұдайы қалыптастыратын өнім сипатына байланысты. Шындығында, сапалы дағдылар мен тәжірибе жинақтау және олардың шығармашылық жетілуі өндіріс технологиясының өзгеруіне және сапа мен өнімге жылдам өзгеретін талаптарға жауап береді. Білім беру, денсаулық сақтау, кәсіптік оқыту, экономикалық маңызды ақпаратты іздеу, еңбек мобильділігі, білім беру және бала күтімі «адам капиталын инвестициялаудың» негізгі бағыттары болып саналады.

Қазіргі заманғы бәсекеге қабілетті елдер дамуының өзегі – жүйені қолдауға және дамытуға болатын инновациялық жүйелер мен адами әлеуеттің болуы. Адами капитал теориясы тұжырымдамасының толық қалыптаспағандығына қарамастан, білім беру, денсаулық сақтау және адами ресурстардың ұтқырлығы мен ұлттық экономиканың бәсекеге қабілеттілік деңгейі арасындағы себептік байланыс ғылыми негізделген және халықаралық қауымдастық мойындаған. Тиісінше, елдің адами әлеуетінің жақсаруы әлеуметтік салада орын алып отырғаны сөзсіз факт болып қала береді, оның қызметіне мемлекет толық жауап береді.

**Түйін сөздер:** адами капитал, адами әлеует, бәсекеге қабілеттілік, инвестициялар, инновациялар, білімге негізделген экономика.

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#### ИННОВАЦИОННАЯ АКТИВНОСТЬ ЧЕЛОВЕЧЕСКОГО КАПИТАЛА

Аннотация. В статье рассматривается трансформация роли человеческого фактора в процессах воспроизводства в инновационной и наукоемкой экономике. Проведено аналитическое сравнение категорий человеческого капитала и человеческого потенциала. Указан новый взгляд на социальную сферу, значение которой в современной экономике возросло и приобрело новое содержание как проводника инвестиционных потоков, которые правительство направляет на развитие человеческого потенциала. Уровень национальной экономики получает макроэффект от инвестиций в человеческий капитал, несмотря на то, что экономисты, как правило, игнорируют инструментальную ценность таких инвестиций, поскольку эффект, получаемый за счет повышения качества населения, слишком рассредоточен, проявляется после длительного срока и его сложно измерить. Производственный потенциал новых технологий зависит от качества систем обучения на том уровне квалификации, который они предоставляют. Динамика роста современной инновационной и информационной экономики как глобальной, так и локальной определяется не простым увеличением производства во всех секторах, а той частью, которая порождается различными инновационными и качественными изменениями в процессе производства товаров и услуг. Дальнейшая интенсификация инновационного процесса в последние десятилетия обусловлена формированием нового экономического развития, основанного на постоянном изменении производственной базы, а также характера продукции с непрерывным созданием принципиально новых технологий, а также новых типов товаров и услуг. Фактически приобретение качественных навыков и опыта и творческое их совершенствование становится необходимой реакцией на изменения в технологии производства и быстро меняющиеся требования к качеству и производительности. Образование, здравоохранение, профессиональная подготовка, поиск экономически значимой информации, мобильность рабочей силы, образование и уход за детьми являются основными направлениями «инвестиций в человеческий капитал». Основой развития современных конкурентоспособных стран является наличие инновационных систем и человеческого потенциала, которые могут поддерживать и развивать эти системы. Несмотря на концептуальную неполноту теории человеческого капитала, причинно-следственная связь между уровнем образования, здравоохранения и мобильности человеческих ресурсов и уровнем конкурентоспособности национальной экономики научно обоснована и признана международным сообществом. Соответственно, остается неоспоримым фактом, что улучшение человеческого потенциала страны происходит в социальной сфере, за деятельность которой государство несет полную ответственность.

**Ключевые слова:** человеческий капитал, человеческий потенциал, конкурентоспособность, инвестиции, инновации, наукоемкая экономика.

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#### REFERENCES

- [1] Ivanov N. CHelovecheskij kapital i globalizaciya. // ME i MO, № 9, S.19-31.
- [2] Schulz Th.W. Investment in Human Capital. The Role of Education and Reserarch. The Free Press. N.Y, 1971, p.272.
- [3] Denison E. Issledovanie razlichij v tempah ekonomicheskogo rosta. M., Progress, 1971. 654s.
- [4] Marks K. i Engel's F. Soch., t.25, ch.2, S.8.
- [5] Ekonomicheskaya enciklopediya/ Gl.red. L.I.Abalkin, M., 1999, s.271.
- [6] SHCHetinin V. CHelovecheskij kapital i neodnoznachnost' ego traktovki// ME i MO, 2001, № 12, S.45-46.
- [7] Kendrik Dzh. Sovokupnyj kapital SSHA i ego funkcionirovanie. M.:Progress, 1976. 320s.
- [8] Mincer J. The Production of Human Capital and The Lifecycle of Earnings: Variations on a Theme. Working Paper of the NBER, No 4838 (Aug.1994).
- [9] Bekker Geri. CHelovecheskij kapital (glavy iz knigi). Vozdejstvie na zarabotki investicij v chelovecheskij kapital// SSHA: ekonomika, politika, ideologiya. 1993. №11-12. S.23., S.12.
  - [10] Thurow L. Investment in Human Capital. 1970. 224 c.
  - [11] Myurdal' G. Sovremennye problemy «tret'ego mira». M.: Progress, 1972. S. 645.
  - [12] Kunte A., Hamilton K., Dixon J., Clements M. Estimating National Wealth. Methodology and Results . Oct. 1998.
  - [13] Voprosy ekonomiki. 1999. № 2. s. 96.
  - [14] Henning K. The Essence of the New Economy. Kiel.2001.P.4.
  - [15] Porter M. Konkurenciya. S-Pb.: Izdatel'skij dom «Vil'yams», 2002. 495s.
  - [16] Doskalieva B.B. Problemy razvitiya social'noj sfery v usloviyah krizisa. Karaganda, 2009. s.158.

### REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# SYSTEM SOLUTIONS FOR THE DEVELOPMENT OF PROJECT MANAGEMENT AT THE ENTERPRISES OF THE DEFENSE INDUSTRY COMPLEX OF THE REPUBLIC OF KAZAKHSTAN

**Abstract.** This article is devoted to studying the features of ongoing projects at the enterprises of the military-industrial complex of Kazakhstan and identifying opportunities for the implementation of project management information systems (PMIS) in this industry. To achieve short-term and long-term goals, companies work on many logical tasks. The operational management process is an essential component of an enterprise management system. An increasing number of enterprises (if not all) of various fields of activity, identify project activity as an important and specific part of management. And the process of managing the activities of modern enterprises is increasingly based on the use of digital technologies.

Current trends in the development of the military-industrial complex (MIC) determine the need to involve the potential of digital technologies, however, the lack of resources and mechanisms associated with system solutions for defense industry enterprises, require the involvement of existing and effectively functioning software products in this process.

In this regard, the authors analyzed the essential project management software products, studied the implementation process of the project management information system, and described the implementation stages and possible problems that managers most often encounter when implementing the PMIS.

Keywords: defense industry, project management, defense projects, information system.

Today, project activities in one or another form are exist in almost any enterprise. Company management is aware of the complexity of project management tasks and identifies project activities as an important and specific part of their activities. Companies in the defense industry use foreign experience in implementing a management system, taking into account their own insignificant domestic market, which requires modern management approaches and the use of information and analytical management systems Accordingly, modern management approaches and the implementation of information-analytical management systems are required [1].

The military-industrial enterprises of Kazakhstan are characterized by the fact that they produce not only specialized military products but also civilian products. Resulting in various projects are being implemented aimed at developing armament and military equipment (AME), dual-use and civilian products, after-sales service of production machinery and equipment, as well as modernization of the enterprise itself. Project implementation includes many integral and interconnected stages, groups of skilled workers, subcontractors, task management, maintenance, planning, budgeting, problem-solving, and overall coordination of efforts to achieve the successful completion of the relevant results on time, within the budget, and corresponding quality.

Current status of project management development. At domestic enterprises, projects are carefully planned and implemented. However, there is a problem that not a single project of any value is fully implemented as planned [2]. The project management team uses resources, such as flow charts, Gantt charts, project schedules, presentations, and other tools to plan, monitor, identify problem areas, take corrective actions, create project status reports and make adjustments to the project plan as needed throughout the project life cycle for effective and efficient project management.

The main resource intensive action is to conduct meetings and approval of relevant documents.

The project manager is responsible for the implementation of the project. The main functions of the project manager are the implementation of planning the activities of all the "necessary" specialists and the management of the "necessary" processes. The challenge is to transform project plans and schedules into specific, interrelated tasks, and then assign the "necessary" resources to complete these tasks. Resource allocation, timing, evaluation, and adaptability are critical. However, project managers have difficulty in accurately predicting resources, and the time it may take to complete a common job or even specific tasks. In some cases, the available resources are not used enough, which leads to the inefficiency of the project. In other cases, resources are overspent, resulting in delayed schedules.

**Methods and tools.** In modern conditions, the issue of continuous improvement of management effectiveness is of particular importance. The key objective of effective management is the formation, implementation, and use of an integrated results management system that takes into account and promptly responds to dynamic changes in the internal and external environment [3].

Project management information systems are a comprehensive tool to provide support for the project life cycle, effective planning, and management of work progress, compliance with predefined standards and requirements.

The integration of project management systems in the enterprise requires the creation of certain conditions that allow to fully realize the capabilities of the entire enterprise management system. Separate methodological, instrumental, and other tools essential for successful project management have to be combined into one system within which project manager and team's tasks would be solved with greater efficiency. In other words, the creation and provision of conditions for the integrated project management system are essential. This is especially important for performing large-scale projects, or at enterprises that are constantly engaged in project activities.

Current solutions. The modern activity of enterprises requires the creators of information products to develop high-quality systems within the allocated budget and on time. Various specialists participate in the creation of information software products, which are united in teams. An effective solution to the problems of creating high-quality software involves the use of tools, techniques, and technologies for managing the processes of the life cycle of software systems (the formation of requirements, modeling, and design, development, testing, construction and deployment of systems) [4]. That is, in principle, any enterprise, taking into account its conditions of functioning and activities, can determine for itself which information software product is needed to improve project management efficiency, but here it is necessary to determine the following motives:

- how unique is the activity of the enterprise;
- the number and scale of enterprise projects;
- value in the in-house development of information products;
- personnel and innovation potential.

Project management in practice in larger projects, due to the "high" requirements, is possible only with the support of PMIS. Way or other, project managers will use various solutions, tools, software applications that offer a wide range of functions in the areas of project planning, monitoring, and continuous evaluation of project implementation, as well as final evaluation upon completion. In this aspect, domestic as project managers, and their executors, in principle, find solutions to the problems of storage, coordination of information, etc.

An important function of the project management information system is the ability to continuously exchange data regarding ongoing projects among the project team and their environment (subcontractors, customers, and other persons interested in the project). The main value in project management information systems is the provision of objective data to support management decision-making on ongoing projects.

When implementing and/or integrating them, it is worth considering how developed or available software supports the project management methods defined in the project management methodology at the enterprise, how much resources will be required to support these tools, what additions can be given at certain stages of the project's life cycle, and whether the application of the system is sufficient from the point of view of quality project management [5].

There are dozens of complex project management systems. The most common software applications are Microsoft Project [6], Primavera Project Planner [7], Spider Project [8], Open Plan [9], and others, which are also lighter applications based on cloud solutions.

The effectiveness of information systems for domestic enterprises. The main planning method used in project management is the critical path method (CPM). Several existing software applications, such as Microsoft Project and Primavera P3, implement the traditional theory of project management CPM-PERT [6,7]. But, the value for domestic managers in the military industry is not to determine the critical path, since plans are formed at a "high" level, in the form of "road maps." Specific plans for calving or specialists are formed based on roadmaps.

The above software applications allow you to receive data about tasks, such as duration, start date, end date, and resources (see what human resources are involved). As the project progresses, you can enter information on actual results, as well as develop and present information regarding the effectiveness of the project at the current date, after which the system analyzes and generates reports.

Inside the project, tasks are assigned resources that implement an algorithm for calculating the critical path to form a Gantt chart, taking into account the indicated volumes of expended resources. Using the algorithm for calculating the critical path, projects fall into at least one path between the beginning of the program, and its completion [10].

The above tools allow managers and executives to define one or more "work breakdown structures" for the implementation of a project into which "separate" resources can be assigned at a certain level. Also, information systems provide for the calculation of trends in success probabilities, revenue modeling, and calculation of Cash Flow which, facilitates and/or replaces the work of risk managers and financiers.

The use of information systems essentially reduces the time spent on briefings and meetings, which is held by the leadership, and using "visualized boards" during a meeting increases the productivity of meetings manifold. Unfortunately, holding meetings at the moment is a necessary measure to monitor ongoing projects and tasks because most domestic military-industry enterprises lack the appropriate equipment and software applications. And therefore, monitoring practice prevails through meetings, memos, reports, etc.

**Implementation of project management information systems.** PMIS is usually acquired by enterprises in the form of software packages. For their installation, a team of IT managers and integrators is required. Each software in the package has its purpose, function, and in the complex are intended to provide managers with the decision support they need when planning, organizing, and monitoring projects.

Before installing software for the formation of PMIS, it is recommended to carry out preparatory diagnostic work, which consists in analyzing the functionality of all the project management systems listed above, building a model of business processes for the project activity of the enterprise and, based on this, drawing up the technical assignments for the development of the module "Project Management" (PM) PMIS.

Analysis of the functional capabilities of the PMIS includes the organization of presentations of the issue solution, the collection, and processing of information about the work and technical requirements of the software product, risk analysis, and so on. Based on a survey of the enterprise's activities, it is possible to develop a model of the enterprise's business processes "as is" and "as it should be," which will facilitate the process of selecting PMIS. The project management module developed by the terms of reference acts as the basis of the PMIS, and the PMIS itself is formed only after setting the integration parameters of the project management module with all other PMIS modules.

The development and implementation of a corporate PMIS in a company is a complex of activities and is carried out in several stages.

Stages of development and implementation of the corporate project management system (CPMS)

Stage name	Result			
Stage 1. Development of a corporate standard for	Project Management Framework:			
project management in the enterprise	- Regulations defining the general structure of the enterprise			
	project management system;			
	- Methodological and regulatory documents on the necessary			
	procedures and management functions;			
	- Guidance on the use of management procedures and functions;			
	- Templates of working documents of project management forms			
	of management reporting.			
Stage 2. Creation of a project office based on the	Project Office (PO) - a unit that provides professional			
network management group	methodological, informational, administrative, and technological			
	support for project management in the enterprise.			
Stage 3. Identification of employees of the enterprise	PMS - module "Project Management" of the integrated enterprise			
whose activities in the field of scheduling and project	management system and its support			
management must be transferred to the project				
management system (PMS)				
Stage 4. Implementation of the "Project Management"	Installation and configuration of technical support (equipment).			
module, installation and configuration of its technical	Install and configure the software.			
support at the workplaces of project office employees				
and departments				
Stage 5. Training of employees, by their functional	Further training of employees of the enterprise practical skills of			
responsibilities in the design activities of the enterprise.	work in the PMS.			
Stage 6. Transfer of design activities of the enterprise	Improving the efficiency of planning project activities at the			
to the PMS	enterprise. The use of modern software and hardware. Improving			
	the protection of information from unauthorized access.			

Having decided on the implementation of a PMIS, company management may encounter some problems that will require both strategic and operational solutions.

**Problems of implementation and integration of control systems.** It is essential to describe the algorithms for solving all the problems associated with the implementation before the process of implementing and integrating the PMIS. The main problems that management confronts include the following:

- A) employees of an enterprise do not realize the necessity of introducing a "new" system and the work of the implementation group. It may be classified as open or hidden "sabotage";
- B) The qualifications of the employees of the enterprise, those who are the end-users of the implemented system, who will interact with the system are low, which complicates the effective operation of the system;
- C) the operation at the enterprises of outdated systems and software applications of their design, which cannot be completely abandoned or integrated with other systems.
- D) the computer equipment does not meet the requirements of the modern PMIS insufficient computer performance and low network bandwidth. Some modules of the PMIS are functionally full enough while some of them ready less than half of their functional part, require significant processing, scilicet do not meet the requirements (customer requirements) for the PMIS modules.

PMIS allows you to carry out scheduling and management of any projects of aenterperise, as well as generate and receive the required reports on them. The implementation of the PMIS ensures the adoption of informed and proven decisions, allows you to execute projects faster, better and with lower costs, as well as always have the most complete and varied information about ongoing projects.

**Conclusion.** Each project for the implementation of a corporate information system for project administration should be considered by the enterprise management in the context of the strategic investment of funds, improvement management processes, increment the efficiency of the enterprise, and lowering costs. The introduction of PMIS within the framework of an integrated enterprise management system is a very complex and time-consuming process. The main factors that have a significant impact on the timing and success of the implementation project include obtaining maximum information on the implementation PMIS:

- development of an enterprise project management methodology;
- analysis of all kinds of risks;

- a clear and high-quality description of all implementation procedures;
- essential for PMIS is a high-quality selection of implementation team members and training of this team and enterprise personnel.

PMIS provides planning of projects and resources, managing project teams, assessing risks, monitoring the progress of projects, forming managerial reporting, and monitoring the financial component of projects, which for long-term projects in the military industry is an important component for internal and external control. Thus, the Customer is the main interested party, represented by the Power Departments, which carry out the order and financing of the AME projects. However, the offer of a better approach to ongoing projects on the part of the MIC will also allow increasing loyalty to the domestic producer on the part of internal and external customers.

Thus, the project approach in the activities of enterprises at the present stage requires the use of modern tools and support systems. Developing your own or using existing ones requires certain approaches specified in this paper.

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#### ҚР ҚОРҒАНЫС ӨНЕРКӘСІБІ КЕШЕНІНІҢ КӘСІПОРЫНДАРЫНДА ЖОБАЛЫҚ БАСҚАРУДЫ ДАМЫТУДЫҢ ЖҮЙЕЛІ ШЕШІМДЕРІ

**Аннотация.** Бүгінде жобалау қызметі белгілі бір формада кез келген кәсіпорында бар. Кәсіпорын басшылығы жобаларды басқару міндетінің күрделілігін жете түсінеді және оны өз қызметінің маңызды, ерекше бөлігі ретінде көрсетеді. Қысқамерзімді және ұзақмерзімді мақсатқа қол жеткізу үшін компаниялар көптеген логикалық міндеттерді орындау негізінде жұмыс істейді. Операциялық қызметті басқару үдерісі кәсіпорынды басқару жүйесінің маңызды компоненті болып саналады. Түрлі қызмет салаларының көптеген кәсіпорындары (егер бәрі болмаса) басқарудың маңызды және ерекше бөлігі ретінде жобалық қызметті көрсетеді, ал қазіргі заманғы кәсіпорындардың қызметін басқару үдерісінің өзі цифрлық технологияларды пайдалануға көбірек негізделеді.

Қазақстанның ҚӨК кәсіпорындары тек әскери ғана емес, сонымен қатар азаматтық мақсаттағы арнайы өнімдерді шығару жағдайы сипатталады. Қазақстан Республикасының Қорғаныс өнеркәсібі саласында әскери техника мен қос мақсаттағы өнімдерді жобалауға және өндіруге, өндірілген техника мен жабдықтарға сервистік қызмет көрсетуге бағытталған жобалардың алуан түрлері іске асырылуда. Жобаларды іске асыру көптеген ажырамас және өзара байланысты кезеңдерді, білікті қызметкерлер топтарды, қосалқы мердігерлерді, міндеттерді басқару, техникалық қызмет көрсету, жоспарлау, бюджеттеу, мәселелерді шешу мен тиісті нәтижелердің өз мерзімінде, бюджет шеңберінде және тиісті сапада аяқталуына бағытталған күшжігерді үйлестіруді қамтиды.

Мақала Қазақстанның қорғаныс өнеркәсібі кәсіпорындарында іске асырылатын жобалардың ерекшеліктерін зерттеуге және экономиканың осы саласында жобаларды басқарудың ақпараттық жүйелерін енгізу мүмкіндіктерін анықтауға арналған.

Қорғаныс-өнеркәсіп кешенін дамытудың қазіргі заманғы үрдістері (ҚӨК) цифрлық технологиялардың әлеуетін тарту қажеттілігін анықтайды, алайда ҚӨК кәсіпорындарында жүйелік шешімдерге байланысты ресурстар мен тетіктердің болмауы осы үдеріске қолданыстағы және тиімді жұмыс істейтін бағдарламалық өнімдерді тартуды талап етеді.

Жобаларды басқарудың ақпараттық жүйесі жобалардың өмірлік циклін қолдауды, тиімді жоспарлауды және жұмыс барысын басқаруды, алдын ала белгіленген стандарттар мен талаптарға сәйкестігін қамтамасыз етуге мүмкіндік беретін кешенді құрал болып саналады.

Кәсіпорында жобаларды басқару жүйесін ықпалдастыру кәсіпорынды басқарудың барлық жүйесінің мүмкіндігін толық көлемде іске асыруға мүмкіндік беретін белгілі бір жағдай жасауды талап етеді. Әдетте, жобаны табысты басқару үшін қажетті әдістемелік, аспаптық және кейбір өзге де құралдардың бір жүйеге біріктірілуі талап етіледі, соның шеңберінде менеджер мен жоба тобының міндеттері барынша тиімділікпен шешілуі мүмкін. Басқаша айтқанда, жобаларды басқарудың интеграцияланған жүйесін құру және пайдалану

шарттарымен қамтамасыз ету талап етіледі. Бұл ауқымды жобаларды орындауда немесе жобалық қызметпен тұрақты айналысатын кәсіпорындарда аса маңызды.

Осыған байланысты авторлар жобаларды басқарудың негізгі бағдарламалық өнімдерін зерттеді, жобаларды басқарудың ақпараттық жүйесін енгізу үдерісін зерделеді, жобаларды басқарудың ақпараттық жүйесін енгізуде менеджерлер жиі кездесетін енгізу кезеңдері мен ықтимал мәселелерді сипаттады.

Түйін сөздер: қорғаныс саласы, жобаларды басқару, ақпараттық жүйе.

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#### СИСТЕМНЫЕ РЕШЕНИЯ РАЗВИТИЯ ПРОЕКТНОГО УПРАВЛЕНИЯ НА ПРЕДПРИЯТИЯХ ОПК РК

Аннотация. Сегодня проектная деятельность в той или иной форме присутствует практически в любом предприятии. Руководство предприятий осознает сложность задач управления проектами и выделяют его в качестве важной и специфической части своей деятельности. Для достижения краткосрочных и долгосрочных целей компании работают над выполнением множества логических задач. Процесс управления операционной деятельностью является важнейшим компонентом системы управления предприятием. Все большее количество предприятий (если не все) различных сфер деятельности выделяют проектную деятельность в качестве важной и специфической части управления, а сам процесс управления деятельностью современных предприятий все больше базируется на использовании цифровых технологий.

Предприятия ОПК Казахстана характеризуются тем, что выпускают не только специализированную продукцию военного, но и гражданского назначения. В сфере оборонной промышленности Республики Казахстан реализуются различные виды проектов, направленные на проектирование и производство военной техники и продукции двойного назначения, сервисное обслуживание произведенной техники и оборудования. Реализация проектов включает в себя множество неотъемлемых и взаимосвязанных этапов, групп квалифицированных работников, субподрядчиков, управление задачами, техническое обслуживание, планирование, бюджетирование, решение проблем и общая координация усилий по достижению успешного завершения соответствующих результатов в срок, в рамках бюджета и соответствующего качества.

Данная статья посвящена изучению особенностей реализуемых проектов на предприятиях оборонной промышленности Казахстана и выявлению возможностей для внедрения информационных систем управления проектами в данной отрасли экономики.

Современные тенденции развития оборонно-промышленного комплекса (ОПК) определяют необходимость вовлечения потенциала цифровых технологий, однако отсутствие у предприятий ОПК ресурсов и механизмов, связанных с системными решениями, требуют вовлечения в этот процесс существующие и эффективно функционирующие программные продукты.

Информационные системы управления проектами представляют собой комплексный инструмент, позволяющие обеспечить поддержку жизненного цикла проектов, эффективное планирование и управление ходом работ, соответствие заранее определенным стандартам и требованиям.

Интеграция систем управления проектами на предприятии требует создания определенных условий, позволяющих в полной мере реализовать возможности всей системы управления предприятием. Требуется, чтобы существующие обычно по отдельности методические, инструментальные и некоторые иные средства, необходимые для успешного управления проектом, были объединены в одну систему, в рамках которой задачи менеджера и команды проекта решались бы с наибольшей эффективностью. Другими словами, требуется создание и обеспечение условиями использования интегрированной системы управления проектами. Это особенно важно при выполнении масштабных проектов или на предприятиях, постоянно занимающихся проектной деятельностью.

В этой связи авторами были исследованы основные программные продукты управления проектами, изучен процесс внедрения информационной системы управления проектами, описаны этапы внедрения и возможные проблемы, с которыми чаще всего сталкиваются менеджеры при внедрении информационной системы управления проектами.

Ключевые слова: оборонная промышленность, управление проектами, информационная система.

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#### REFERENCES

- [1] Tulembayev A.N., Jumadilova Sh.G., Adilova A.M. Application of foreign experience of development of project and innovative management at the defense enterprises The Journal of Economic Research & Business Administration. №1 (127). 2019 pp 45-53 ISSN 1563-0358; eISSN 2617-7161
- [2] Joslin, R. and R. Muller. 2015. "Relationships between a Project Management Methodology and Project Success in Different Project Governance Contexts." International Journal of Project Management 33(6):1377-92. doi: 10.1016/j.ijproman.2015.03.005.
- [3] M. B. Kadyrova, A. A. Kenzhebayeva (2015) Improvement of strategic planning through the introduction of project management. Bulletin of National Academy of Sciences of the Republic of Kazakhstan. Volume 54, Number 357 (2015), pp 84–88. ISSN 1991-3494.
- [4] Zhumakhanova (2015) Features some of the existing it management methodology it-project. Bulletin of National Academy of Sciences of the Republic of Kazakhstan. Volume 2, Number 354, (2015) pp. 172-182 ISSN 1991-3494
- [5] Kaiser, Michael G. and Ahlemann, Frederik, Measuring Project Management Information Systems Success: Towards a Conceptual Model and Survey Instrument (2010). ECIS 2010 Proceedings. 20. https://aisel.aisnet.org/ecis2010/20
  - [6] https://www.oracle.com/applications/primavera/products/project-portfolio-management/
  - [7] http://www.spiderproject.com/ru/index.php/spabout
  - [8] https://products.office.com/ru-ru/project/project-management-software?market=kz
  - [9] https://www.openplan.com/systems/
- [10] Egorova O. S. Upravlenie vnedreniem korporativnyh informacionnyh sistem v organizaciyah // Vestnik Kurskoj gosudarstvennoj sel'skohozyajstvennoj akademii. 2016. №4. URL: https://cyberleninka.ru/article/n/upravlenie-vnedreniem-korporativnyh-informatsionnyh-sistem-v-organizatsiyah

### REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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## PUBLIC-PRIVATE PARTNERSHIP – AS A TOOL FOR SOLVING ENVIRONMENTAL PROBLEMS

**Abstract.** Without using the PPP mechanism, it is impossible to solve one of the most acute problems that cause the keen attention of citizens of the country. Given the budget deficit, the introduction of a public-private partnership mechanism and an efficient system of using resource-saving technologies will contribute to solving environmental problems, in particular, eliminating accumulated environmental damage, improving air quality and optimizing the waste management system. Given the budget deficit, the introduction of a public-private partnership mechanism and an efficient system of using resource-saving technologies will contribute to solving environmental problems, in particular, eliminating accumulated environmental damage, improving air quality and optimizing the waste management system. There are listed spheres and sectors of application of public private partnership. There are mentioned advantages of the use of public private partnership. The statistical data and the dynamics of implementation of projects implemented on the basis of public private partnership are presented. An example of the use of public private partnership as an instrument for the development of territories is presented. Attention is paid to the institutional environment of the implementation of public private partnership projects.

Keywords: public-private partnerships, budget funds, ecology, implementation, mechanism, sustainability.

**Introduction.** Now public-private partnership (hereinafter PPP) is a universal and effective mechanism. The state will achieve more by providing public services, using available resources in the investment mechanism for the development of the territory, by attracting and using private capital to solve state problems. The consistent implementation by the public authorities of the principles of PPP helps create the conditions for attracting private investors to the regions. Based on the foregoing, there is a need to conduct research aimed at improving relations between government and private business in the form of PPPs with the aim of creating coordinated cooperation between state authorities and local self-government with private business structures for the effective functioning of the economy of the country and regions in the context of global competition.

**Main part.** The main areas are information and advisory, organizational and financial assistance. Each of these areas plays an important mobilizing and stimulating role in establishing and promoting public-private partnerships, especially in the field of infrastructure.

PPP - the interaction of the public and private sectors, providing for the full or partial transfer of responsibility to private sector entities for the provision of services traditionally related to the responsibility of the public sector, under conditions of adequate distribution of risks, responsibilities and benefits between its participants, as well as maintaining state control.

The main principles of PPP:

- 1. The principle of consistency the phased construction of relationships between subjects of public-private partnership;
- 2. The principle of competitiveness the determination of a private partner on a competitive basis, with the exception of cases established by the Law on Public-Private Partnership;
- 3. The principle of balance a mutually beneficial distribution of responsibilities, guarantees, risks and revenues between a public partner and a private partner in the process of implementing a public-private partnership project;

4. The principle of effectiveness - the establishment of criteria and indicators to assess the achievement of the results of public-private partnerships.

For the successful development of public-private partnerships, a correct, balanced and proportional distribution of rights, obligations and areas of responsibility between partners: private capital and the state is necessary. The PPP mechanism is the basic design for attracting extrabudgetary investments in the development of social infrastructure and production.

	identify infrastructure Need	Propose Selution	Project Design	Project Financing	Construction	Operation/ Maintenance	Ownership
Bid/Build	Public Sector				Private Sector	Public Sector	
Design/Build	Public !	Public Sector Private Public Sector Sector		Private Sector	Public Sector		
Design/Build/Finance	Public :	Sector		Private Sector		Public Sector	
Design/Build/Finance/ Operate/Maintain	Public :	Sector	Private Sector				Public Sector

Figure 1 – Private Public Partnership Graphic

In PPP practice, key success factors are sometimes identified with factors that influence the occurrence or non-occurrence of risks in PPP projects. This is only partially true. Suspension or refusal to implement a PPP project can occur not only due to events that negatively affect the PPP project in terms of cost, timing and quality, that is, the risks of this project. In general, PPP projects in the field of transport are sensitive to the following factors:

- A detailed preliminary study of the parameters of the PPP project and a preliminary assessment of its effectiveness;
  - Advance preparation of property and land involved in the PPP project;
  - Sustainable and efficient management team of the PPP project;
  - Stable political support for the development of PPP;
  - Interaction with the local population users of the object of the PPP agreement;
  - Compliance with environmental standards and requirements;
  - Guarantees to a private partner, etc.

The practice of implementing PPP projects in the transport sector and in Russia and in other countries indicates that with sufficient attention of the PPP project participants to these factors, it can be quite successful

Along with the advantages of using public-private partnership mechanisms, the shortcomings, problems and negative aspects of the application of mechanisms for developing and implementing projects for the interaction of government, business, science, non-governmental non-profit organizations, and civil society institutions should be calculated and disclosed. According to the results of a study of foreign experience in implementing public-private partnership projects, the following problems were identified:

- failure to meet construction deadlines;
- excess operating costs compared to planned;
- the use of cheap equipment that requires regular updates;
- reduction by private companies of the cost of the system of infrastructure facilities and, as a result, deterioration in the quality of the infrastructure component of the project [3].

The development and use of public-private partnership mechanisms in the formation of environmental infrastructure require the definition of modern criteria and algorithms for choosing between the traditional tender procedure and the formation of PPPs. The public sector, represented by public authorities, determines the procedure and methodology for selecting projects, therefore, the PPP mechanism becomes appropriate and justified if the following criteria are adhered to:

- the authority is able to determine the level of quality that a private partner should adhere to when implementing PPPs;
- it is possible to define indicators of the effectiveness and efficiency of the project according to public-private partnership mechanisms;
- the implementation of preliminary and final project assessments during the formation of certain types of environmental infrastructure;
  - the lack of technological replacement and the variability of the market environment;
- the advantages of using PPP exceed the disadvantages and obstacles of its use and provide a significant positive effect for society, the population, the environment, the state;
- Creation of private incentives for investing in solving environmental problems (water, environmental pollution, neutralizing environmental risks, reducing the nature and resource intensity of the production process, products, etc.).

Realization of a high mission for the development of ecological infrastructure requires the coordination of the interests of the authorities, business, and society in optimizing the dynamic stability and balance of the biosphere and ecosystems to maintain the quality of life of the country's population. The implementation of a large-scale mission requires significant resources, innovative solutions, modernization of the environmental management system and investment process management. The main sources of financing PPP projects for the development of environmental infrastructure can be state, budget investments, the state environmental fund, private investors (businesses), funds of international financial and non-profit organizations, transnational corporations, non-governmental non-profit organizations and funds.

Global organizations can be a potential partner for solving acute and urgent environmental problems of Kazakhstan, among which the Global Environment Facility (GEF) is the most significant in the field of environmental protection and reproduction. The Global Environment Facility is an international organization created in 1991 during the signing of a resolution by the World Bank Board of Executive Directors and the relevant agreements between the United Nations Development Program. The structure of financial sources that are potentially possible to attract investment and implement PPP mechanisms for the formation of environmental infrastructure depends on many factors.

Among the most weighted factors, the following should be highlighted: the level and characteristics of the country's socio-economic development, the severity and degree of threat of environmental problems and resource-environmental risks, the structure of building environmental infrastructure and the potential choice of types of environmental infrastructure for organizing partnerships between government and business, establishing a dialogue between the state, society, business, science. More important areas for creating conditions for the development and implementation of public-private partnership mechanisms in the development of environmental infrastructure are as follows:

- creating an institutional base, increasing transparency and level of trust between government and business, science, public organizations, and main stakeholders in introducing these mechanisms into business practices, identifying and removing financial and administrative barriers to developing partnerships between government and business;
- the formation of economically- / investment-but- / institutional-legal, organizational, financial and economic attractive conditions for business participation in public-private partnership projects, attracting citizens, non-profit organizations and non-governmental organizations for discussion and adoption of important priority decisions and choosing priorities as experts and potential consumers of environmental goods and services;
- the formation of the methodological and methodological base of PPP in the development of environmental infrastructure;
- support for the formation of public institutions of partnership between the state and business; cooperation of interests of stakeholders of the partnership;
- Conducting seminars and educational events for advanced training, the dissemination of knowledge, the assimilation of experience on PPPs and the features of its application in the formation of environmental infrastructure:
- implantation of the economic mechanism of state support and effective interaction with market regulation mechanisms, the provision of indirect bonuses and the development of incentives for active participants in public-private partnerships;

- assimilation of successful foreign experience in public-private partnerships and its adaptation to the national model of the economy and the creation of individual models of the functioning of partnerships in the field of environmental infrastructure:

- intensification of investment activity, development of methods, forms and tools for attracting investments on the principles of partnerships;
- improvement of the regulatory framework in the countries, activation of the processes of modernization of the economy, environmental management, financing and investment of environmental infrastructure;
- development and approval of a concept for the development and implementation of PPP mechanisms in the development of environmental infrastructure, which is the basis for the implementation of the state approach to the formation of a strategic model for sustainable and balanced environmental management of the national economy as a whole;
- planning of measures for using PPP mechanisms and inclusion in programs and projects at the national, regional, municipal level;
- development and implementation of the priority national project "Formation of public-private partnerships in the development and development of environmental infrastructure".

Conclusions and prospects of further scientific developments in this direction.

**Conclusion.** The nature, functions and types of environmental infrastructure determine the particularities of the choice of mechanisms, forms, directions and tools for the development and implementation of public-private partnerships. Promising areas for further research are the analysis of the components of decision-making by state authorities on the feasibility of using public-private partnership mechanisms in the development of environmental infrastructure, the determination of criteria for the selection and determination of the type of environmental infrastructure promising for the implementation of partnership mechanisms, a preliminary assessment of the contribution of the application of these mechanisms and the neutralization of negative trends in the field of environmental management, times abbot concept of introduction of public-private partnership in environmental infrastructure.

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### МЕМЛЕКЕТТІК-ЖЕКЕМЕНШІК СЕРІКТЕСТІК ЭКОЛОГИЯЛЫҚ МӘСЕЛЕЛЕРДІ ШЕШУДІҢ ҚҰРАЛЫ РЕТІНДЕ

**Аннотация.** МЖӘ тетігін пайдаланбай, ел азаматтарының назарын аударатын өткір мәселелердің бірін шешу мүмкін емес. Бюджет тапшылығын ескере отырып, мемлекеттік-жекеменшік серіктестік тетігін және ресурстарды үнемдейтін технологияларды тиімді қолдану экологиялық мәселелерді шешуге, атап айтқанда, жинақталған қоршаған ортаға келтірілген залалды жоюға, ауаның сапасын жақсартуға және қалдықтарды басқару жүйесін оңтайландыруға ықпал етеді.

Мемлекеттік-жекеменшік серіктестік нысандарына баса назар аударылды. Мемлекеттік-жекеменшік серіктестіктің жергілікті жобаларын іске асырудың қазіргі жағдайы талданып, өзекті мәселелер анықталды және аумақтарды дамытуды қаржыландыру бағыттары нақтыланды. Билік пен жеке сектор арасындағы серіктестік жергілікті деңгейде инфракұрылымдық жобаларды іске асырудың тиімділігін арттыруға, жергілікті маңызы бар маңызды мәселелерді шешуге және сапалы қызмет алуда аумақтық қауымдастық қажеттіліктері мен мүдделерін қанағаттандыруға бағытталғандығы дәлелденді. Мемлекеттік-жекеменшік серіктестікті қолдану салалары көрсетілген. Мемлекеттік-жекеменшік серіктестікті қолданудың артықшылықтары талданған. Мемлекеттік-жекеменшік серіктестік негізінде іске асырылған жобалардың статистикалық мәліметтері мен динамикасы көрсетілген. Мемлекеттік-жекеменшік серіктестікті аумақтарды дамытудың құралы ретінде пайдалану жолдары мысалға келтірілген. Мемлекеттік-жекеменшік серіктестік жобаларын жүзеге асырудың институционалды жағдайына назар аударылады. Концессиялық заңнаманы мемлекеттік-жекеменшік әріптестік туралы заңмен үйлестірудің және ҚР-да құқықтық реттеудің озық халықаралық тәжірибесін енгізудің мақсатқа сәйкестігі дәлелденді.

Мемлекеттік-жекеменшік әріптестік серіктестіктің жұмыстың орындалуы мен мемлекеттік қызмет көрсетуге, аумақтық қоғамдастық сұранысына өнімді жеткізуге және т.б. келісімшарт ретінде алатын тәуекел деңгейіне және тартылу дәрежесіне байланысты көптеген формаларға ие бола алады. Мемлекеттік-жекеменшік әріптестіктің халықаралық тәжірибесінде кең таралған нысандар – лизинг және жалға беру.

Мемлекеттік-жекеменшік серіктестіктің әртүрінің ерекшеліктерін зерттей келе, концессия, бірлескен кәсіпорын немесе аралас серіктестіктер жеке серіктес пен орталық немесе жергілікті атқарушы орган мен жергілікті өзін-өзі басқару арасындағы құқықтық қатынастарды құрудың ең қолайлы құралы екендігі анықталды. Қолданыстағы заңнамада мемлекеттік-жеке серіктестіктің басқа нысандарында жеке тарапты анықтау тәртібінен айырмашылығы, концессионерді таңдаудың нақты тәртібі мен шарттары белгіленген. Концессия қатынастарын жеткілікті егжей-тегжейлі реттеу құқықтық сенімділіктің жеткілікті деңгейін қамтамасыз етеді және концессиялық жобаларды толықтай жүзеге асыруға мүмкіндік береді. Келісімшарттық жалдау қатынастары (лизинг) және бірлескен қызмет жоба айтарлықтай инвестициялар мен ауқымды құрылыстарды тартпаса, жеке инвестицияларды тарту механизмі ретінде қарастырылуы мүмкін.

**Түйін сөздер:** мемлекеттік-жекеменшік серіктестік, бюджет қаражаты, экология, іске асыру, механизм, тұрақтылық.

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#### ГОСУДАРСТВЕННО-ЧАСТНОЕ ПАРТНЕРСТВО КАК ИНСТРУМЕНТ РЕШЕНИЯ ЭКОЛОГИЧЕСКИХ ПРОБЛЕМ

Аннотация. Без использования механизма ГЧП невозможно решить одну из самых острых проблем, вызывающих обостренное внимание граждан страны. В условиях дефицита бюджетных средств внедрение механизма государственно-частного партнерства и эффективной системы использования ресурсосберегающих технологий будут способствовать решению экологических проблем, в частности ликвидация накопленного экологического ущерба, улучшение качества атмосферного воздуха и оптимизация системы обращения с отходами. В условиях дефицита бюджетных средств внедрение механизма государственночастного партнерства и эффективной системы использования ресурсосберегающих технологий будут способствовать решению экологических проблем, в частности ликвидация накопленного экологического ущерба, улучшение качества атмосферного воздуха и оптимизация системы обращения с отходами.

Рассмотрены формы государственно-частного партнерства. Проанализировано текущее состояние реализации проектов местного государственно-частного партнерства, выявлены актуальные проблемы и уточнены направления финансирования развития территорий. Доказано, что партнерство между властью и частным сектором направлено на повышение эффективности реализации инфраструктурных проектов на местном уровне, решение важных вопросов местного значения и удовлетворение потребностей и интересов территориального сообщества в получении качественных услуг. Перечислены сферы и сферы применения государственно-частного партнерства. Упоминаются преимущества использования государственно-частного партнерства. Представлены статистические данные и динамика реализации проектов, реализованных на основе государственно-частного партнерства. Приведен пример его использования как инструмента развития территорий. Обращается внимание на институциональную среду реализации проектов государственно-частного партнерства. Обоснована целесообразность гармонизации концессионного законодательства с законодательством о государственно-частном партнерстве и внедрения лучшего международного опыта правового регулирования в РК.

Государственно-частные партнерства могут принимать различные формы в зависимости от степени вовлеченности и уровня риска, который они принимают на себя в качестве контрактов на выполнение работ и оказание государственных услуг, поставку продукции для нужд территориального сообщества и т.д., и деятельность совместных предприятий. Наиболее распространенными формами являются концессия, лизинг и аренда в международной практике государственно-частного партнерства.

Изучив особенности каждой формы государственно-частного партнерства, было обнаружено, что концессии, совместные или смешанные предприятия являются наиболее подходящими инструментами для структурирования правовых отношений между частным партнером и центральным или местным исполнительным органом и местным самоуправлением, государственный орган по привлечению инвестиций. Действующее законодательство устанавливает четкую процедуру и условия отбора концессионера в отличие от порядка определения частной стороны в других формах государственно-частного партнерства. Достаточно подробное регулирование концессионных отношений обеспечивает достаточный уровень правовой определенности и позволяет в полной мере реализовывать концессионные проекты. Договорные арендные отношения (лизинг) и совместная деятельность могут рассматриваться как механизм привлечения частных инвестиций в том случае, если проект не предполагает значительных инвестиций и масштабного строительства.

**Ключевые слова**: государственно-частное партнерство, бюджетные средства, экология, внедрение, механизм, устойчивость.

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#### REFERENCES

- [1] Semenyuk O., Abdrashitova T., Beloussova E., Nechay N., Listkov V., Kurbatova V., Niyazbekova S. The influence of ecology and economic factors on eco-architecture and the design of energy efficient buildings. World Transactions on Engineering and Technology Education. 2018. T. 16. № 2. C. 186-192.
- [2] Niyazbekova Sh.U., Grekov I.E., Blokhina T.K. The influence of macroeconomic factors to the dynamics of stock exchange in the Republic of Kazakhstan. Economy of the region. 2016. V. 12. № 4. p. 1263-1273. DOI: 10.17059/2016-4-26
- [3] Zhansagimova A.E., Azatbek T.A., Niyazbekova S.U. Model of organizational structure for tourist cluster in Kazakhstan. Current economic problems. 2013. V. 149. № 11. p. 332-337.
- [4] Sanalieva L.K., Kengzhegalieva G.B., Idelbayeva A.S., Niyazbekova Sh.U. Investigation of Modern economic mechanisms for construction of the intellectual potential of the country as a moving factor of innovative economic development. Bulletin of the National Academy of Sciences of the Republic of Kazakhstan. 2018. № 5. p. 144-148, DOI: 10.32014/2018.2518-1467.19
- [5] Korgan B.B., Sabirova R. K., Adietova E.M. Innovative economy of Kazakhstan. NEWS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN. SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294.Vol. 4, Number 326 (2019), 123 129. https://doi.org/10.32014/2019.2224-5294.147
- [6] Abenova M.H. Foreign experience of development of innovative potential of small and medium entrepreneurship. NEWS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN. SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294 Vol. 2, Number 324 (2019), 165 169, https://doi.org/10.32014/2019.2224-5294.63

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# STRATEGIC PRIORITIES AND MECHANISMS OF PROTECTION OF FINANCIAL INTERESTS IN THE CONDITIONS OF SOCIAL MODERNIZATION OF THE REPUBLIC OF KAZAKHSTAN

**Abstract.** The implementation of the financial policy should also include the growth of financial resources at the disposal of business entities, contribute to the creation of a solid financial basis for the activities of authorities for the implementation of the tasks and functions assigned to the state, to ensure the stability of social production in order to improve the economic situation of the state and social protection of the population.

One of the main tasks of public finance management is to contribute to the sustainable and effective economic development of the country by optimizing budgeting. The relevance of the study of the role of the budget system in solving socio-economic problems in the Republic of Kazakhstan is determined by the fact that its functioning in the state is directly related to the realization of the socio-economic interests of society and its citizens. The budget system of Kazakhstan has a social orientation, however, it is necessary to improve the forms and methods of public administration in order to achieve efficiency and targeted use of budget funds. The article considers the main directions of social modernization of the state, analyzes the state budget expenditures on the social sphere, and directions for further stimulating the financing of social processes in Kazakhstan.

Keywords: social modernization, mechanism, finance, strategy, policy, protection.

**Introduction.** The financial mechanism is built on the basis of these financial policy objectives, as the state seeks to reduce budget expenditures, which were reduced mainly to military spending, on payments on government debt and its repayment and management. The tax system should create the necessary flow of funds to ensure a balanced state budget. Moreover, the tax system is based mainly on indirect and property taxes, which are quite simple and effective in terms of the mechanism for their collection. The financial management system is simple and is usually concentrated in one governing body - the Ministry of Finance.

The strategic planning system created by the President of Kazakhstan Nursultan Nazarbayev is based on the firmness of the strategic course and the progressive sequence of changes, which makes it possible to act ahead of global threats and internal problems. In modern literature, there are two main positions in determining the role of the state in the social sphere. The first recognizes the need for an active social policy. Another point of view is based on the liberalization of relations in the social sphere. However, most scientists nevertheless confirm that state intervention in the social sphere is necessary, while highlighting the different mechanisms of such regulation. The most optimal model of social policy is a synthesis of two trends, suggesting, on the one hand, an emphasis on the social state and social economy, and on the other hand, the use of market mechanisms for the development and implementation of social policy. At the same time, the return of the state to the social sphere should not be regarded as consolidating the trends of paternalism, when the state fully assumes all obligations for the social well-being of the population. The state in this case acts as one of the leading subjects of socio-economic relations.

#### Main part

The objectives of social policy include:

• stimulating economic growth and subordinating production to interests consumption;

- Strengthening labor motivation and business entrepreneurship;
- ensuring the proper standard of living and social protection of the population;
- preservation of cultural and natural heritage, national identity and identity.

For effective regulation of functions, the state has such powerful levers of influence as the legislation of the country, the national budget, the system of taxes and duties. It follows from this that social policy is an activity aimed at managing the social development of a society, improving its social sphere, satisfying and harmonizing social needs personality and social groups. The main objective of social policy and the main criterion for its effectiveness is to increase the standard of living of the population and reduce poverty. The priority of social policy, especially in the context of globalization, is the development of man, primarily his health and education, and, ultimately, the quality of life of people.

The solution to this problem was given special attention throughout the independent development of the Republic of Kazakhstan. In the early years of the transition period, due to limited financial and economic opportunities, the main efforts of the state were aimed at maintaining social guarantees, mitigating the negative consequences of a sharp drop in the standard of living of citizens and protecting the poorest groups of the population.

In the context of stabilization and economic growth, the reform of the social protection system was aimed at creating and implementing legislation to regulate labor relations, actively promoting employment, moving to a multi-level social security system and providing targeted assistance. As a result, in full accordance with the principles of the social state, Kazakhstan has created a national model of social protection of the population, aimed at preventing social risks, improving welfare and developing human capital.

World economic development is entering a stage of unevenness. China, India, the countries of Southeast Asia and Latin America in the last two decades have shown higher rates of economic growth. In a timely manner, using the key factors of scientific and technological progress within the framework of their own modernization programs, each of these countries or regional groups from the stage of catching up modernization is accelerating in converging and claiming to surpass the developed world in terms of total gross indicator. Against this background, ultra-liberals, adherents of market fundamentalism, together with the leaders of the G-8 countries, continue to impose on the developing countries monetary recipes of the so-called catch-up modernization within the framework of WTO ideologies with imitation of institutions, norms and production and technological solutions already implemented in the USA and the EU and other developed countries. Countries and centers of the global financial system will try to use their dominant position for survival by appropriating the resources of peripheral countries by establishing control over their assets. Naturally, the way out of the systemic global economic crisis will be accompanied by large-scale geopolitical and economic changes. With the still not overcome consequences of a deep recession in developed countries, new centers of the world economy are forming, which have managed to create key production facilities of a new technological order and establish the prerequisites for their rapid global growth on the basis of relatively faster rates of development. The global financial system on a dollar basis claims to be multicurrency, and globalization is replaced by glucalization - the formation of large regional economic unions.

In the next decade, Kazakhstan intends to participate in the processes of forming a new architecture of international relations and the contours of the world trade and financial system. Achieving this goal involves expanding the global economic partnership of Kazakhstan, taking into account existing and future trends in the development of the global economy. The global economic crisis, the intensification of integration processes, the expansion of markets, competition, the boundaries of the innovation space, the strengthening of the international positions of regional unions create new conditions for economic cooperation. Of decisive importance for the country's participation in the international division of labor is the strategic course proclaimed by Kazakhstan for accelerated industrialization and innovative development. In these conditions, it is important to correctly assess the factors in the formation of foreign economic policy and choose directions.

In Kazakhstan, the main promising areas of strategic economic partnership are, in our opinion, cooperation in the conditions of regional international unions and integration into world markets. The first direction is related to the expansion of bilateral economic cooperation and collaboration in the format of international organizations. The second - with participation in the international division of labor, deepening cooperation in the framework of already developed world and regional markets and the opening of new economic markets. As for the first direction, it is mainly characterized by the expansion of the geographical structure of exports. First, multilateral relations are developing in the field of trade and economic cooperation.

The main task of the current stage of development of the economy of Kazakhstan is the creation of a post-industrial structure of the innovation-type economy. This process depends on a number of factors that differ in the degree and nature of their influence on the formation of the new economy. The factors that have the greatest impact on the structure of the economy of the Republic of Kazakhstan, in our opinion, include: the level of economic development, the availability of a resource base, demand in world markets, and a model of economic development. There is a pattern between the processes of changing technological patterns and the transformation of the structure of the global economy. The current crisis coincided with the period of transition of the advanced countries of the world to the development of the sixth technological mode, the characteristic features of which are resource-saving nanotechnologies, unique information systems. The new way of life is much less energy-, material-intensive, does not require energy resources, metal, structural materials on the previous scale. In general, fuel and raw materials specialization restrains the growth of competitiveness and causes risks of reducing the country's economic and financial stability. The global crisis has confirmed the dependence of the national economy and foreign trade on global demand for fuel and raw materials. The main danger of structural deformation of industry may be the consolidation of fuel and raw materials specialization and the low level of innovativeness of the economy as a whole. The availability of natural resources is an important factor in economic development subject to the creation of a diversified economy that ensures domestic demand for processed products and guarantees the rights of future generations to natural resources and environmental balance. In addition, in the context of the current global trend towards the formation of a knowledge economy, "the state's greatest national wealth is not its territory and natural resources or even its production facilities located on it, but the country's intellectual potential"

The influence of the market and the state on the processes of formation of the structure of the economy of Kazakhstan is ambiguous. In modern conditions, to achieve the goals of forced industrial and economic development and the formation of a new economic structure, the role of the state is intensifying. The increase in the importance and role of state regulation, in our opinion, is associated with: - features of innovative activities designed for a long-term period; - the need to regulate and coordinate the long-term interests of the state and the market, short-term interests of the market in the implementation of innovative activities; - the influence of non-manufacturing factors (ecology and social sphere); - increased investment in innovative infrastructure and renewal of fixed assets of industry; - improving the quality of personnel for an innovative economy;

- the need to form new foreign economic relations. Thus, the need for a phased transition from import substitution and an export-oriented structure to an innovative one should be considered as a strategic task. At the first stage, resource-innovative development should be ensured, which provides for the deep processing of hydrocarbon raw materials. The second is investment and innovation renewal of production, by creating incentives for the government to move resources in the industry with the immediate prospect of a breakthrough to the world market \*. The third is the innovative development of industry itself, the creation of new industries that are competitive on the world market and the support of industries, the return on which implies a significant external effect (public benefit).

In our opinion, the acceleration of industrial and innovative development should begin by changing the resource policy in the direction of preserving the potential of non-renewable natural resources, environmental safety, energy conservation and the development of alternative energy. It is in this direction that there are real opportunities for providing an innovative breakthrough for the development of the entire economy of the country.

The social policy of the state is aimed at improving the level and quality of life of the population, at mitigating the contradictions between participants in economic processes: the state, economic entities, and the population.

The Republic of Kazakhstan is one of the fastest growing economies in the world and provides two-thirds of the total income of all of Central Asia, representing only a quarter of its total population. If in 1994 the volume of GDP per person in Kazakhstan barely exceeded \$ 700, then in 2019 it increased to 11 thousand dollars. At the same time, the scale and dynamics of the ongoing changes both in the world and in Kazakhstan require accelerating social modernization. Social modernization involves the formation of an open society with a dynamic social system. Such a society arose and developed on the basis of market relations, the legal system governing the relations of owners, and a democratic system, possibly not quite perfect.

The purpose and significance of social modernization is to prepare society for life in the conditions of a new industrial and innovative economy, find the optimal balance between the accelerated economic development of Kazakhstan and the broad provision of public goods, and establish social relations based on the principles of law and justice.

To solve the problems of the modernization process, principles have been identified that government bodies should be oriented to, with their competence to allocate and use budget funds.

Firstly, it is the principle of evolutionism. All changes in the social sphere should correspond to the level of development and the capabilities of the Kazakhstani economy. The algorithm of the modernization process should be based on "pulling up" the lagging areas, regions, industries, social groups to existing standards and indicators of social development.

Secondly, the principle of shared responsibility. Not only the state, all its management levels, but also private structures, enterprises and businesses should share responsibility for the course and results of social modernization.

Thirdly, the principle of partnership participation. Financial regulation of the economy should be based on the close interaction of the state, business and citizens. The task of state bodies is to ensure a rational balance of interests of the state, society and the individual. It is important to actively develop social partnerships and create conditions for expanding the participation of the non-state sector in the modernization of the country, especially the social sphere.

Fourth, the principle of stimulation. The state creates conditions so that the population can independently improve its quality of life. State social support is sent to recipients in order to encourage them to work, be creative and socially active.

Fifth, the principle of professionalism. All decisions should be carefully calculated, taken with account of scientifically worked out expediency based on the study of world experience

Social modernization is caused by a number of external and internal reasons.

One of the main external reasons is that the global financial and economic crisis took on a protracted nature. Its consequences are becoming more tangible for Kazakhstan, which, due to the dynamic development of trade and economic relations at the regional and global levels, is forced to take into account the challenges and risks that are emerging outside the country.

The implementation of the program of industrial and innovative development is unthinkable without changing approaches to solving social problems. New industries, new systems of education and science, the development of the middle class, and the expansion of social guarantees will require significant adjustments to the system of social relations.

The need to implement new approaches to solving social problems is also due to the upcoming entry of our country into the World Trade Organization (WTO) and the creation of a Common Economic Space (CES) with a number of subjects of the Commonwealth of Independent States (CIS), one of the first signs of which is the establishment of the Customs Union of Russia, Kazakhstan and Belarus.

Significant investments in the social sphere, carried out over a long time, now serve as a good foundation for the implementation of social modernization. The main role of the budget is that it annually mobilizes and concentrates the cash accumulations of enterprises, organizations and the population in a centralized state fund to finance the national economy, socio-cultural events, strengthen the country's defense, to maintain state authorities and create reserves, in today's conditions its importance increases with the need to implement the tasks of social modernization of Kazakhstani society.

**Conclusion.** Depending on changes in the ratio of the volume of financial resources at the centralized and decentralized levels, the amount of tax revenues to the budget of the corresponding level, the size of public procurement, the volume of financing of organizations and sectors of the economy, the

development of the economy and the activities of its entities are regulated, and social production, social and cultural development are affected society, its scientific and technological potential. The qualitative impact of the financial mechanism is associated with the use of such methods of formation and directions for the use of financial resources, forms of organization of financial relations that allow them to be considered as incentives for the development of both a separate business entity and the economy as a whole. These elements of the financial mechanism include tax rates reduction, conditions for the provision of tax benefits, setting the maximum budget deficit, the maximum amount of public debt, the conditions for providing budget loans to organizations of various legal forms, the application of various financial sanctions and other forms and methods of organizing financial relationships of a stimulating nature.

Thus, the budget is an important means of implementing the state of its organizational functions, as well as an effective tool for managing the economy. The use of the budget as a tool for managing the economy is due to important characteristics: it has the force of law; it directly reflects programs aimed at developing social production, increasing its efficiency, and meeting the needs of members of society. The budget has tremendous mobilizing and organizing significance, which is associated with the legal form of using budget relations.

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#### ҚР ӘЛЕУМЕТТІК МОДЕРНИЗАЦИЯЛАУ ШАРТЫНДАҒЫ ҚАРЖЫЛЫҚ МҮДДЕЛЕРДІ ҚОРҒАУДЫҢ СТРАТЕГИЯЛЫҚ БАСЫМДЫҚТАРЫ МЕН МЕХАНИЗМДЕРІ

**Аннотация.** Қаржылық саясатты іске асыру сонымен бірге шаруашылық жүргізуші субъектілердің иелігіндегі қаржылық ресурстардың өсуін қамтуы тиіс, мемлекетке жүктелген міндеттер мен функцияларды іске асыру үшін билік органдарының қызметіне сенімді қаржылық негіз құруға ықпал етеді, мемлекеттің экономикалық жағдайын және халықты әлеуметтік қорғауды жақсарту мақсатында әлеуметтік өндірістің тұрақтылығын қамтамасыз етеді.

Мемлекеттік қаржыны басқарудың негізгі міндеттерінің бірі бюджетті оңтайландыру арқылы елдің тұрақты және тиімді экономикалық дамуына ықпал ету болып саналады. Қазақстан Республикасындағы әлеуметтік-экономикалық мәселелерді шешудегі бюджет жүйесінің рөлін зерттеудің өзектілігі оның мемлекетте жұмыс істеу жағдайы қоғам мен азаматтардың әлеуметтік-экономикалық мүдделерін іске асыруға байланыстылығы негізінде анықталады. Қазақстанның бюджеттік жүйесі әлеуметтік бағытқа ие, алайда бюджет қаражатын тиімді пайдалану мен мақсатқа жету үшін мемлекеттік басқару нысандары мен әдістерін жетілдіру қажет. Мақалада мемлекетті әлеуметтік модернизациялаудың негізгі бағыттары қарастырылған, мемлекеттік бюджеттің әлеуметтік салаға шығындары және Қазақстандағы әлеуметтік удерістерді қаржыландыруды одан әрі ынталандыру бағыттары қарастырылған.

Қаржы механизмі осы қаржы саясатының мақсаттарына негізделеді, өйткені мемлекет әскери шығынға, мемлекеттік қарызды төлеуге және оны өтеуге, басқаруға азайтылған бюджет шығынын азайтуға тырысады. Салық жүйесі теңгерімді мемлекеттік бюджетті қамтамасыз ету үшін қажетті қаражат ағынын құруы керек. Сонымен қатар, салық жүйесі негізінен жанама және мүлікке салынатын салықтарға негізделеді, олар өте қарапайым және оларды жинау механизмі бойынша тиімді. Қаржы менеджменті жүйесі қарапайым және әдетте бір басқарушы органда - Қаржы министрлігінде шоғырланған.

Осылайша, бюджет өзінің ұйымдастырушылық функцияларын іске асырудың маңызды құралы, сонымен қатар экономиканы басқарудың тиімді құралы болып саналады. Бюджетті экономиканы басқару құралы ретінде пайдалану маңызды сипаттамаларға байланысты: оның заң күші бар; ол әлеуметтік өндірісті дамытуға, оның тиімділігін арттыруға және қоғам мүшелерінің қажеттілігін қанағаттандыруға бағытталған бағдарламаларды тікелей көрсетеді. Бюджеттің орасан зор жұмылдыру және ұйымдастырушылық мәні бар, бұл бюджет қатынастарын пайдаланудың құқықтық формасына байланысты.

Түйін сөздер: әлеуметтік модернизация, механизм, қаржы, стратегия, саясат, қорғаныс.

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# СТРАТЕГИЧЕСКИЕ ПРИОРИТЕТЫ И МЕХАНИЗМЫ ЗАЩИТЫ ФИНАНСОВЫХ ИНТЕРЕСОВ В УСЛОВИЯХ СОЦИАЛЬНОЙ МОДЕРНИЗАЦИИ РК

**Аннотация.** Реализация финансовой политики также должна предусматривать рост финансовых ресурсов, находящихся в распоряжении субъектов хозяйствования, способствовать созданию прочной финансовой основы деятельности органов власти для реализации задач и функций, возложенных на государство, обеспечивать стабильность общественного производства с целью улучшения экономического положения государства и социальной защиты населения.

Одна из главных задач управления государственными финансами — способствовать устойчивому и эффективному экономическому развитию страны посредством оптимизации бюджетирования. Актуальность исследования роли бюджетной системы в решении социально-экономических проблем в Республике Казахстан определяется тем, что ее функционирование в государстве непосредственно связано с реализацией социально-экономических интересов общества и ее граждан. Бюджетная система Казахстана имеет социальную направленность, однако необходимо совершенствовать формы и методы государственного управления для достижения эффективности и целевого использования бюджетных средств. В статье рассмотрены основные направления социальной модернизации государства, проанализированы расходы государственного бюджета на социальную сферу, направления дальнейшего стимулирования финансирования социальных процессов Казахстана.

Финансовый механизм строится исходя из этих целей финансовой политики, так как государство стремится к уменьшению расходов бюджета, сводившихся в основном к расходам на военные цели, на выплаты по государственному долгу и его погашению и управлению. Система налогообложения должна создать необходимое поступление средств для обеспечения сбалансированного бюджета государства. Причем система налогов строится в основном на косвенных и имущественных налогах, которые достаточно просты и эффективны с точки зрения механизма их взимания. Система управления финансовой деятельностью проста и сосредоточивается, как правило, в одном органе управления — Министерстве финансов.

Таким образом, бюджет является важным средством реализации государством своих организационных функций, а также эффективным инструментом управления экономикой. Использование бюджета как инструмента управления экономикой обусловлено важными характеристиками: оно имеет силу закона; он напрямую отражает программы, направленные на развитие общественного производства, повышение его эффективности и удовлетворение потребностей членов общества. Бюджет имеет огромное мобилизационное и организационное значение, что связано с правовой формой использования бюджетных отношений.

Ключевые слова: социальная модернизация, механизм, финансы, стратегия, политика, защита.

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#### REFERENCES

- [1] The strategy "Kazakhstan-2050: a new political course of the established state." Message from the President of the Republic of Kazakhstan Leader of the Nation N.A. Nazarbayev to the people of Kazakhstan, Astana, December 14, 2012.
- [2] Omirbaev S.M., Intykbaeva S.Zh., Adambekova A.A., Parmanova R.S. State budget: a textbook. Almaty, 2012. S. 3Omarhanova Zh.M., Mukhambetova Z.S., Niyazbekova Sh. U., Mataeva B.T., Tolysbaeva M. S. Key problems of the development of the sector of meat cattle // News of the National Academy of Sciences of Kazakhstan. Series of social sciences and humanities. Volume 3, Number 373 (2018). PP.186–191. https://doi.org/10.32014/2018. 2224-5294
- [3] Ismailova R., Mussina A., Abdikarimova A., Omarkhanova Zh. Integration of financial markets under the conditions of the Eurasian Economic Union: Challenges and Opportunities. Journal of Advanced Research in Law and Economics Journal of Advanced Research in Law and Economics. ISSN: 2068-696X. https://doi.org/10.14505/jarle/ Vol. VIII, Issue 6(28) Fall 2017, p. 1779-1784.
- [4] Nyussupova G. Typology of large cities of the Republic of Kazakhstan by the level and dynamics of socio-demographic development. AD ALTA-JOURNAL OF INTERDISCIPLINARY RESEARCH. Volume: 8. Issue: 1. Pages: 26-33. Special issue: 4. 2018.
- [5] Nyussupova G., Kalimurzina A. The dynamics of sex-age structure of the population in urban and rural areas in the Republic of Kazakhstan in the years 1991-2013 (2016) Bulletin of Geography, 31 (31), pp. 87-111. SJR=0.277.
- [6] Kodasheva G.S., Zhamiyeva A.E., Zagypar G.A. Role of second level banks in the implementation of state programs in the conditions of modernization of the economy of Kazakhstan N E W S OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES. ISSN 2224-5294 Vol. 2, Number 324 (2019), 101 105. https://doi.org/10.32014/2019.2224-5294.54
- [7] Nyussupova G.N. Socio-demographic and economic aspects of analysis of life quality of population in Almaty region. Oxidation Communications. Bulgaria, 2014. № 4 (37). P. 1052–1064. IF=0.489.

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## SOCIAL GUIDELINES IN THE MODERN FINANCIAL SYSTEM OF KAZAKHSTAN

**Abstract.** Social guidelines in the modern financial system of Kazakhstan are a very relevant topic, since this relationship is straightforward and ambiguous. Successful functioning of the state is impossible without the creation of an effective financial system. Indeed, the growth and stability of the state economy depends on how efficiently the financial system functions. According to the authors, Kazakhstan has all the prerequisites for creating the basis for social protection of the population. Therefore, strengthening the financial system and ensuring that the national economy enters the path of growth and social development is an urgent and important problem today. A high level and quality of life is a requirement of the time, without it, the development of the state is impossible. Ensuring a high level and quality of life is beneficial both for the population, business, and for the government.

Keywords: society, benchmarks, financial system, population, stability.

**Introduction.** Since the economy should always be social, it cannot exist without a person and, in principle, is not needed, it is senseless without it. This means, on the one hand, without people the economy cannot function, the development of the economy depends on the quality of the person (s). And on the other hand, a person depends on the level and stage of economic development, the level and quality of his life. However, these connections and dependencies are not straightforward and ambiguous, they are mediated by a number of processes, phenomena and relations. As a result, entire centuries of human history have passed without real sensations of such a connection. This, in turn, led to the traditional assertion that maximizing the produced mass of goods and profits is the leading goal of society and the highest achievement of human progress. Man, people with this approach are impersonal and faceless "factor" of production.

**Main part.** Changed realities of life, global aggravation in the XX century social and environmental problems, the logic of the development of economic systems urgently require a revision of such ideas. So, a generalizing, dominant guideline of socio-economic development should be social sustainability. Without it, there can be no sustainability of the economic system and society as a whole.

Social sustainability is such a state of society and its citizens, which is characterized by the stability of their economic and social status, as well as the ability to self-sustain the reproduction of their life. In the context of stabilization and economic growth, the reform of the social protection system was aimed at creating and implementing legislation to regulate labor relations, actively promoting employment, moving to a multi-level social security system and providing targeted assistance. As a result, in full accordance with the principles of the social state, Kazakhstan has created a national model of social protection of the population, aimed at preventing social risks, improving welfare and developing human capital.

Indicators of the level and quality of life of the population reflect the degree of development of socioeconomic relations in the country. A modern state can develop only under the condition that its economic policy has as its guideline the growth of the level and quality of life of citizens.

Social guidelines in the modern financial system of Kazakhstan. The high degree of integration of the domestic financial system into the world has shown the impact of the global financial crisis. In 2015, external factors influencing the economy of Kazakhstan were the slowdown in world economic growth, falling prices in the raw materials market and growing geopolitical instability.

It is well known that the economic success of Kazakhstan, its competitiveness and sustainability are determined not only by the presence in it of competitive sectors and industries with three main factors (production, natural and labor resources, availability of capital), but to a greater extent by top-level factors: the country's infrastructure, high scientific potential, level of education, standard of living and social protection of citizens of the country. The moral foundations and values of the social sphere, the growth of living standards, the stability of the state and the law-abiding society become decisive and are the object of modern social policy, which is again emphasized in the Message of the President of the country [1].

The social sphere, which characterizes the stability of society and the well-being of its members, is a very complex system of relations in content, where the interests of the state as a whole, the production sphere and the individual clash. Without creating a product in kind, on the contrary, consuming it, the social sphere creates the basis for the intellectual development of a person, his spiritual enrichment, health protection, etc. At the same time, the social sphere is rich in services, which also create financial resources.

The financial system of the region should actively contribute to economic growth, stimulate the innovative component of regional development. It is this aspect that is decisive in the selection of priorities for the development of the regional financial system. The main link in this interaction is the mechanism of investment activity, which ensures the growth of all types of investments (industrial, financial, social) and, consequently, economic growth.

Based on the study, we can propose the following definition: the stability of the financial system of a region is the ability of a regional financial system to effectively fulfill its socio-economic functions under the perturbing effects of external and internal risks of a changing financial and economic environment.

Amid the depletion of traditional sources of economic growth and the difficult geopolitical situation, the financial system of the country as whole and regional financial systems in particular are faced with new threats and challenges.

Among the problems that could potentially lead to negative consequences from globalization processes in all countries, researchers single out [2, p. 79]:

- uneven distribution of benefits from financial globalization in the context of individual sectors of the national economy,
  - the possible de-industrialization of national economies,
- the possibility of transfer of control over the economy of individual countries from their governments to other hands, including to more powerful states, transnational corporations or international organizations,
- possible destabilization of the financial sector, potential regional or global instability due to the interdependence of national economies at the global level.

In addition to global challenges, the development of the regional financial system is greatly influenced by changes in economic and financial policies that are taking place at the national level. We give the following example.

Currently, one of the main directions of development of the financial market in the Republic of Kazakhstan is the creation of a three-tier banking system. These reforms are aimed at improving the financial market, freeing it from weak and unscrupulous financial institutions, simplifying banking regulation for small commercial banks. At the same time, in spite of the positive effect of such events on a global scale, the consequences for regional financial systems may turn out to be negative, since it is possible to predict a decrease in the number of regional banks, which means lower competition between banks and toughening requirements for potential borrowers by federal banks, which traditionally have a more balanced approach to the risks taken and impose higher requirements on the quality of collateral for loans.

The social sphere is highly dependent on the redistribution process. And the past early stages in Kazakhstan, represented by a halt in production, an increase in hidden unemployment, underdevelopment of the labor market, budget cuts, unpaid wages and pensions, were systematically overcome in the future, moreover, today the general indicators of economic growth and social protection of citizens of the country were confirmed in a certain degrees and leap. Of course, it is important to understand the difficulties and the whole mechanism for overcoming these difficulties and tasks that are put forward at each given moment. Reforms in the economic, financial and social spheres, priorities (real growth in GDP, reduction

of external state government debt, budget and credit resources, increase in real wages, pensions and benefits, the introduction of separate preferential protection) have been and remain the most important tasks of modern socio-economic Kazakhstan's policies in conjunction with global peace issues.

In the system of social guidelines, the problems of pension provision in the country, accompanied by the pension reform since 1998, remain quite relevant on the agenda. The problems of the Pension System block today are related to the further improvement of the whole chain - from reaching people for retirement savings, increasing the average pension to deciding to use huge savings of pension funds in the social sphere, avoiding arrears in pension contributions to NPFs and effectively managing such an important extra-budgetary fund.

The pension system in its objective basis is one of the most important socio-economic institutions and, along with solving the problems of its mechanisms, is closely interconnected with wages in the country, as the primary source of creating pension resources. The role of pension in the economy of any country constantly attracts attention and pension programs are designed to solve the problem of material support for pensioners and vulnerable groups of the society, contributing to the fight against poverty. Hence, the policy in the field of pension provision is the most important lever of state influence on the economy.

In Kazakhstan, the participation of employers in the pension provision of their employees is still minimal. One of the reasons is the lack of their incentives through various tax preferences. An important factor in the development of pension plans with the participation of the employer is a wide variety of institutional forms of attracting and investing voluntary and voluntary professional contributions through insurance companies, second-tier banks and investment companies that are active participants in the pension market at the accumulation stage. In Kazakhstan, these functions all these years have been carried out exclusively by accumulative pension funds using the rules for the payment of accumulations from compulsory pension contributions [3] until the unification of all functioning accumulative pension funds and the creation in 2014 of the Unified Accumulative Pension Fund of the Republic of Kazakhstan (UAPF). By right, this policy is aimed at solving the effectiveness of the volumes of created pension savings in the country at the level of management and strengthening state regulation in the field of financial resources.

It should be noted that for Kazakhstan, the processes of forming pension accumulations remain important in terms of encouraging employers and workers to participate more in professional pension plans through various measures, such as preferential taxation of the employer's expenses for the provision of pensions to employees; preferential taxation of employee contributions to their own retirement benefits from voluntary and voluntary professional levels; a wider selection of various pension plans that meet a wide range of interests of all interested parties in the voluntary professional pension provision of employees; lower level of restrictions on lump sum payments and wider options for annuity provision from insurance organizations.

The Ministry of Labor and Social Protection of the Republic of Kazakhstan (which in August 2014 was merged with the Ministry of Health and received the status of "Ministry of Health and Social Development") while developing pursuant to the instructions of the President of the Republic of Kazakhstan voiced in the Address to the people of Kazakhstan on pension reform on June 7 2013, taking into account the document "Strategy Kazakhstan-2050," it was limited to already well-known provisions, namely: reducing the size of joint pensions and the need for further diversification of sources of pension GOVERNMENTAL payments; long-term demographic trends and the cyclical nature of economic development and the need for further optimization of the distribution of responsibility for pensions between the state, employer and employee.

The mechanisms of implementing the state pension policy until 2030 are almost weak. The haste in approaches when making decisions in programs, the presence of inconsistencies in laws in social areas, and flaws in the activities of institutional structures, of course, did not reflect to the proper level the ways to implement the concept of modernizing the pension system. It is appropriate to note that all these years, the Ministry of Labor and Social Protection of the Republic of Kazakhstan has not overcome the complex problems of labor organization, employment, the relationship of wages with "work" and the development of real norms and standards of wages in market conditions, as well as the creation of social protection mechanisms. Only a scientific approach with high professionalism and a creative attitude to decision-

making practice will allow the future to objectively develop specific methods for the ministry in any matter.

Vulnerabilities in the concept manifest themselves in many aspects: the incomparability of the average salary and the size of pensions, the low salary of many categories of workers, which is the basis of pension contributions, the absence of a relationship between the categorical concepts of "labor productivity" and "average salary" and the relationship in the criteria for their growth, the lack of systematic pay in different categories of workers both in the private sector and state organizations, the lack of high-quality motivation in the work of many specialties and spheres of employment, low level of employer participation in the formation of pension contributions, growing shadow economy in the country and the lack of careful treatment of the formed financial resources (funds), as well as undeveloped mechanism of increasing pension savings and their returns.

**Conclusion.** Objectively, Kazakhstan has all the prerequisites for creating the basis for social protection of the population, both in terms of the growth of pension savings by various methods and effective calculations, and in terms of the utmost organization and responsibility of the state in implementing social protection mechanisms on a high legal basis for all participants in the formation and use of extrabudgetary funds.

It is generally recognized that in order to solve the above problems, it is necessary to launch a financial mechanism for increasing investment in the development of production on the basis of improving the financial sector and strengthening its relationships with entities in the real economy. Therefore, any development programs without resolving the issue of mechanisms and instruments for financing investments are practically not feasible.

The effectiveness of the influence of the financial sector on economic development largely depends on the institutional conditions for the functioning of economic entities. To date, there is no single methodological approach to the interaction of financial institutions and the real sector, which is necessary for a successful transition from a state of depressive stabilization to accelerating economic growth based on new technologies. Moreover, the task of creating a methodology for analyzing financial, institutional, and technical and economic changes in the process of radical reforms has not been defined. The issues of determining the impact of market financing on the structure of production under conditions of concentration of Russian and foreign corporate capital, the dynamics of economic growth, and the differentiation of individual industries representing the global complex in the country's economic system are not sufficiently developed.

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### ҚАЗАҚСТАННЫҢ ҚАЗІРГІ ҚАРЖЫ ЖҮЙЕСІНДЕГІ ӘЛЕУМЕТТІК БАҒЫТТАР

Аннотация. Қазақстанның қазіргі қаржы жүйесіндегі әлеуметтік бағыттар өте өзекті тақырып болып саналады, өйткені аталған байланысқа қарапайым және екіұштылық тән. Мемлекеттің табысты қызмет ету жағдайы тиімді қаржы жүйесін құрмай жүзеге асуы мүмкін емес. Шынында да, мемлекет экономикасының өсүі мен тұрақтылығы қаржы жүйесінің қаншалықты тиімді жұмыс атқаратындығына байланысты. Сонымен бірге, қазіргі заманғы барлық қаржы нарықтары белгілі бір мемлекеттік нормативтік-құқықтық база аясында жұмыс істейді әрі операцияның қайсы түріне рұқсат етілетінін анықтайды. Қаржы жүйелері көбінесе қатаң реттеледі, өйткені олар нақты активтерге, экономикалық көрсеткіштерге және тұтынушылардың құқықтарын қорғауға қатысты шешім қабылдауға тікелей әсер етеді. Әлемдік қаржы жүйесі – әлемдік экономика шеңберіндегі барлық қаржы институтын, қарыз алушы мен несие берушілерді қамтитын кең аймақтық жүйе. Сонымен бірге экономиканың тұрақты дамуына келесі факторлар кедергі келтіреді: шикізат бағытын сақтау және өңдеуші өнеркәсіптің тоқырауы; экспортқа бағдарланған елдегі өндірістің негізгі экспорты саналатын аз мөлшердегі тауар түрлеріне әлемдік баға өзгерісінің қатты ықпал етуі барысында осалдық танытуы; көрші елдерде ұқсас өніммен айналысатын өндірушілердің бәсекес болуы; сыртқы өндіріске тәуелділікті арттыру және жеке өндірісімізді – жабдықтар мен компоненттерді (технологиялық тәуелділік), энергия тасымалдаушыларды іске асыру мүмкіндігі; импортталатын өнімдер мен отандық тауарлар өндірісін ұлғайту; әлемдік өндірістегі жосықсыз бәсекелестік пен протекционизм қазақстандық өндірушілерді экономикалық кемсітуге ұшыратады. Жалпы аралас экономиканың қазақстандық моделі өміршеңдігін толық дәлелдеді. Онда болашақ тұрақты дамудың әлеуеті бар, оның мәні күшті мемлекет қалыптастыру үшін тұрақты экономикалық негіз қажет болған кезде сақталады.

Әлеуметтік жауапты инвестициялар дегеніміз – қаржы агенттері инвестициялық шешім қабылдау кезінде этикалық, әлеуметтік немесе экологиялық көзқарастарға, мысалы, кандай да бір облигация немесе акцияларды сатып алу немесе сату туралы шешім қабылдауға немесе өз портфеліндегі компаниялармен өзара қарым-қатынасқа қатысты шешімге маңыз беретін, жаңа пайда болған тәжірибеге үлкен мән береді. Кейде жоғары әлеуметтік көрсеткіштері бар компаниялардың жақсы қаржылық көрсеткіші бар деген болжамға негізделген, қатаң пайдаға бағытталған инвестициялық философияның бөлігі болып келеді. Алайда көбінесе бұл негізгі инвестицияларға балама ретінде қабылданады. Мұндағы басты дәлел – нарықтық баға белгілеу тетіктері, әсіресе, қаржы нарықтары фирмаларда әлеуметтік және экологиялық жауапкершілік деңгейін қамтамасыз ете алмайтындай көрінеді. Мәселен, тершеңдік пен қоршаған ортаның деградациясы туралы кең әлеуметтік келісімге қарамастан, ірі инвесторлар әлі де осындай негізсіз әрекеттерді қолдайтын бизнесті қаржыландырады. Демек, әлеуметтік жауапкершілікті күшейтетін жаңа типтегі инвестор қажет.

Авторлардың пікірінше, Қазақстанда халықты әлеуметтік қорғауда негіз жасау үшін барлық алғышарттар бар. Сондықтан қаржы жүйесін нығайту және ұлттық экономиканың өсу мен әлеуметтік дамуға жетуді қамтамасыз ету – бүгінгі күннің өзекті және маңызды мәселесі болып саналады. Өмірдің жоғары деңгейі мен уақыты – уақыт талабы, онсыз мемлекеттің дамуы мүмкін емес. Өмірдің жоғары деңгейі мен сапасын қамтамасыз ету халық үшін де, бизнес үшін де, мемлекет үшін де пайдалы.

Түйін сөздер: қоғам, бағдарлар, қаржы жүйесі, халық, тұрақтылық.

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### СОЦИАЛЬНЫЕ ОРИЕНТИРЫ В СОВРЕМЕННОЙ ФИНАНСОВОЙ СИСТЕМЕ КАЗАХСТАНА

Аннотация. Социальные ориентиры в современной финансовой системе Казахстана являются темой весьма актуальной, так как данная взаимосвязь прямолинейна и неоднозначна. Успешное функционирование государства невозможно без создания эффективной финансовой системы. Ведь от того, насколько эффективно функционирует финансовая система зависит рост и стабильность экономики государства. В то же время все современные финансовые рынки функционируют в рамках некой государственной нормативноправовой базы, которая устанавливает ограничения в отношении того, какие виды операций разрешены. Финансовые системы часто строго регулируются, поскольку они напрямую влияют на принятие решений в отношении реальных активов, экономических показателей и защиты потребителей. Глобальная финансовая система в основном представляет собой более широкую региональную систему, которая охватывает все финансовые институты, заемщиков и кредиторов в рамках глобальной экономики. Вместе с тем, негативными факторами, препятствующими устойчивому развитию экономики, являются: сохранение сырьевой направленности и стагнация обрабатывающих отраслей; сильная уязвимость экспортоориентированных отраслей от колебаний коньюнктуры мировых цен на узкую группу товаров, являющихся основными статьями экспорта страны; растущая конкуренция со стороны производителей аналогичной продукции в сопредельных государствах; усиление зависимости от внешних поставок при имеющихся и потенциально возможных к реализации собственных производств - оборудования и комплектующих (технологическая зависимость), энергоносителей; вытеснение с внутреннего потребительского рынка товаров отечественного производства импортной продукцией; недобросовестная конкуренция и протекционизм на мировом рынке, приводящие к экономической дискриминации казахстанских товаропроизводителей. В целом казахстанская модель смещанной экономики вполне доказала свою жизнеспособность. Она содержит потенциал будущего устойчивого развития при сохранении ее сути, когда для формирования сильного государства необходима стабильная экономическая основа.

Под социально ответственными инвестициями понимается возникающая практика, при которой финансовые агенты придают большое значение предположительно этическим, социальным или экологическим соображениям при принятии инвестиционных решений, например, решениям о том, какие облигации или акции покупать или продавать, или как взаимодействовать с компаниями из своего портфеля. Иногда это является частью строго ориентированной на прибыль инвестиционной философии, основанной на предположении, что компании с высокими социальными показателями также имеют превосходные финансовые показатели. Однако чаще это воспринимается как альтернатива основным инвестициям. Основным аргументом здесь является то, что рыночные механизмы ценообразования, и в особенности финансовые рынки, похоже, не способны обеспечить достаточный уровень социальной и экологической ответственности в фирмах. Например, несмотря на широко распространенное социальное согласие по поводу зла труда работников потогонной промышленности и ухудшения состояния окружающей среды, основные инвесторы все еще финансируют предприятия, которые поддерживают такие неоправданные практики. Следовательно, существует потребность в новом типе инвестора с более сильным чувством социальной ответственности.

По мнению авторов, в Казахстане имеются все предпосылки для создания основы социальной защиты населения. Поэтому укрепление финансовой системы и обеспечение выхода национальной экономики на траекторию роста и социального развития является насущной и немаловажной проблемой на сегодняшний день. Высокий уровень и качество жизни — это требование времени, без него невозможно развитие государства. Обеспечение высокого уровня и качества жизни выгодно как для населения, бизнеса, так и для Правительства.

Ключевые слова: Социум, ориентиры, финансовая система, население, стабильность.

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### REFERENCES

- [1] Message from the President of the Republic of Kazakhstan N.A. Nazarbayev to the people of Kazakhstan on November 30, 2015. Access mode: http://www.akorda.kz/ru/addresses/poslanie-prezidenta-respubliki-kazahstan-nnazarbaeva-narodu-kazahstana-30-noyabrya-2015-g.
- [2] Decree of the Government of the Republic of Kazakhstan No. 954 On approval of the Concept of development of the financial sector of the Republic of Kazakhstan until 2030 from August 27, 2014. Access mode: http://adilet.zan.kz/rus/docs/P1400000954
- [3] Report on the financial stability of Kazakhstan, December 2014. Access mode: http://www.nationalbank.kz/cont/publish266272\_29111.pdf?switch=russian
- [4] Dzhumabekova A.T., Kanatova A.ZH. Transformation of the transmission mechanism of the national bank of the republic in the conditions of financial instability. NEWS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN. SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294. Volume 6, Number 322 (2018), 119–123. https://doi.org/10.32014/2018.2224-5294.43
- [5] Sabirova R.K., Adietova E.M., Karamuldina A.A. Self-employment in Kazakhstan. News of the National Academy of Sciences of the Republic of Kazakhstan. News of the National Academy of Sciences of Kazakhstan. Series of social sciences and humanities. No. 2. 2018, p. 138-142. https://doi.org/10.32014/2019.2224-5294.14
- [6] Amerzhanova D.A., Zayakina A.V., Shaimagambetova A.Ch., Rakhimova G.A., Esenova G.Zh. Investigating climate investment in the republic of kazakhstan and evaluation of the volumes and structure of investments in the real economy sector. NEWS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN. SERIES OF SOCIAL AND HUMAN SCIENCES Volume 4, Number 326 (2019), 74 80, ISSN 2224-5294. https://doi.org/10.32014/2019.2224-5294.139

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# COMPARATIVE ANALYSIS OF LOGISTICS OF STATIONARY RETAIL AND ONLINE COMMERCE

Abstract. The development of the scientific concept of the economic category "logistics of trade services" dictates the need for the formation of logistics systems of trade services, which should be based on two dominant components - this is the territorial component and the integral. The need to include a territorial component is explained by the fact that retail trade and public catering, working for a specific consumer, gravitate towards the places where their client is located. The second component, an integrated logistics tool, provides for a significant change in the objective function and the criteria for the optimality of logistics activities, which makes it possible to achieve maximum competitive advantages to ensure the implementation of development strategies of the trading industry as a whole. In times of progressive digital transformation and constant change, a continuous reorientation of stationary retail is indispensable in order to be successful in the future. The practical recommendations for action provide a guideline for the transformation of stationary retailing based on digital change processes. Various factors are taken into account, which is identified as critical success factors for stationary retail. These include a reorientation of the business model, the introduction of new digital technologies and data protection. In general, stationary retail must rethink the business model holistically and be open to radical innovations in order to be successful in the long term.

**Keywords:** logistics, retail, Internet, supplies, system, service.

**Introduction.** Considering the logistics of trade services as a combination of two independent scientific areas - retail logistics and catering logistics - from the standpoint of well-known logistics rules, the authors believe that the interaction of a retail trade or catering enterprise with the end consumer and suppliers of goods, logistics, as a result of which the process of providing trade services occurs, it is possible to carry out only within a specific territory, which should be called logistic territory. At the same time, the limited timeframes for the sale of everyday goods in retail and finished catering products, a wide, deep and varied assortment of products, the consumption of which is carried out in relatively small amounts, but daily, has an important influence on the organization of the process of supplying trade services. This dictates the need to maintain a constant relationship with suppliers and to deliver goods often in small batches.

**Main part.** According to the authors of the article, a logistic territory should be understood as a complex logistic system consisting of link elements interconnected by economic flows (material, financial, informational, etc.) within a specific spatially limited territory, the tasks of which are determined by internal and external goals of this system.

The specificity (certainty) of the logistics area is expressed not only by its spatial boundaries, which play an important role, but also by historical, natural, socio-economic and market originality.

The natural uniqueness of the logistics area is expressed by its regional characteristics characterizing the composition and distribution of natural conditions and resources. The historical uniqueness of the logistics area is the features that characterize the stages and sequence of economic development and the formation of the market of a given area.

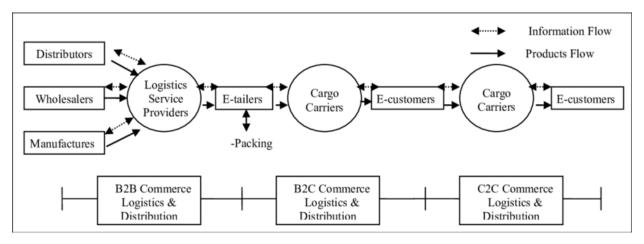
By the socio-economic originality of the logistic territory we mean the types (types) of relations that develop between the people living in a given area in the process of producing material goods and

providing services. The socio-economic identity of the territory can be characterized by such criteria as the presence of production and non-production enterprises, industrial, market and social infrastructure, means of transport and means of communication, population and labor resources, the qualification of the workforce, the level of development of science, etc.

The market originality of the territory is determined by the relationships between market entities and can be expressed by the following basic properties of a particular logistics territory:

- the presence of target markets (target audience), the needs of which it meets;
- development and formation of the offer of goods and services in order to maximize and effectively meet the needs of the target audience;
- determination of the price and the formation of the value of the territory (land) transferred to consumers;
- competitiveness of the territory, allowing to ensure a high level and quality of life of the population of the territory.

Foreign experience in the application of a logistic e-tailing system is shown in figure.



The relationships among partners in the e-tailing supply chain

The growing of e-tailing industry drives e-tailers and e-suppliers to search for radically new ways of doing business because they have to manage all activities from procurement to delivery in their e-tailing supply chain efficiently. Nowadays, E-SCM (Electronic Supply Chain Management, also can be called as the Internet-Based Supply Chain Management

To understand such a property as "concreteness (certainty)" of a logistics territory, it becomes necessary to determine its borders, which, according to the authors, is possible on the basis of designing logistics systems at the macro, meso or micro levels.

A review of scientific and specialized literature showed the presence of a multiplicity of approaches to such concepts as mesoeconomics, mesologistics and the mesoscale and ambiguities in their interpretation.

So, in economic science there is a traditional interpretation of macro- and microeconomics, along with which many scientists recognize the presence of an intermediate level of aggregation-mesoscale, which allows for the structural unity of economic science, as well as the uninterrupted operation of a single mechanism for managing the economy, its coordination and regulation. Mesoeconomics, according to scientists, as a young science, does not yet have a strictly defined methodology, developed research methods at the meso level and, moreover, even an unambiguous conceptual apparatus.

In the field of trade services within the framework of the spatial-territorial paradigm of logistics at the macro-, meso- and micro-logistics levels, the following tasks are possible:

- development of a system of the most cost-effective placement of objects of trade services determination of optimal locations, types, types, specialization, capacity and capacity of enterprises of trade services, including in places of mass concentration of consumers;
- identification of areas of potential demand for trade and public catering services taking into account the movement of consumer flows;

- comprehensive organization and development of a network of trade services in accordance with dynamically changing consumer preferences of the population;

- the formation of a system of criteria and an assessment of their impact on the economic and social efficiency of the location of projected and existing enterprises in the sphere of trade services;
- determination of the effectiveness of enterprises depending on the location and nature of their location.
- location of enterprises (shops, stationary network catering enterprises, Internet commerce stores, etc.), providing the best conditions for their availability with minimal consumption of time for consumers;
- the formation of the structure of a network of trade services that best meets the needs of various categories of the population in terms of content and location of services;
- the use of progressive types of buildings and structures, which with their functional-technical and architectural-planning decisions are able to meet not only the existing requirements for commercial services, but also be relevant in the future, in terms of meeting and changing needs of people, and improving the quality and organization of services .

From the point of view of the development strategy of the sphere of trade services, the solution of these problems will significantly ensure the rapid development of infrastructure trade objects in accordance with the forecast values of socio-economic indicators of the development of territories.

A study and comparative analysis of the evolution of theories of the spatial distribution of production enterprises and the market allows us to argue that the solution to the problem of the territorial organization of trade is systematic: when choosing the optimal location for a trade service enterprise, a system of criteria should be taken into account, the composition of which can vary depending on the goals of formation and development, as well as the level of (macro-, meso-, micro-) logistics system.

The study of factors and the selection of criteria that determine the most advantageous location for trade and public catering enterprises in the logistics area requires a diverse approach.

It should be noted that the effectiveness of the location of commercial services depends on the influence of a wide range of external and internal factors, the list of which will differ and depend on the level of the logistics territory.

Among the internal factors affecting the selection of criteria for evaluating the logistics area and the effectiveness of the placement of trade services should include:

- format, type, type and specialization of the enterprise, its power (size);
- the level of qualifications and competencies of workers in the field;
- the complexity of the correct and timely accounting of raw materials, semi-finished products, a characteristic feature of which are short shelf life;
- idea of an enterprise; the list of services provided in the enterprise, the quality of goods sold, products and services provided at the enterprise, etc.

Environmental factors include:

- imperfect legislative and regulatory framework, tax system;
- the complexity of forecasting consumer demand for products and services of objects of trade services;
  - instability of the supply of goods, raw materials, materials;
  - the nature of human and traffic flows;
- pedestrian and transport accessibility, affecting the size of the zones of commercial service of the enterprise and the ability to deliver goods;
- organization of the adjacent territory, including the presence of parking for visitors' vehicles, convenient access roads;
  - the presence of warehouse facilities, etc.

When considering the functioning and placement of trade services facilities by domestic and foreign scientists, various criteria and factors are examined. When examining the problems of locating enterprises in the production and service sectors, foreign scientists pay great attention to such factors as transport costs, the level of income of the population, regional legislation, and factors that increase and decrease the attractiveness of the city.

Given the current situation, in our opinion, an increase in the importance of the criteria of socioeconomic and market groups is inevitable, allowing to take into account the economic activity of the population and the overall economic situation in the country.

The basis for the successful operation of a commercial service enterprise at the micro level is its placement on the path of human traffic. Entrepreneurs should take into account the zone of gravity of consumers of goods and services, which is determined by the distance from the object of trade services to the place of residence or place of work, since this is one of the main factors. You also need to evaluate the prestige of the district (neighborhood), the sociological portrait of potential consumers, their purchasing power, the presence of competitors, etc.

The factors of the mesoscale associated with the location of trade service organizations within individual regions and cities include:

- employment and living standards;
- the price of land and other fixed assets;
- the availability, qualifications and price of labor resources;
- transport opportunities, accessibility of the consumer market (urban transport routes, quality of automobile accessibility);
  - policy of authorities in relation to the sphere of trade services;
  - criminogenic situation;
  - geographical features and climatic conditions, etc.

Regardless of the general state of the economy, some regions (regional markets) seem more attractive for their development by retail chains. Mesoscale factors are directly related to regional business support policies. Based on the assessment of these factors, it is possible to develop measures of targeted impact on the placement of trade organizations both in the city as a whole and in its districts.

Macro-level factors affect the migration of entrepreneurial capital between different countries and between regions within countries. These include:

- the potential of the territory (country, region, constituent entity of the Federation);
- local legislation;
- investment climate of the study area;
- tax regime (features of taxation in the region);
- the dynamics of production by industry and monopolization of the market;
- economic security, etc.

For the sphere of trade services, the most significant are the factors reflecting the socio-economic identity of the logistics area:

- concentration of trade and public catering enterprises;
- the intensity of pedestrian and traffic flows;
- pedestrian accessibility of enterprises;
- transport accessibility (by personal and public transport) and the convenience of access roads (both for consumers and for suppliers of raw materials, materials, goods);
  - organization of the adjacent territory availability of parking and the number of parking spaces;
  - nature of accommodation (in a separate building, in the complex);
- the presence and concentration of administrative, cultural, sports, entertainment facilities, etc. places of gravity of the population.

The criteria to characterize the market identity of the logistics territory, the volume and structure of supply and demand on it are:

Classification of criteria determining the nature of the spatial and territorial concept of logistics.

Conclusion. Criteria reflecting the level of intra-industry specificity (between similar industries) the level of inter-industry specificity (between different industries) the level of concentration of enterprises. The intensity of pedestrian and traffic flows. Level of walking accessibility. The level of transport accessibility and convenience of access roads. The level of organization of the surrounding area, including the number of parking spaces and the availability of parking. The nature of the placement. The concentration level of administrative, cultural, sports, entertainment facilities, etc. The concentration level of potential consumers. The level of income of potential consumers. The level of intra-industry competition. The level of quality of the services provided. Price level. The level of prices for the purchase or rental of real estate The quality of automobile transport accessibility. The quantity, quality and

frequency of public transport. The quality of the road surfaces, providing the minimum time to reach the object of trade services. Convenience of public transport routes. Ecological situation in the territory adjacent to the commercial facility. The prospects for the development of urban infrastructure in the short term. Qualitative composition of institutions located close to the commercial facility, providing services related to commercial services.

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### СТАЦИОНАРЛЫҚ БӨЛШЕК САУДА ЖӘНЕ ИНТЕРНЕТ САУДА ЛОГИСТИКАСЫН САЛЫСТЫРМАЛЫ ТАЛДАУ

Аннотация. «Сауда қызметінің логистикасы» экономикалық категориясының ғылыми тұжырымдамасын әзірлеу сауда қызметінің логистикалық жүйесін қалыптастыру қажеттілігін тудырады, бұл екі басым компонентке – аумақтық және интегралдыққа негізделуі қажет. Аумақтық компонентті енгізу қажеттілігі нақты тұтынушы үшін жұмыс атқаратын бөлшек сауда және қоғамдық тамақтану клиенті орналасқан жерге қарай тартылуы негізінде түсіндіріледі. Екінші компонент – кіріктірілген логистикалық құрал объективті функцияның белгілі бір деңгейде өзгеруін және логистикалық қызметтің оптималдық өлшемдерін қамтамасыз етеді әрі жалпы сауда индустриясының даму стратегиясын іске асыруды қамтамасыз ету үшін максималды бәсекелестік артықшылыққа қол жеткізуге мүмкіндік береді.

Прогрессивті цифрлық және тұрақты өзгерістер барысында тұрақты бөлшек сауданы үздіксіз қайта бағдарлау болашақта табысқа жету үшін қажет. Іс-әрекеттегі практикалық ұсыныстар цифрлық өзгерістер үдерісіне негізделген стационарлық бөлшек сауда түрлендіруге арналған нұсқаулық береді. Стационарлық бөлшек саудада табыстың маңызды ретінде анықталған түрлі факторлар ескерілген. Оларға бизнес-модельді қайта бағыттау, жаңа сандық технологияларды енгізу және деректерді қорғау кіреді. Жалпы алғанда, стационарлық бөлшек бизнес моделін түбегейлі қайта ойластырып, ұзақмерзімді перспективада табысты болу үшін түбегейлі инновацияларға ашық болуы керек.

Осы ықтимал әрекет курсын жүзеге асыруды жеке шешудің тұтқасы ретінде емес, жедел шешімдер бағытын анықтай отырып, әрекеттің стратегиялық негізі ретінде қарастыру керек. Күн сайын жаңа өнімдер немесе қызметтер пайда болатын, жылдам дамып келе жатқан қоғамда клиенттердің ағымдағы қажеттіліктеріне негізделген өзгеру үдерістерін бастау және оларды сәтті жүзеге асырғаннан кейін аяқталған жоба ретінде қарау жеткіліксіз болады. Себебі тұжырымдамадан бастап жаңа тұжырымдаманы қолдануға дейін клиенттердің мінез-кұлқы және қажеттіліктері баяғыда-ақ өзгерді. Бұл жаңа цифрлық әлемде ұзақмерзімді перспективада тұтынушы қажеттіліктерін қанағаттандырудың дара жолы – өзгеріс үдерістерінің үздіксіз басталуы болып саналады.

Сондықтан сандық инновацияларды енгізудің тұрақты сатушыларына көптеген ашық жол бар. Иммерсивті элементтер интеграциясы қысқамерзімді және ортамерзімді перспективада бөлшек саудада жүзеге асырылады. Осы құбылмалы өзгеріске тым сақтықпен қарайтындардың ұзақмерзімді перспективада интернет-сауда алыптарына қарсы ешқандай мүмкіндігі болмайды. Стационарлық бөлшек сауда үшін көп нәрсе қауіп төндіреді. Интернет-әлемнің жаңа қағидаттарын табыс табуға пайдалану өте маңызды – бұл дегеніміз – жаңа негізді игеруге дайын болу, жылдам үйрену және бәрінен бұрын түбегейлі әрекет ету.

Түйін сөздер: логистика, бөлшек сауда, интернет, керек-жарақтар, жүйе, сервис.

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### СРАВНИТЕЛЬНЫЙ АНАЛИЗ ЛОГИСТИКИ СТАЦИОНАРНОЙ РОЗНИЧНОЙ ТОРГОВЛИ И ИНТЕРНЕТ-ТОРГОВЛИ

**Аннотация.** Развитие научного представления об экономической категории «логистика торгового обслуживания» диктует необходимость формирования логистических систем торгового обслуживания, в основу которых должны быть положены две главенствующие составляющие — это территориальная составляющая и интегральная. Необходимость включения территориальной составляющей объясняется тем,

что розничная торговля и общественное питание, работая на конкретного потребителя, тяготеет к местам непосредственного нахождения своего клиента. Вторая составляющая — интегральный логистический инструмент, предусматривает существенное изменение целевой функции и критериев оптимальности логистических мероприятий, благодаря чему возможно максимальное достижение конкурентных преимуществ для обеспечения реализации стратегий развития торговой отрасли в целом.

Во времена прогрессивных цифровых преобразований и постоянных изменений непрерывная переориентация стационарной розничной торговли необходима для достижения успеха в будущем. Практические рекомендации к действию служат руководством для преобразования стационарной розничной торговли на основе процессов цифровых изменений. Различные факторы принимаются во внимание, что определяется как критические факторы успеха для стационарной розничной торговли. К ним относятся переориентация бизнес-модели, внедрение новых цифровых технологий и защита данных. В целом, стационарная розничная торговля должна переосмыслить бизнес-модель в целом и быть открытой для радикальных инноваций, чтобы добиться успеха в долгосрочной перспективе.

Реализация этих возможных направлений действий должна рассматриваться не как самостоятельный рычаг решения, а скорее как стратегическая основа для действий путем определения направления оперативных решений. В этом быстро меняющемся обществе, в котором новые продукты или услуги появляются каждый день, уже недостаточно инициировать процессы изменений, основанные на текущих потребностях клиентов, и рассматривать их как проект, завершенный после успешной реализации. Потому что со времени концепции до применения новой концепции поведение клиентов и их потребности давно изменились. В этом новом цифровом мире единственным способом удовлетворения потребностей клиентов в долгосрочной перспективе является постоянное инициирование процессов изменений.

Таким образом, есть много способов, открытых для розничных продавцов, для внедрения цифровых инноваций. Интеграция иммерсивных элементов должна быть реализована в краткосрочной и среднесрочной перспективе в стационарной розничной торговле. Те, кто действует слишком осторожно в этих подрывных изменениях, не будут иметь никаких шансов против гигантов онлайн-торговли в долгосрочной перспективе. Сегодня для стационарной розницы гораздо больше поставлено на карту. Крайне важно использовать новые принципы онлайн-мира в своих интересах – быть готовым выйти на новый уровень, быстро научиться и, прежде всего, действовать радикально.

Ключевые слова: логистика, розничная торговля, интернет, поставки, система, обслуживание.

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### REFERENCES

- [1] Kulikova A., Tarantin D. Out-of-the-box service or new service standards // Shop equipment in Russia. 2002. N 10. P. 36-38 (in Russ.).
  - [2] Kurbanova N. Not hyper yet, but more than a supermarket // Modern trade. 2002. N 8. P. 29-30 (in Russ.).
  - [3] Logistics / Ed. B. A. Anikina: 3rd ed., Revised. and add. M.: INFRA-M, 2002. 368 p. (in Russ.).
- [4] Logistics and Retail Management: Leading Experts on Current Practice and Trends / Under. ed. John Ferney, Lee Sparks. Novosibirsk: Sib. univ. publishing house,2006. 263 p. (in Russ.).
- [5] Myrzakhanova D.Zh., Smagulova R.U., Taspenova G.A., Nesvetailova A. Trends of development of the management system of the tax sphere of RK in modern conditions. BULLETIN OF NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN ISSN 1991-3494 Vol. 6, Number 376 (2018), 158–164. https://doi.org/10.32014/2018.2518-1467-40

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# ORGANIZING EFFECTIVE INTERACTION WITH REMOTE PERSONNEL AS A FACTOR OF ECONOMIC RATIONALITY

**Abstract.** The modern labor market is rapidly changing. Today, software integrated with each other, understandable for the average user with advanced communication capabilities, management and control functions, is in high demand. Routine tasks are being automated at all levels of management, and the influence of information technology and artificial intelligence development trends on all areas of the business and its participants is becoming global. Remote employment in a pandemic is relevant and represents a work process carried out outside the traditional place of work and involving interaction with the employer through telecommunication and information technologies. Both the employer and the employee have advantages and disadvantages in the application and use of remote work. How effective it is in this particular case, it is up to each employer to decide on the direction of the organization, the category of personnel and the goals facing the company. The authors proposed ways of effective interaction with remote personnel.

Key words: remote employment, teleworking, teleworker, information technology, online labor exchange.

**Introduction.** The concept of rationality in economic science is used in a different sense than in other social sciences, where rational behavior is interpreted closer to its ordinary interpretation and means: reasonable, adequate to the situation. In order to clarify in what sense we use the concept of "rationality", it is useful to establish what it is contrasted with in this context. The concepts of rational choice and rational behavior play a crucial role in the methodology of economic theory. First of all, it must be emphasized that these concepts should be handled with the utmost care.

Remote work is the practice of organizing a work process in which permanent or temporary employees work at home, instead of going to work for the premises of the employer or customer.

Remote are considered employees with whom they entered into an employment contract for remote work. They work outside the main location of the employer, as well as outside its branch, representative office or other separate unit. In addition, remote employees do not have a stationary workplace that the employer can monitor. And an important condition for teleworking - to fulfill its duties and interacting with the employer, the teleworker must use public information and telecommunication networks, including the Internet.

Main part. Typical employer requirements for employees no longer apply. At the moment, a request has been formed for active, mobile labor entities who are ready for changes in the work process and want to change professionally. All these changes contribute to the emergence of a new type of professional workers performing their labor tasks in the remote access mode, outside the territory of the employer's usual workplace, remote employment is a form of employment in which the employee and the employer are geographically distributed, are outside the same office space and interact with each other through information and communication technologies. In the modern world, you can work remotely, both being an employee of the company (while on the staff of the organization) and not being its full-time employees, performing specific tasks or implementing certain projects.

As the analysis shows, there is a certain specificity of managing personnel working remotely from the head office. In particular, a number of events are held in the organization (institution), namely:

- 1) used systems and information flows are studied;
- 2) the work process is being studied;
- 3) the procedures that are performed by regular employees, and which could be performed remotely, without being present in the office, are singled out;
  - 4) a possible scheme for organizing the work flow is proposed;
  - 5) the qualification level of a potential employee is determined;
  - 6) technology and material support are approved;
- 7) depending on the level of technical equipment, written integrated software that allows you to keep track of working time, perform assigned functions, reflect the results of work;
- 8) an employee is selected; an employment contract is concluded with him; monthly tasks are determined;
  - 9) the workplace is equipped; personal equipment is installed and operated.

In case of temporary impossibility to perform duties, the workstation module is easily configured in another place. And in the conditions of work on the technology of "thin client", only access rights are configured.

The process of registration and dismissal of such workers has a number of features. In particular, an electronic contract may be concluded with remote employees. In this case, an enhanced qualified electronic signature will be used. The employee will be able to provide all the necessary documents in electronic form, and a copy of the employment contract will be sent to him by registered letter. Also, a norm is introduced that allows, at the request of the employee, not to enter information about distance work in the work book. In this case, documents confirming the period of distance work will be copies of the employment contract and the order on the termination of the employment contract. Upon termination of employment, the Internet and electronic signature can be used to exchange documents, and a copy of the order on the termination of employment should be sent to the employer by regular mail.

There are significant differences between these types of remote work. The workplace can be organized at home, in a cafe or in specialized centers. In the labor market of freelancers, it is the latter that are gaining popularity. They are called coworking centers. In coworking centers, there is all the necessary infrastructure to do the work: connecting to the Internet (hereinafter referred to as the Internet) and electricity, food and rest areas, meeting rooms and directly the workplaces themselves. A prerequisite for remote employment is the presence of a remotely employed worker or freelancer desktop personal computer or mobile laptop. Currently, for the implementation of the workflow, mobile devices are gaining popularity: tablets and smartphones. In addition to technical means, the availability of broadband Internet access is urgent. When performing critical work, several Internet providers are used to make reservations. Specialized software for remote access to the information resources of the employer allows the employee to remotely perform almost all the tasks assigned, as if he was in the office at the working computer. At the same time, remote hiring to a certain extent depends on a smoothly functioning technology.

To solve the problem of communication between geographically distributed labor entities and for the effective interaction of remote personnel, specialized means of exchanging messages and video calls -corporate messengers are used. Their use can replace all other previously used means of internal communication.

Remote work implies that employees who perform their functions outside the office lose their corporate culture. Therefore, the company's management needs to ensure regular contact with employees in order to immediately eliminate the problems that arise and make sure that the instructions and process regulations for remote personnel are as clear and precise as possible. Talent management technologies (TMS) can help to cope with these problems, allowing to solve issues of training and development, achievement of goals, formation of competencies, performance management and career growth of employees. When organizing remote work, it is necessary to take into account information security aspects issues of organizing and conducting specific control over employees.

What are the benefits of remote work for staff:

- time saving;
- reduction of "road costs";

- there is no need to spend time on the road to work, a freer format for doing work, which increases the likelihood of creating non-standard solutions and new ideas;

- this type of work does not tie me to a certain place I can work anywhere and always be in touch; I myself dictate to myself the rules and regime of my working day;
- a flexible schedule, the ability to work at a convenient time and in a convenient place, there are no costs for transport and meals;
  - a flexible schedule, tasks / results are often written in text, saving time on transport;
- a flexible schedule, the ability to communicate with candidates, after their working day, the ability to sleep during the day;
- the possibility of independent planning of working time; the ability to control the nutrition of children, saving time and energy on the road;

The company's advantages in organizing remote work:

- the employee is more motivated;
- savings on office rent (in addition, I believe that the control of rational use of working time should take place according to the results of work, and not according to the time spent at the workplace);
  - foresight, good organization of personnel;
- less cost of technical support for employees, lower payroll due to the hiring of employees in the regions;
  - an element of employee motivation;
  - flexibility, employee loyalty, choice and greater efficiency;
  - saving workplace, electricity, people spend more time on work, reducing time for travel and lunch;
  - equal opportunities when working at home and in the office;
- performance, improving IT culture, the ability to adapt to the client, and not to your fixed work schedule;
  - the ability to hire more employees, and not pay for rent and organization of jobs;
  - lack of costs for the organization of the workplace, lower salary;
  - employee loyalty.

The benefits for the employee with the remote nature of employment are obvious: the ability to organize the work process at their discretion, a freer work schedule, no need to spend time and money daily to travel to and from work.

**Conclusion.** The main advantage for the employer with the remote nature of employment is the savings in the cost of renting office premises. The disadvantages include the difficulty of monitoring and managing employees.

However, in order to solve this problem, the employer needs to use a single task management system throughout the organization, which will not only track tasks assigned to the employee, but also determine the percentage of their completion. This system should be accessible through a Web server, and also have a simple user interface that is understandable to both remote employees and their managers. The task management system should have the following features: calendar support with the display of assigned tasks; the ability to automatically assign bonuses and penalties for the quick completion or non-fulfillment of tasks; the ability to attach graphic files to tasks, as well as sending notifications of assigned and completed tasks to e-mail or via SMS.

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### ЭКОНОМИКАЛЫҚ РАЦИОНАЛДЫҚ ФАКТОР РЕТІНДЕ ҚАШЫҚТАН ЖҰМЫС ІСТЕЙТІН ҚЫЗМЕТКЕРМЕН ӨЗАРА ТИІМДІ ҚАРЫМ-ҚАТЫНАС ҰЙЫМДАСТЫРУ

**Аннотация.** Қазіргі еңбек нарығы жылдам өзгеруде. Бүгінде бір-бірімен интеграцияланған, дамыған коммуникация мүмкіндіктері, басқару және басқару функциялары бар қарапайым пайдаланушыға түсінікті бағдарламалық жасақтама үлкен сұранысқа ие. Күнделікті тапсырмалар басқарудың барлық деңгейінде

автоматтандырылуда және ақпараттық технологиялар мен жасанды интеллекттің даму тенденциясы бизнестің барлық саласына және қатысушыларына жаһандық деңгейде ықпал етуде. Пандемия кезінде қашықтан жұмыс атқарудың маңыздылығы байқалуда және бұл дәстүрлі жұмыс орнынан тыс жерде жүргізілетін және телекоммуникациялық және ақпараттық технологиялар арқылы жұмыс берушімен өзара қарым-қатынас жұмыс үдерісін айқындайды. Көбіне бұқаралық ақпарат құралдары қызметкерлері (журналист, беттеуші, корректор, редактор), бағдарламашы, аудармашы, PR-менеджер, есепші, фотографтар және интернет-дүкендердегі кеңесші, байланыс орталығының қызметкерлері мен менеджерлер қашықтан жұмыс істейді. Алайда коронавирус әлемді үлкен карантиндік аймаққа айналдырды. Көптеген фирма жұмысшылары үйде отырып жұмыс атқарса, аталған үлгіні жүздеген компания қолдануда. Біз ауқымды эксперимент алдында тұрмыз: жұмыстың жаңа моделін сынап көретіндердің көпшілігі кеңсе нұсқасына қайтқысы келмейді. Түрлі компаниялар қашықтан жұмыс беру, атқару моделін сынақтан өткізуде. Біріншіден, қызметкерлердің өздері үй тапсырмасының артықшылығын сезініп, кеңсеге оралғысы келмейді. Екіншіден, бизнес иелері қызметкерлердің жалақы индексін және жалдамалы үй-жай мен коммуналдық қызметтерді үнемдей отырып, кеңседе қажетті деген қызметкерлерді қалдыруына болады.

Жұмыс беруші мен қызметкердің қашықтан жұмыс атқаруының өзіндік артықшылықтары мен кемшіліктері бар. Қазіргі жағдайда бұл жұмыс түрі тиімді болып саналатындықтан, әр жұмыс беруші ұйымның бағытын, қызметкерлер санаты мен компанияның алдында тұрған мақсаттарды шешуі тиіс. Авторлар қашықтан жұмыс істейтін қызметкерлермен өзара тиімді қарым-қатынас орнатудың жолдарын ұсынды. Қашықтан жұмыс беру сипатына жұмыс беруші үшін басты артықшылық саналатын – кеңсе, үйжайын жалдау құнының үнемделуі жатады. Қызметкерлерді бақылау және басқарудың қиындығы кемшілігіне кіреді.

Алайда бұл мәселені шешу үшін жұмыс беруші бүкіл ұйым бойынша тапсырмаларды басқарудың бірыңғай жүйесін қолдануы қажет, ол қызметкерге жүктелген міндеттерді қадағалап қана қоймай, олардың орындалу пайызын да анықтайды. Бұл жүйе веб-сервер арқылы қолжетімді болуы тиіс, сонымен қатар қарапайым жұмысшылардың интерфейсі болуы қажет, бұл жағдай қашықтан жұмыс атқаратын қызметкерге де, олардың менеджерлеріне де түсінікті. Тапсырмаларды басқару жүйесінің мынадай функциясы бар: берілген тапсырмаларды көрсету арқылы күнтізбелік қолдау; тапсырмаларды жылдам орындау немесе орындамағаны үшін бонустар мен айыппұлдарды автоматты түрде тағайындау мүмкіндігі; графикалық файлдарды тапсырмаларға тіркеу мүмкіндігі, сонымен қатар тапсырылған және аяқталған тапсырмалар туралы хабарламаларды электрондық поштаға немесе SMS арқылы жіберу мүмкіндігі.

**Түйін сөздер:** қашықтан жұмыспен қамту, қашықтан жұмыс істеу, қашықтан жұмыс істейтін қызметкер, ақпараттық технологиялар, онлайн-еңбек биржасы.

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### ОРГАНИЗАЦИЯ ЭФФЕКТИВНОГО ВЗАИМОДЕЙСТВИЯ С УДАЛЕННЫМ ПЕРСОНАЛОМ КАК ФАКТОР ЭКОНОМИЧЕСКОЙ РАЦИОНАЛЬНОСТИ

Аннотация. Современный рынок труда стремительно изменяется. Сегодня повышенным спросом пользуется интегрированное друг с другом программное обеспечение, понятное для рядового пользователя с развитыми коммуникационными возможностями, функциями управления и контроля. На всех уровнях управления автоматизируются рутинные задачи, а влияние тенденций развития информационных технологий и искусственного интеллекта на все сферы бизнеса и его участников становится глобальным. Листанционная занятость в условиях пандемии является актуальной и представляет собой рабочий процесс, осуществляемый вне традиционного места работы и предполагающий взаимодействие с работодателем посредством телекоммуникационных и информационных технологий. Чаще всего удаленно работают сотрудники средств массовой информации (журналисты, верстальщики, корректоры, редакторы), программисты, переводчики, пиарщики, бухгалтеры, фотографы, консультанты в интернет-магазинах, сотрудники колл-центров, менеджеры. Однако коронавирус превратил мир в большую карантинную зону. Многие фирмы отправили сотрудников работать из дома, этому примеру следуют сотни компаний. Мы на пороге масштабного эксперимента: большинство из тех, кто протестируют новую модель работы, не захотят возвращаться к офисному варианту. И многие компании уже тестируют модель удаленной работы. Во-первых, сами сотрудники, почувствовав преимущества домашней работы, не захотят возвращаться в офисы. А во-вторых, собственники бизнеса, соизмерив КРІ работников и экономию на аренде помещений и коммунальных услугах, могут оставить в офисе лишь самых необходимых сотрудников.

Преимущества и недостатки в применении и использовании удаленной работы есть как у работодателя, так и у работника. Насколько она эффективна в данном конкретном случае, решать каждому работодателю в зависимости от направления деятельности организации, категории персонала и целей, стоящих перед компанией. Авторами предложены пути эффективного взаимодействия с удаленным персоналом. Главным преимуществом для работодателя при дистанционном характере занятости является экономия расходов на аренду офисных помещений. К недостаткам можно отнести трудность контроля и управления за работниками.

Однако, чтобы решить данную проблему работодателю необходимо использовать единую систему управления задачами в рамках всей организации, которая позволит отслеживать не только порученные работнику задания, но и определять процент их выполнения. Данная система должна быть доступна через Web сервер, а также иметь простой пользовательский интерфейс, доступный для понимания как удаленным сотрудникам, так их руководителям. Система управления задачами должна иметь следующие возможности: поддержку календаря с отображением на нем поставленных задач; возможность автоматического назначения премий и штрафов за быстрое выполнение или невыполнение поставленных задач; возможность прикреплять к задачам графические файлы, а так же отправку уведомлений о назначенной и выполненной задаче на электронную почту или через SMS.

**Ключевые слова:** удаленная занятость, дистанционная работа, дистанционный работник, информационные технологии, онлайн биржа труда.

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### REFERENCES

- [1] Ledeneva I.Yu. Advantages and disadvantages of remote work // Young scientist. 2013. No. 2. p. 157-160. (in Russ.). URL https://moluch.ru/archive/49/6225/
- [2] The influence of macroeconomic factors to the dynamics of stock exchange in the Republic of Kazakhstan. Niyazbekova Sh.U., Grekov I.E., Blokhina T.K. Economy of the region. 2016. V. 12. № 4. p. 1263-1273. DOI: 10.17059/2016-4-26
- [3] Nechay N., Listkov V., Kurbatova V., Niyazbekova S. World Transactions on Engineering and Technology Education. 2018. V. 16. № 2. p. 186-192.
- [4] Nyussupova, G. The indicators of quality of life of regional development of astana city (2018) International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM, 18 (2.2), pp. 467-482. SJR=0.211.
- [5] Nyussupova, G. Socio-demographical indicators of an electronic atlas of socio-demographic development of the regions of the republic of Kazakhstan (2018) International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM, 18 (2.3), pp. 559-566. SJR=0.211.
- [6] Nyussupova, G., Kalimurzina, A., Kelinbayeva, R. Social and geographical research in the Republic of Kazakhstan with the use of GIS technologies (2017) European Journal of Geography, 8 (3), pp. 109-125. SJR=0.220.
- [7] Kenzhebayeva Zh.E., Sarieva A.M. Development of special mathematical and software systems analysis. NEWS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN. SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294, Volume 1, Number 323 (2019), 126–129. https://doi.org/10.32014/2019.2224-5294.19

## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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### BASES OF STATE SUPPORT OF INNOVATIVE ENTREPRENEURSHIP

**Abstract.** The problem, according to the authors, is that the development of a small innovative business is not facilitated by the complex and inadequate state system of regulation and support that is in need of entrepreneurs.

The aim of the article is to study the operating conditions of small enterprises - participants of innovation clusters and the rationale for measures to improve government support aimed at realizing the innovative potential of small businesses.

The methodological basis of the study is a systematic approach, methods of structural, subject, functional, statistical analysis, expert assessment method.

The main directions of increasing the efficiency of state support of small innovative enterprises include: optimization of the regulatory framework, improving the evaluation of the activities of state programs and development institutions, providing patent support and protection of copyright, improving models of financing innovative activities. State support should be implemented taking into account the needs of a small innovative enterprise at the stages of the life cycle.

**Keywords.** innovative enterprises; innovation cluster; governmental support; stages of the innovation business life cycle.

**Introduction.** The practice of economically developed countries indicates that the steady growth of the economy in the context of global economic competition is due to the high level of introduction of new technologies and developments into production. According to various estimates, from 70 to 100% of production growth in these countries today is achieved through the use of innovation. In this regard, we have studied the experience of state support of innovative activities abroad.

In economically developed countries, the state stimulates the development of innovation by creating the necessary economic, financial, organizational and regulatory conditions. Economic conditions include:

the allocation of direct public investment for the implementation of innovative programs and projects that are potentially important for the state, but not attractive to private investors;

the implementation of budgetary policies that provide financing for innovation;

Financial conditions include:

foreign economic support, including the provision of customs privileges for innovation projects included in state innovation programs.

development of foreign economic relations in the innovation sphere;

suppression of unfair competition;

revitalization of entrepreneurship;

development of high-tech products leasing;

promoting the modernization of technology;

providing various types of financial support, tax and customs benefits to domestic enterprises that are mastering and disseminating innovations;

ensuring effective employment in the innovation sphere;

implementation of tax and pricing policies that contribute to the growth of supply in the innovation market;

creating a favorable investment climate in the innovation sphere;

the provision of subsidies, soft loans, guarantees to domestic and foreign investors involved in innovation.

Organizational conditions include:

the formation and implementation of state, industry and regional innovation programs;

development of an innovation structure;

assistance in training, retraining and advanced training of personnel engaged in innovative activities;

information support of innovative activities (ensuring free access to information on the priorities of the state innovation policy, to materials on ongoing and completed innovation projects and programs, completed scientific and technical research, which may become the basis for innovation, etc.);

assistance to integration processes, expansion of interaction of regions in the innovation sphere, development of international cooperation in this field;

promotion of domestic innovative products in world markets;

protection of interests of domestic subjects of innovative activity in international organizations.

Regulatory legal conditions include:

the establishment of the legal framework for the relationship of subjects of innovation;

guaranteeing the protection of the rights and interests of subjects of innovative activity, including intellectual property rights.

In order to regulate innovation processes, the state provides both direct support for innovation and indirect support.

Direct state regulation of innovation is carried out on the basis of the selection of priority areas for the development of science and technology and the definition of a list of "critical technologies", targeted financing of projects from the state budget and co-financing of projects and programs implemented by non-state structures, the formation of innovation infrastructure, etc.

Indirect measures to stimulate innovation include the use of fiscal methods (preferential taxation, accelerated depreciation, regulation of individual markets, industries), legal regulation in the field of creation, transfer and protection of intellectual property, as well as the creation of favorable conditions for the activities of structures involved in the commercialization of scientific knowledge.

**Main part.** As world experience shows, the creation of favorable conditions for the development of innovation is a task, primarily of state regulatory bodies. Without a focused state innovation policy, it is impossible to ensure the sustainable development of the domestic economy. The role of the state is, first of all, to activate innovative processes in all areas of the country's economy.

R&D and innovation financing. As world experience shows, the development of innovation is directly related to the state of fundamental and applied science and the commercial demand for scientific and technological developments.

One of the indicators characterizing the attitude of the state towards scientific and technological progress is the amount of funding for science. So, in 2000, government spending on research and development amounted to: in the United States 246.2 billion dollars (2.9% of GDP), in Japan 94.2 billion dollars (3.0% of GDP), in Germany 45.8 billion dollars (2.35% of GDP), in France 28.0 billion dollars (2.25% of GDP), in Sweden 7.6 billion dollars (4.0% of GDP). It should be noted that the European Union recommends that all its members bring the level of investment in science to 2.5% of GDP. For comparison, in Russia this indicator in 2000 amounted to 2.2 billion dollars (1.09% of GDP), in Kazakhstan - 13.7 million dollars (0.08% of GDP). When calculated per capita, these costs amounted to 858 in the USA and Sweden, 747 in Japan, 536 in Germany, 480 in France, 64 in Russia, and 0.9 US dollars in Kazakhstan.

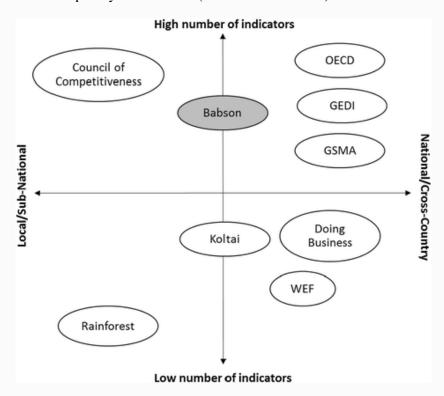
The methodology for choosing the priorities of innovative development and the methods of financing R&D and innovation in different countries are implemented differently, because they must comply with the strategic directions of state policy, which is constantly being adjusted with changes in both external and internal conditions of economic development.

Support for scientific and technological activities with an innovative focus by EU countries is carried out in accordance with the principles common to all market economy countries. The principle of complementarity (complementarity) in the provision of financial assistance is that priority is given to work aimed at filling the gaps in the technological development of the country. The principle of supporting pre-

competitive research and development is that the state subsidizes only the creation of a publicly available scientific and technical product, without violating the existing market relations between their firms.

Relevant support measures are carried out by various state bodies with the involvement of various agencies, credit and investment institutions. In France, support for innovation is concentrated in the areas of small and medium enterprises. Financial, organizational and informational support for innovative projects designed for industrial implementation is provided by the state agency, the founders of which are three ministries (industry, national education, science and technology, small and medium enterprises).

Whereas some studies / approaches are focused on the macro level, describing factors influencing the level of entrepreneurship on a national level, others are dealing with the micro level, focusing on interpersonal relationships and communities in smaller geographic areas (eg, cities or organizations). The Aspen Network of Development Entrepreneurs summarized the research that has been conducted in this new field of study so far and identified several studies developing an entrepreneurship ecosystem's assessment framework. In Figure 1, the different approaches are compared according to the geographic unit of analysis and the complexity of the model (number of indicators).



Entrepreneurship ecosystem assessment frameworks. Source: The Aspen Network of Development Entrepreneurs

Some of the models list an extensive list of indicators (OECD: 57 indicators, Asset mapping roadmap: 157 indicators), while others are more conceptual and allow more flexibility in assessing entrepreneurial ecosystems

Daniel Isenberg, leading the Babson Entrepreneurship Ecosystem Project, defines an entrepreneurship ecosystem as'n a set of networked institutions [...] with the objective of aiding the entrepreneur to go through all the stages of the process of new venture development. It can be understood as a service network, where the entrepreneur is the focus of action and the measure of success.

In the UK, budgetary funding for R&D is carried out through various channels – departments (ministries), each of which has in its budget funds for science, various specialized agencies (for example, space) and other organizations. Funding organizations are also seven research councils on the most important areas of science and technology. The councils have their own budgets and distribute funds between research institutions on a competitive basis, mainly in the form of grants.

State policy in this country is implemented through program-targeted financing of specific projects. The LINK program system is the main mechanism of state support for innovative cooperation between

industry and the research sphere. LINK's goal is to increase the competitiveness of the English industry and the quality of life of the population by supporting, within the framework of managed programs, precompetitive scientific and technical developments and stimulating investments by industrial enterprises in the continuation of work aimed at obtaining commercial products, efficient processes, and a high level of services. Within the framework of each program, joint research and development activities aimed at creating pre-competitive scientific and technical products designed for further development into a market product are supported. Industrial enterprises that are willing to invest in the commercialization of the results of work subsidized under LINK may receive additional support through relevant programs. LINK projects are funded on a shared basis. Up to 50% of funds are invested by government departments and scientific councils. Due to the interpectoral nature of most projects, usually several departments and scientific councils come together to finance a particular program. The remainder of the funds is provided by industry partners. Scientific institutions are paid all expenses.

In Germany, direct financial support for projects from the federal budget is carried out as part of targeted programs of the Federal Ministry of Education, Science, Research and Technology (BMBF). Support is being given to research and development of increased importance for the country as a whole, with the aim of raising the world level of domestic science and technology in selected areas. Preference is given to long-term research and development associated with significant risk, requiring serious costs, in the financing of which private capital also participates. This includes, in particular, cross-industry developments in the field of critical technologies.

The basic principles of program-targeted financing of research and development: -the content of the program must be precisely defined;

financial support is provided once;

The result should be open.

In the Netherlands, measures of state support to enterprises in the implementation of innovative projects are carried out by the Ministry of Economics through its agency SENTER. Amounts equivalent to \$ 400 million go through SENTER during the year. These funds are used to finance research and development within the framework of state programs in the field of energy supply and environmental protection, projects aimed at export development, as well as individual projects carried out by small and medium-sized industrial enterprises.

Of great interest to Kazakhstan are the principles that guide EU government bodies in carrying out specific activities to support innovation processes and the mechanisms used to implement them. First of all, this is due to the fact that the main task of the state in the field of innovation is to bridge the gap between the scientific, technical (knowledge provider) and industrial (user) spheres.

Also, Kazakhstan is also interested in the system of financing science established in the USA and Japan. In these countries, in contrast to European ones, only those works that are fundamental for the development of many industries are priority financed. This approach allows you to get away from spraying funds, concentrate on key areas and achieve significant results in a relatively short time. The fact that investment in the scientific and technological process as a whole increases the efficiency of the economy is convincingly shown by a comparison of the pace of development of Latin America and Southeast Asia. In Latin America, science costs typically account for less than 1% of GDP. And as a consequence of this is stagnation of production. At the same time, as a result of the state policy of stimulating R&D, some Southeast Asian countries got the opportunity to channel up to 2% of GDP to science, at some point, even surpassing the USA and Germany in this indicator. As a result, Malaysia has occupied its niche in the microprocessor market, Singapore in the software and biotechnology market, and South Korea in consumer electronics.

**Conclusion.** In addition, the practice of stimulating R&D with government guarantees by providing long-term loans for promising areas of research is widely used abroad. In the USA, in official government documents, investments in the scientific and technological sphere are even referred to as "investments in the future", and the field of R&D is considered as one of the most effective mechanisms for the implementation of strategic national goals.

Indirect economic measures of state regulation of innovations include a protectionism policy in the form of trade and currency regulation aimed at protecting and implementing innovations within the country. So, in 1987, under pressure from the US Electronic Industry Association, the Reagan

administration imposed a 100% tax on certain types of Japanese electronics imported into the US market, which was caused by an excess of 16% in the import of electronic products from Japan over American exports of related products.

France uses methods that encourage the export of innovation. The risky costs of firms establishing branches abroad over a period of six years can lead to a reduction in taxation. Thus, foreign experience indicates a variety of support measures and state regulation of innovation activities in order to achieve national interests.

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### ИННОВАЦИЯЛЫҚ КӘСІПКЕРЛІКТІ МЕМЛЕКЕТТІК ҚОЛДАУ НЕГІЗДЕРІ

**Аннотация.** Авторлардың пікірінше, шағын инновациялық бизнестің дамуына кәсіпкерлерге қажетті күрделі және жеткіліксіз мемлекеттік реттеу мен қолдау жүйесі ықпал етпейді.

Мақаланың мақсаты – инновациялық кластерлердің қатысушылары – шағын кәсіпорындардың жұмыс жағдайын және шағын бизнестің инновациялық әлеуетін іске асыруға бағытталған мемлекеттік қолдауды жақсарту жөніндегі шараларды зерделеу.

Зерттеудің әдіснамалық негізі – жүйелі тәсіл, құрылымдық, тақырыптық, функционалдық, статистикалық талдау әдістері, сараптамалық бағалау әдісі.

Шағын инновациялық кәсіпорындарды мемлекеттік қолдаудың тиімділігін арттырудың негізгі бағыттары: нормативтік-құқықтық базаны оңтайландыру, мемлекеттік бағдарламалар мен даму институттарының қызметін бағалауды жақсарту, патенттік қолдау мен авторлық құқықты қорғау, инновациялық қызметті қаржыландыру модельдерін жетілдіру. Мемлекеттік қолдау өмірлік цикл кезеңдерінде шағын инновациялық кәсіпорынның қажеттіліктерін ескере отырып жүзеге асырылуы керек.

Сайып келгенде, экономиканы түрлендірудің барлық шаралары бізге жалпы қосылған құнның жоғары деңгейі бар жоғары технологиялық өнімдер шығаруға, ғылыми зерттеулерді қолдауға және ғылыми әзірлемелер мен технологиялар трансфертін тиімді жүзеге асыруға мүмкіндік беретін тұрақты жүйе құрып, дамытуы қажет.

Қазақстандық кәсіпорындардың инновациялық белсенділігін басқа елдермен бірлескен жоғары технологиялық жобаларға қатысу арқылы арттыруға болады. Ғылыми-зерттеу тапсырыстарында жеке капиталдың үлесі аз елдерде және жаңа технологияларға, оның ішінде Қазақстанда да ғылымды, инновацияларды дамытуға және ілгерілетуге көп шығын жұмсайтын мемлекет болып саналады.

Шағын инновациялық бизнеске инвестициялау үдерісіне жеке капиталды тарту саясаты аясында мемлекет технопарктер туралы заң қабылдау және стратегиялық маңызды ғылыми және технологиялық салаларда венчурлік тәуекелдерді сақтандыруға мемлекеттің қатысуы арқылы бизнес-періштелік қаржыландыру жүйесін дамытуы керек; ірі бизнесті алғашқы инновациялық шағын компанияларға инвестициялау үдерісіне тартуға бағытталған шараларды іске асыру; экономиканың осы секторына капиталды аударуды жеңілдететін нормативтік, құқықтық, салықтық және имидждік артықшылықтар түрінде қолайлы жағдайлар жасау арқылы бизнес-инвестициялық сектордың дамуын ынталандыру; венчурлік қаржыландыру бойынша мемлекеттік қолдау шараларын ұсыну және ғылыми-техникалық саладағы инвестицияларды басқару мәселелерін шешу үшін барлық деңгейдегі менеджерлерді оқытуға көмек көрсету.

**Түйін сөздер:** инновациялық кәсіпорындар, инновациялық кластер, мемлекеттік қолдау, инновациялық бизнес өмірінің кезеңдері

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### ОСНОВЫ ГОСУДАРСТВЕННОЙ ПОДДЕРЖКИ ИННОВАЦИОННОГО ПРЕДПРИНИМАТЕЛЬСТВА

**Аннотация.** Проблема, по мнению авторов, заключается в том, что развитию малого инновационного бизнеса не способствует сложная и неадекватная потребностям предпринимателей государственная система регулирования и поддержки.

Целью статьи является исследование условий функционирования малых предприятий – участников инновационных кластеров и обоснование мер по совершенствованию государственной поддержки, направленной на реализацию инновационного потенциала малого предпринимательства.

Методологическую основу исследования составляют системный подход, методы структурного, предметного, функционального, статистического анализа, метод экспертных оценок.

К основным направлениям повышения эффективности государственной поддержки малых инновационных предприятий отнесены: оптимизация нормативно-правовой базы, совершенствование оценки деятельности государственных программ и институтов развития, обеспечение патентной поддержки и защиты права авторства, совершенствование моделей финансирования инновационной деятельности. Государственная поддержка должна реализовываться с учетом потребностей малого инновационного предприятия на стадиях жизненного цикла.

В конечном счете, все мероприятия по трансформации экономики должны привести к созданию и развитию стабильной системы, которая позволяет выпускать высокотехнологичную продукцию с высоким уровнем валовой добавленной стоимости, поддерживать научные исследования, способствует эффективному внедрению научных разработок, трансферту технологий.

Повышение инновационной активности казахстанских предприятий возможно за счет участия в совместных наукоемких проектах с другими странами. В странах же с низкой долей участия частного капитала в заказах на НИОКР и незначительном спросе на новые технологии, в том числе в Казахстане, именно государство осуществляет большую часть расходов по развитию науки, разработке и продвижению инноваций.

В рамках политики вовлечения частного капитала в процесс инвестирования малого инновационного бизнеса государству следует развивать систему венчурного и бизнес-ангельского финансирования за счет принятия закона о технопарках, участия государства в страховании венчурных рисков в стратегически важных научных и технологических направлениях; реализации мер, направленных на вовлечение крупного бизнеса в процесс инвестирования в малые инновационные компании ранних стадий; стимулирования развития сектора бизнес-ангельского инвестирования за счет создания благоприятных условий в виде наличия нормативных, правовых, налоговых и имиджевых преимуществ, способствующих перемещению капитала в этот сектор экономики; обеспечения государственных мер поддержки венчурного финансирования и помощи в подготовке менеджеров всех уровней для решения задач управления инвестициями в научно-технической сфере.

**Ключевые слова:** инновационные предприятия; инновационный кластер; государственная поддержка; стадии жизненного цикла инновационного бизнеса.

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### REFERENCES

- [1] On amendments to some legislative acts of the Republic of Kazakhstan on the expansion of the academic and managerial independence of higher education institutions: Law of the Republic of Kazakhstan dated July 4, 2018 No. 171-VI. [Electronic resource]. Access mode: https://online.zakon.kz/document/?doc id=39633866#pos=1.
- [2] Лухманова Г. К., Габдуллина Р. Ж., Сыздыкбаева Н. Б. Государственная поддержка инновационного предпринимательства в Республике Казахстан // Молодой ученый. 2016. №7. С. 892-895.
- [3] Sayabaev K.M., Zhansagimova A.E. Finance, franchise and their impact on tourism. Journal of internet banking and commerce. (http://www.icommercecentral.com), december 2016, vol. 21, no. 3
- [4] Sanalieva L.K., Kengzhegalieva G.B., Idelbayeva A.S., Niyazbekova Sh.U. Investigation of modern economic mechanisms for construction of the intellectual potential of the country as a moving factor of innovative economic development. BULLETIN OF NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN ISSN 1991-3494, Volume 5, Number 375 (2018), 144–148, https://doi.org/10.32014/2018.2518-1467.19

## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# THE CURRENT STATE AND DEVELOPMENT PROSPECTS OF THE AGRO-INDUSTRIAL COMPLEX OF THE REPUBLIC OF KAZAKHSTAN

**Abstract.** The development of agribusiness in Kazakhstan is a promising task and is associated with the creation of technological systems for storage and processing of agricultural raw materials in the production of environmentally friendly, competitive food products of general and special purpose based on modern achievements of nano-, biotechnology.

The solution to the problems of the development of the agro-industrial complex is determined by the level of financing, mainly from the state budget, which should be carried out on the basis of the principles of strategic planning, on the basis of concentration on the essential and priority directions of increasing the competitiveness of agriculture and ensuring food security.

Keywords: agriculture, agribusiness, sustainable development, technology, livestock, crop production.

Introduction. Kazakhstan retains its dynamism to solve the existing structural problems that arose in the process of transition to a market economy, when agriculture was on the sidelines of reforms and began to receive serious support only at the beginning of the new century. Agriculture is one of the key sectors of the economy of Kazakhstan. The level of development of the agricultural sector has always been and continues to be a determining factor in the economic and socio-political stability of Kazakhstani society. Being one of the priority areas for the development of the economy of the republic, agriculture has enormous potential and large reserves, and the diverse climatic conditions of Kazakhstan make it possible to grow almost all cultures of the temperate thermal zone and develop animal husbandry. Agriculture in Kazakhstan is characterized by such features as a large area and small population, geographical distance from markets and lack of access to the sea. Naturally, this path full of changes and hardships was not easy and not without losses, but thanks to the transition to a market management model, the agricultural sector has become an economically attractive industry.

**Main part.** Agriculture is the most important sphere of the world economy, which is a complex of industries (agriculture, animal husbandry, fishing, forestry, fisheries) related to the development (collection, production) of plant and animal resources.

In addition, crop production in developing countries is divided into commodity (intended for export) and consumer (for domestic consumption). Developing countries have high hopes for the "green revolution" - the process of industrialization of agricultural production. The main directions of the "green revolution" are: mechanization and chemicalization of agricultural production; cultivation of high-yielding varieties of cultivated plants

In particular, US agriculture not only provides the population with basic food and raw materials, with the exception of some crops grown in the tropical zone (such as coffee, cocoa, bananas), but also provides large export surpluses. The United States ranks first in the world in the export of agricultural products, giving over fifteen percent of it (in value). Their share is especially great in world trade in the most important food and feed crops - wheat, corn, soy, and also fruits. The export of agricultural products from the United States is several times greater than their import. At the same time, the share of agriculture in the country's GNP is small and, moreover, is gradually decreasing; currently it does not make up 3%.

Agriculture employs less than 4% of the economically active population. However, these figures do not provide a complete and objective idea of the importance of US agriculture both for the country itself and for the whole world.

Thus, in order to increase production and increase export volume, Kazakhstan needs to determine the main priorities in the grain sector and take measures to form a sound export product range, a rational market model, and develop a long-term targeted state program.

It is advisable to strengthen government regulation of the grain market and develop a unified strategy for grain export using the experience of the main grain exporting countries, especially Canada and Australia, where wheat is the main export crop. The state should establish its influence on the export policy of market entities. In the event of a sharp increase in prices for food wheat and mass, uncontrolled export of grain outside the republic, in order to stabilize prices on the domestic market and ensure food security, it is necessary to introduce quotas for the export of grain and flour.

The tenth paragraph of the message of the head of state says: "The agricultural sector of Kazakhstan has great export opportunities and high potential for introducing innovations. The need for food every year in the world will increase. We must not miss this opportunity. The state provides tremendous assistance to agriculture. We should develop and implement a state system of guarantee and insurance of loans to reduce the risks of private investment in agricultural production. Alternative ways need to be found to increase farmers' access to finance.

The state needs to organize and structure the grain industry, create a single grain holding. It is necessary to intensify the implementation of the project to develop the export potential of meat production. I instruct the Government to ensure the development of programs for the development of other branches of animal husbandry, including sheep breeding, as well as fodder production and livestock distillation.

Table 1 - SWOT analysis of agricultural sectors

#### Strengths Weaknesses Kazakhstan occupies the ninth place in the world in terms low share of agricultural products in the country's GDP (4.8%); of the area; Kazakhstan occupies the second place in the low labor productivity amid a high share of employed (18% of world in terms of arable land per capita; the presence of the employed population) and a large rural population (43% of 1.4 million hectares of irrigated land; Kazakhstan is one the total population); low share of exports; underdeveloped trade of the largest exporters of grain and flour; growing and logistics infrastructure and the practical lack of electronic demand for food products in neighboring countries (CIS, commerce; low level of technology transfer; scientific research is poorly focused on the needs of agricultural production; the Central Asia, China) practical lack of private funding for research and technology transfer; insufficient level of veterinary, phytosanitary and food safety; high capital intensity; long payback period; insufficient financing of the agro-industrial complex, including the lack of "cheap and long" money; dependence on climatic conditions; limited water resources and the formation of 44% of runoff in the territory of neighboring states; low level of competitiveness and profitability of agribusiness entities; in the total volume of production, a high share is occupied by uncompetitive lowquality products produced by personal subsidiary plots Opportunities Threats increase in production for all types of agricultural instability of weather conditions, adverse changes in natural and products; creating conditions for the introduction of climatic conditions, lack of water resources; the spread of technologies and attracting investments, including largediseases of animals and plants, environmental pollution; scale digitalization of the agricultural sector; expanding increased competition in international markets for certain types the geography of supplies and export volumes for of products in connection with the entry into the WTO, EAEU; promising sectors; high potential for production and risk of inefficient government regulation of the industry export of organic products; increase the area of irrigated land and increase their efficiency; creation of conditions for turning agricultural science into a driver of increasing labor productivity and competitiveness of agribusiness sectors; deep processing of eggs and obtaining liquid and powder products

The main challenges in the poultry industry are:

- Lack of breeding and genetic centers. Currently, Kazakhstan lacks the required number of breeding centers and breeding plants, which in turn has led to the use of imported breeding material by poultry farms for the production of meat and eggs in the republic.
- Weak feed base. Despite the fact that Kazakhstan is a grain producer and one of the world's largest exporters of flour, its feed industry is not sufficiently developed. Compound feeds produced by enterprises do not meet the quality requirements of existing poultry farms. Feed mills are located in various regions of the country, and the lack of competition in this area makes them monopolists in the feed industry, that is, they set their prices for products. /5.2/. As a result, feed prices are rising, and government subsidies to farmers, taking into account annual inflation, are not enough to reduce production costs.
- One of the reasons for the low competitiveness of domestic breeding products is associated with an unsatisfactory material and technical base and the capacity of breeding enterprises. Tribal plants with their small numbers cannot supply large quantities of breeding material for modern holdings.
- A narrow range of products by poultry industry enterprises. In this case, it is necessary to expand the poultry market on the basis of improving the quality and expanding the range of products, due to increased demand and an increase in the level of culture and the desire for rational nutrition by the country's population.
- According to preliminary data, in 2019 the gross output of livestock products in the republic amounted to 2,306 billion tenge, which is 12.5% more than the level of the corresponding period of the previous year.
- The number of cattle (cattle) increased by 4% to 7.4 million heads, horses by 6.8% to 2.8 million heads, poultry by 2% to 44.3 million heads, sheep by 2, 7% to 16.9 million heads, camels by 3.5% to 214.8 thousand heads, pigs by 2.9% to 822.2 thousand heads.
- Production in slaughter weight of poultry meat increased by 16% to 223 thousand tons, beef by 5% to 501.4 thousand tons, horse meat by 4.3% to 132 thousand tons, lamb by 0.8% up to 152 thousand tons, pork 0.3% to 86 thousand tons.

In 2019, 115.7 billion tenge was allocated to subsidize the development of livestock breeding and increase the productivity of the industry. 840 family farms received loans for the purchase of 82.2 thousand head of cattle.

The implementation of the agreement on the principles of participation in the development of the modern agro-multi-protein industry in Kazakhstan, signed in December 2019 with the American company Tyson Foods, will give a great impetus to the development of livestock farming. At the first stage, it is planned to build in Kazakhstan a modern meat processing complex with a capacity of about 2 thousand heads per day. The enterprise will not only meet the needs of the Kazakhstani market, but also export products to foreign markets, helping to ensure the country's annual agricultural profit of more than \$ 1 billion.

The meeting participants discussed measures to increase the number of livestock, its productivity, ensure the loading of feedlots and strengthen the forage base.

The purpose of state support for investments is to create a favorable investment climate for the development of the economy and stimulate investment in the creation of new ones, expansion and updating of existing industries using modern technologies, advanced training of Kazakhstani personnel, and environmental protection. The following types of investment preferences are provided for an investment project:

exemption from customs duties and value added tax on imports; state in-kind grants - the maximum amount of a state in-kind grant is not more than thirty percent of the volume of investments in fixed assets of a legal entity of the Republic of Kazakhstan (land, buildings, structures, machinery and equipment, computing machinery, measuring and regulating instruments and devices, vehicles (excluding passenger cars), industrial and economic inventory).

tax preferences: corporate income tax; land tax; property tax; investment subsidy; exemption from customs duties; state in-kind grants.

Long-term sectoral agro-industrial development programs until 2027:

1. Beef cattle breeding;

Based on the analysis and comparison of the potential of foreign markets and domestic production capabilities, the main long-term priority for the development of the agro-industrial complex is meat farming.

The adopted model is based on the traditions of nomadic distant livestock breeding and the competitive advantages of Kazakhstan:

- 180 million hectares of pastures (of which 58 million hectares are used);
- 3.8 million people of able-bodied rural population (of which 1.3 million people are employed in agriculture);
  - proximity to major growing markets with total imports of more than 2 million tons per year;
  - 2. Dairy farming;

Increased production of dairy products, protection of the domestic market, reduction of biosafety risks through state support: reduction of% on loans, extension of financing terms and indirect subsidies.

3. Poultry farming;

Export growth of poultry meat and eggs to 150 thousand tons and 1,500 million pcs. accordingly, through the improvement of existing mechanisms of state support.

4. Irrigated lands;

Efficient use of pastures, increasing the volume of irrigated pastures for the development of feed production.

5. Crop production;

Developed crop production has unlimited potential for the development of the forage base, including on irrigated lands (by 2021, the area of irrigated lands will be increased to 2 million hectares, by 2030 - up to 3 million hectares).

**Conclusion.** The problem of any agro-industrial formation is related to developing a mechanism of economic relations between processing enterprises and suppliers of agricultural raw materials, which reduces to determining the contribution of agricultural producers (suppliers of raw materials) to the final result, that is, what share they take in the proceeds from the sale of products of the processing enterprise to wholesale or selling prices.

To create legal conditions conducive to the development of cooperation, state support is needed - financing of programs for the development of integration and cooperation, soft loans and flexible taxation of agricultural producers.

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## ҚАЗАҚСТАН РЕСПУБЛИКАСЫ АГРОӨНЕРКӘСІПТІК КЕШЕНІНІҢ ҚАЗІРГІ ЖАҒДАЙЫ ЖӘНЕ ДАМУ ПЕРСПЕКТИВАЛАРЫ

**Аннотация.** Ауылшаруашылығы кез келген мемлекет экономикасының маңызды салаларының бірі болып саналады. Бұл адамға өміріне маңызды өнім – негізгі тамақ өнімдері мен тұтыну тауарларын өндіруге арналған шикізат береді. Қазіргі жағдайда елдің агроөнеркәсіптік кешенінің дамуы әртүрлі. Бір жағынан, оң нәтиже де байқалады, бірқатар салаларда өндіріс көлемі өскен, ал пайдамен жұмыс істейтін кәсіпорындар саны ұлғаюда. Екінші жағынан, жағымсыз үдерістер оң өзгерістерге қарағанда басым және әлі де даму үстінде, бұл жалпы саладағы жағдайды экономикалық даму мақсатына сәйкес келмейтін күрделі деп бағалауға мүмкіндік береді. Бұл жағдай елдің азық-түлік еркіндігінен айырылу қаупіне әкелді.

Ферма белсенділігі қарқынының төмендеуінің басты себебі, біздің ойымызша, шағын фермалардың нарықтық инфракұрылымға қол жеткізуде ірі кәсіпорындармен салыстырғанда бәсекеге қабілетсіздігінде. Процессорлар, сатып алушылар, қаржы институттары ірі өндірушілермен жұмыс істеуді жөн көреді, өйткені бұл олардың транзакциялық шығынын азайтады. Фермаларға және басқа ұсақ тауарлы фермаларға қатысты олар нағыз монополистер (немесе монопсонистер) ретінде әрекет етеді. Біздің облыстағы агроөнеркәсіптік кешенді дамыту мәселелерінің қатарында мыналарды атап өту керек: аймақта өндірілген ауылшаруашылық өнімдерін сақтау, логистика және қайта өңдеу қабілетінің жеткіліксіздігі; ауылшаруашылық техникаларының тозуының жоғары деңгейі; ауылшаруашылық ғылымының тәжірибесіне енгізілген инновациялық технологиялардың жеткіліксіздігі, сондай-ақ тиімді ақпараттық желілердің және тұтастай алғанда агроөнеркәсіптік консалтинг жүйесінің ауылшаруашылық өндірісіндегі инновацияларды кеңінен таратудың

тетігі ретінде; жоғары білікті мамандардың жетіспеушілігі. Өкінішке орай, агроөнеркәсіптік кешендегі еңбекке ақы төлеудің төмен деңгейі, ауылшаруашылық кәсіпорындардың қаржылық тұрақсыздығы, шешілмеген әлеуметтік мәселелер, климаттық және экологиялық жағдайларға тәуелділік және басқа да себептер ауылдық жерлердегі мамандарды тартуға және ұстап қалуға ықпал етпейді.

Ішкі азық-түлік нарығында импортты алмастыру процестеріне мемлекеттік қолдаудың артуы және ауылшаруашылық өнімдері мен тамақ өнімдерінің экспортын ынталандыру жағдайында агроөнеркәсіптік кешеннің тұрақты даму болашағы артып келеді. Агроөнеркәсіптік кешенде ауылшаруашылығы мен өңдеуші өнеркәсіптің интеграциялық процестері, ауылшаруашылық тұтынушылар кооперациясын қалыптастыру, қайта өңдеу кәсіпорындарының шикізат аймақтары, агроөнеркәсіптік кластерлер одан әрі дамиды. Көтерме сату жүйесін дамытуға, ауылшаруашылық өнімдерін өңіраралық және халықаралық нарықтарға жылжытуға ерекше көңіл бөлінеді.

Қазақстанда агробизнесті дамыту перспективалы міндет болып саналады және қазіргі заманғы нано, биотехнологияның жетістіктеріне негізделген жалпы және арнайы мақсаттағы экологиялық таза, бәсекеге қабілетті тамақ өнімдерін өндіруде ауылшаруашылық шикізатын сақтау мен қайта өңдеудің технологиялық жүйесін құруға байланысты.

Шағын өндірушілердің жұмысы туралы айта отырып, соңғы жылдары өндірістің экономикалық тиімділігі шаруа (фермер) қожалықтарында да, ауылшаруашылық ұйымдарда да артып келе жатқанын атап өткен жөн. Дегенмен, шаруа (фермер) қожалықтарында жерді пайдалану тиімділігі ұжымдық кәсіпорындарға қарағанда 1,6-1,7 есе, ал жеке қосалқы шаруашылықтарға қарағанда 12-18 есе төмен. Дамудың әлсіз динамикасына қарамастан, шаруа (фермер) қожалықтары барлық ауылшаруашылық құрылымдарының тұрақтылығының маңызды факторы болып саналады, ауылды қосымша жұмыс орындарымен қамтамасыз етеді, жұмыспен қамту көрсеткіштерін жақсартады, өндіріс процесіне зейнеткерлер мен жасөспірімдерді тартуға ықпал етеді, ауылдағы жұмыссыздық деңгейін төмендетеді және шаруалардың өмір салтын сауықтырады, өмір сүруге құқылы жас ұрпақты еңбекке тәрбиелеу мәселесін шешеді.

Агроөнеркәсіптік кешенді дамыту мәселелерін шешу, негізінен мемлекеттік бюджеттен қаржыландырылу деңгейі негізінде анықталады, оны стратегиялық жоспарлау қағидаттары арқылы, ауылшаруашылығының бәсекеге қабілеттілігін арттырудың және азық-түлік қауіпсіздігін қамтамасыз етудің маңызды және басым бағыттарына шоғырландыру негізінде жүзеге асырылуы керек.

**Түйін сөздер:** ауылшаруашылығы, АӨК, тұрақты даму, технологиялар, мал шаруашылығы, өсімдік шаруашылығы.

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### СОВРЕМЕННОЕ СОСТОЯНИЕ И ПЕРСПЕКТИВЫ РАЗВИТИЯ АПК РК

Аннотация. Сельское хозяйство является одной из важнейших отраслей экономики любого государства. Оно дает жизненно необходимую человеку продукцию: основные продукты питания и сырье для выработки предметов потребления. В современных условиях развитие АПК страны происходит неоднозначно. С одной стороны, имеют место положительные результаты: наметился рост производства в ряде отраслей, растёт количество предприятий, работающих с прибылью. Но с другой стороны, остаются и продолжают развиваться негативные процессы, которые преобладают над положительными сдвигами, что в целом позволяет оценить положение в отрасли как сложное, не отвечающее задачам развития экономики. Это подвело страну к опасности потерять продовольственную независимость.

Основная причина снижения темпа роста фермерской деятельности, на наш взгляд, заключается именно в том, что мелкие хозяйства оказались неконкурентными по сравнению с крупными предприятиями в доступе к рыночной инфраструктуре. Переработчики, заготовители, финансовые институты предпочитают иметь дело с крупными производителями, так как это сокращает их трансакционные издержки. По отношению к фермерским и другим мелкотоварным хозяйствам они выступают как истинные монополисты (или монопсонисты). В числе проблем развития АПК нашего региона также следует назвать: недостаточный объем мощностей хранения, логистики и переработки произведенной в регионе сельскохозяйственной продукции; высокий уровень износа сельскохозяйственной техники; недостаточное количество внедренных инновационных технологий в практику агроведения, а также отсутствие эффективных информационных сетей и, в целом, системы сельскохозяйственного консультирования в качестве механизма полномасштабного распространения инноваций в сельскохозяйственном производстве; недостаток в высококвалифицированных специалистах. К сожалению, низкий уровень оплаты труды в сельскохозяйственной отрасли, финансовая нестабильность сельскохозяйственных предприятий, нерешенность социальных вопросов,

зависимость от климатических и природных условий и многие другие причины не способствуют привлечению и удержанию специалистов на селе.

В условиях усиления государственной поддержки процессов импортозамещения на отечественном продовольственном рынке и стимулирования экспорта сельскохозяйственной продукции, продовольствия возрастают перспективы стабильного развития агропромышленного комплекса. В агропромышленном комплексе дальнейшее развитие получат процессы интеграции сельского хозяйства и перерабатывающей отрасли, становления сельскохозяйственной потребительской кооперации, формирования сырьевых зон перерабатывающих предприятий, агропродовольственных кластеров. Особое внимание предусматривается уделить развитию оптово-распределительной системы, продвижению продукции агропромышленного комплекса на межрегиональные и международные рынки.

Говоря о результативности деятельности мелких производителей, следует отметить, что в последние годы экономическая эффективность производства продукции растёт как в крестьянских (фермерских) хозяйствах, так и в сельскохозяйственных организациях. Тем не менее, эффективность использования земли в крестьянских (фермерских) хозяйствах всё же в 1,6-1,7 раза ниже, чем в коллективных предприятиях и в 12-18 раз ниже, чем в личных подсобных хозяйствах. Несмотря на слабую динамику развития, крестьянские (фермерские) хозяйства остаются важным фактором стабильности функционирования всего сельского хозяйства, обеспечивают село дополнительными рабочими местами, улучшают показатели трудовой занятости, способствуют вовлечению в производственный процесс пенсионеров и подростков, снижают уровень безработицы в сельской местности, оздоравливают крестьянский уклад, решают проблему трудового воспитания подрастающего поколения и, следовательно, имеют право на существование.

Развитие АПК В РК составляет перспективную задачу и связано с созданием технологических систем хранения и переработки сельскохозяйственного сырья при производстве экологически безопасных, конкурентоспособных пищевых продуктов общего и специального назначения на основе современных достижений нано-, биотехнологий. Решение проблем развития АПК обусловлено уровнем финансирования, в основном из государственного бюджета, которое должно осуществляться исходя из принципов стратегического планирования, на основе концентрации на существенных и приоритетных направлениях повышения конкурентоспособности сельского хозяйства и обеспечения продовольственной безопасности.

**Ключевые слова**: сельское хозяйство, АПК, устойчивое развитие, технологии, животноводство, растениеводство.

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### REFERENCES

- [1] Lashchenko N. S. Practical recommendations for the development of eco-agritourism in the Russian province. The output of the project. M., 2004. URL: http://www.rustowns.ru. (access date 05/21/13)
- [2] Zhansagimova A.E., Dogaov A.N., Otemaratovna T.B., Doshan A.S. Innovation, investing, economics and tourism. Life Science Journal. Innovation, investing, economics and tourism. (ISSN:1097-8135); №11(11s), 2014C. 550-555
- [3] Djumabekova A.T., Sabirova R.K., Bizhanov D.T., Bayadilova B.M., Zhansagimova A.E. Innovation in the use of fuel and energy resources of the country. N E W S OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294, Volume 2, Number 324 (2019), 185–189. https://doi.org/10.32014/2019.2224-5294.66
- [4] Sayabaev K.M., Zhansagimova A.E. Finance, franchise and their impact on tourism. Journal of internet banking and commerce. (http://www.icommercecentral.com), december 2016, vol. 21, no. 3
- [5] Seisenbinova A.A., Sayabaev K.M., Zhansagimova A.E. Management of sustainable development of rural territories as an innovative factor of economic growth of Kazakhstan. N E W S OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294. Volume 2, Number 324 (2019), 202–207. https://doi.org/10.32014/2019.2224-5294.69
- [6] Nyussupova, G., Kalimurzina, A., Kelinbayeva, R. Social and geographical research in the Republic of Kazakhstan with the use of GIS technologies (2017) European Journal of Geography, 8 (3), pp. 109-125. SJR=0.220.
- [7] Nyussupova, G., Kalimurzina, A. The dynamics of sex-age structure of the population in urban and rural areas in the Republic of Kazakhstan in the years 1991-2013 (2016) Bulletin of Geography, 31 (31), pp. 87-111. SJR=0.277.

## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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### USE OF THE INTERNATIONAL EXPERIENCE OF ANTI-CRISIS MANAGEMENT OF ENTERPRISES IN THE REPUBLIC OF KAZAKHSTAN

**Abstract.** The theoretical and practical aspects of the formation of professional anti-crisis management of enterprises in the Republic of Kazakhstan and the use of international experience in cooperation of state bodies with self-regulating organizations in the field of bankruptcy are considered in the article. Existing discrepancies call for a new and adequate theoretical and conceptual foundations of anti-crisis state economic regulation and implementation of applied mechanisms of promoting the economic growth and increasing the base of growth through stimulating the direction of financial flows to development of domestic commodity production by means of taxation and regulation of the financial services sector, implementing the concept of import substitution by creating additional demand for domestic products, including through public procurement and implementation of mechanisms of attracting capital from temporary financial instability areas.

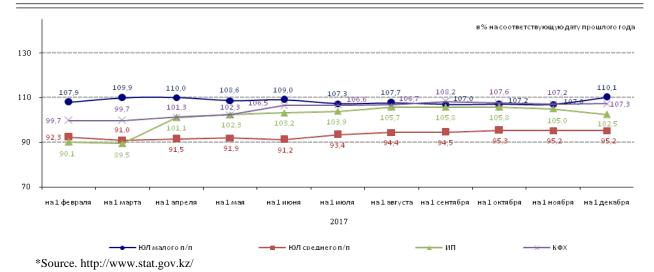
**Keywords:** crisis management, bankruptcy institute, crisis management of enterprises, macroeconomic state strategy.

**Introduction.** Currently, the problems of crisis management remain relevant, since the existence of socio-economic systems has always been a cyclical process, which is characterized by the regularity of the onset and resolution of crises.

In the scientific literature, a crisis always presents an extreme aggravation of contradictions in the socio-economic system (enterprise), threatening its resilience in the environment. As a rule, a crisis can be considered as the next stage in the development of the socio-economic system, which is necessary to eliminate tensions and the resulting imbalance.

In this regard, the institution of bankruptcy comes to the forefront, which implements a macroeconomic state strategy, thereby helping to maintain the existing production potential of the state and is a creating force.

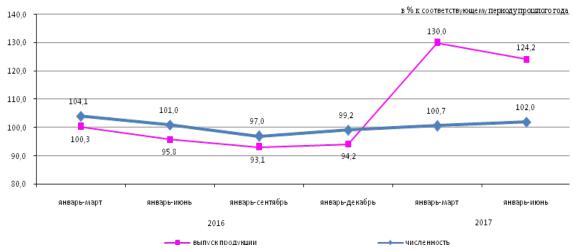
Nevertheless, the experience of Kazakhstan shows that most business entities practically do not see in the bankruptcy procedure the main mechanism for improving the situation. In recent years, only 2 to 5% of insolvent debtor enterprises undergo a rehabilitation procedure, mainly many of them self-destruct. Actual data for the last year only confirm a similar trend. In the total number of SMEs, the share of individual entrepreneurs was 65.4%, legal entities of small business - 18%, farms or farms - 16.4%, legal entities of medium-sized enterprises - 0.2%. (figure 1).



Nevertheless, according to official statistics of the CPV MF RK as of 01.12.2017 in the republic of all insolvent enterprises that ended up in lawsuits:

- 184 business entities are at the rehabilitation stage, which is only 5.7% of their total number;
- 1897 business entities at the liquidation stage about 75% of the total number,
- and only 508 business entities were liquidated through the use of bankruptcy proceedings 19% of the total.

In addition, on figure 2 we can see a change in the main indicators of the activity of small and medium-sized enterprises in the Republic of Kazakhstan, indicating a decrease in their output.



\*Source http://www.stat.gov.kz/

In accordance with what, the question arises, why the tasks of the Bankruptcy Institute are not realized? In our opinion, it is necessary to focus on the existing problems of the effective use of crisis management in the Republic of Kazakhstan:

- 1) the problem of forming a positive attitude of society to the procedures of the institution of insolvency (bankruptcy);
- 2) the problem of creating a system for regulating the activities of managers in insolvency proceedings;
  - 3) the problem of the professional activities of crisis managers.

The establishment of goals and objectives of management in the field of insolvency of this institution is facilitated by a clear understanding of the terminology used in this field. The main reason for the negative attitude of society and business structures is a misunderstanding of the concept of "bankruptcy" due to its ambiguity, distortion in understanding the problem of crisis management of an enterprise.

In the Republic of Kazakhstan, in practice, the understanding of "bankruptcy" has become widespread only as a procedure for the liquidation of a debtor, thereby causing a negative attitude towards it from society and enterprises, as initially, the phrase "crisis management" was translated from English into Russian as "crisis management". What caused a negative connotation, since the definition of "crisis" was supplemented by the prefix "anti". And accordingly, this contributed to the distortion of the essence of the crisis management problem, thereby causing a negative attitude.

In Western countries, the object of "crisis management" is the crisis itself as a situation or process and does not appear to be something that inevitably leads to disaster. Whereas in the countries of the post-Soviet space, including the Republic of Kazakhstan, the object of crisis management is considered to be an enterprise that is undergoing a crisis or that it threatens, seems like a deadly threat.

Thus, in the concept of "crisis management" ("crisis management"), the key term is "crisis" and the content of crisis management directly depends on what content is embedded in its concept.

The term "crisis management" arose relatively recently. It is believed that the reason for its appearance is the reform of the Kazakhstani economy, the gradual entry of Kazakhstan into the zone of crisis development. Not many expected that the result of the reforms would be a crisis, but many today realize that only a qualitatively new type of management can lead the economy out of the crisis, which would help solve two interrelated problems - recognition of the crisis and its prevention.

In the concept of crisis management, in recent years, the methods of crisis management and enterprise risk management have been used more and more closely in the world practice, while a crisis is considered to be an emerging or developing dangerous unstable situation that requires an immediate response, and any probable threat is considered a risk.

Hence it can be stated that the area of crisis management is expanding, while preference is given to crisis prevention, namely, the preventive implementation of measures to prevent risks. The term "crisis management" arose relatively recently. It is believed that the reason for its appearance is the reform of the Kazakhstani economy, the gradual entry of Kazakhstan into the zone of crisis development. Not many expected that the result of the reforms would be a crisis, but many today realize that only a qualitatively new type of management can lead the economy out of the crisis, which would help solve two interrelated problems - recognition of the crisis and its prevention.

The crisis management system includes: risk assessment of potential crises, measures to reduce the likelihood of crises, development of crisis management plans, identification of signs of crisis development, liquidation of the consequences of crises and prevention of crises in the planned future. The typology of crisis management of enterprises used in Western countries distinguishes two main large groups:

- corporate crisis management carried out within the framework of the corporate or Civil Code and is not regulated by any special regulatory acts;
  - crisis management in the procedures of insolvency of enterprises, namely bankruptcy.

Unfortunately, the main focus of anti-crisis management on overcoming the crisis and eliminating its consequences still remains in the economy of the Republic of Kazakhstan.

In our opinion, only a correct understanding of the essence of the institution of bankruptcy can contribute to the formation of a positive attitude of society to bankruptcy as a natural economic process that contributes to the recovery of the country's economy.

The decision to increase the effectiveness of the institution of bankruptcy, rehabilitation and crisis management may be the creation of an effective system for regulating the activities of managers in the insolvency proceedings of enterprises.

In addition, the system of regulating the insolvency of enterprises should be formed with the participation of the state in the person of its authorized body. Currently, in Kazakhstan this is the Committee on Insolvent Debtors under the Ministry of Finance of the Republic of Kazakhstan. However, the functions of the authorized body of the state in the field of bankruptcy are assigned to the Tax Committee under the Ministry of Finance of the Republic of Kazakhstan. It turns out that the state in the person of the authorized body determines the standards for the activities of managers, while at the same time being a creditor of the debtor in terms of paying taxes, which is nonsense. The experience of foreign countries excludes such a phenomenon. For example, in the UK, the bankruptcy authority of the state is the Insolvency Service, which is part of the Department of Enterprise and Innovation.

A classic example of effective state regulation of economic insolvency of enterprises is the transfer by the state of the functions for the operational management of insolvent enterprises to self-regulatory professional organizations, leaving only the control and incentive functions.

International experience in the cooperation of state bodies with self-regulatory organizations in the field of bankruptcy is carried out in such areas as licensing specialists for assessing the insolvency of enterprises, their training, the development of professional codes and ethical standards, the adoption of disciplinary measures, and the very appointment of a specialist for the bankruptcy procedure of an enterprise.

The international experience of forms of cooperation between government bodies and self-regulatory professional organizations identifies three categories of their cooperation.

The state represented by the state agency involves such organizations in the implementation of certain functions and powers; So the role of a government agency in Canada is greater than in the United States of America;

In the United Kingdom of Great Britain and Northern Ireland, for example, the roles of a state body and self-regulatory professional organizations are approximately equal, since the law allows for the delegation and empowerment of delegation of state bodies.

In Austria, Germany, and the Netherlands, the law requires self-regulatory professional organizations to perform certain functions and powers in the system of insolvency of enterprises, in which case the role of the state agency naturally becomes less.

Thus, it can be noted that the formation of an optimal form of cooperation between the State body and self-regulatory professional organizations contributes to the management of insolvency by ensuring the independence of managers from various participants, increasing their responsibility for the results of bankruptcy proceedings.

It should be noted that in the economy of Kazakhstan at present, the problem of the lack of professionalism and quality of the activities of specialists on the insolvency of enterprises is relevant. With the development of the institution of bankruptcy in Kazakhstan, the number of crisis managers increases and, accordingly, this leads to increased competition in the labor market.

An analysis of the results of reforms in Kazakhstan shows that government efforts should focus on finding ways to maximize the use of existing scientific, technical and production potential, preserving human capital, and providing broad social support for reforms. Concrete methods should be developed for pursuing an active institutional, industrial and social policy.

Kazakhstani experience in crisis management has shown that it is possible to effectively use both the pros and cons in managing the economy. On the one hand, the high dependence on global energy demand and oil prices exacerbates the situation, but it was precisely oil revenues that created reserve funds that made it possible to take such large-scale measures to support the economy in a crisis. And when recovering from the crisis in the world market, energy prices primarily rise, which allows the economy of Kazakhstan to recover due to changes in oil prices. On the one hand, the low competitiveness of the Kazakhstani economy is undoubtedly a negative factor, but during the crisis, the orientation of local, weakly competitive in the world market, production to its own domestic market allowed avoiding a deeper recession. So far, it has not been possible to diversify the economy of Kazakhstan, restructuring, and move to an innovative development path. All this against the background of such unfavorable and widespread phenomena in all countries as a drop in production, an increase in unemployment, a drop in living standards exacerbates the situation. Differences between Kazakhstani and foreign anti-crisis measures are also related to the fact that in Kazakhstan the financial sector is underdeveloped, and funds for the purchase of bad assets are required much less, however, the weakness of the developing economy is reflected in a deeper recession in the industrial sector. The support of unprofitable enterprises by governments in Germany and France is considered impractical, and in Kazakhstan the government is forced to support such enterprises in order to avoid mass unemployment and social disasters.

Based on the foregoing, the central theoretical problem of development is the balance of state and market. The question now is not worth conceptually: to intervene or not state power in the economy. World experience confirms that the market cannot develop in a vacuum, it needs a legal and regulatory framework. The state forms such a basis for development, protecting and safeguarding property rights, creating legal and other regulatory systems, and promoting effective entrepreneurial activity of citizens.

The impact of the state can be in the form of regulation of private activity, take the form of financial support for soft loans, etc.

In our opinion, according to the theory of the modern world economy, taking into account the national specifics of the state, the principles of the successful organization of the activities of professional managers in bankruptcy cases should be reflected in the conditions created by the organizational, legal and economic policies of the state of the Republic of Kazakhstan.

Thus, the dynamics of overcoming the crisis, and then economic growth, is determined not by the power of the state, but by the effectiveness of indirect impact and regulation of institutional forms in the market environment, stimulating competition, and completing the structural adjustment of the economy. Behind the crisis, which is the destruction of everything outdated and leading to a revision of previous ideas, it is important to see the foundations of a new level of development of the national economic system.

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### ҚАЗАҚСТАН РЕСПУБЛИКАСЫНДА КӘСІПОРЫНДАРДЫ ДАҒДАРЫСҚА ҚАРСЫ БАСҚАРУДЫҢ ХАЛЫҚАРАЛЫҚ ТӘЖІРИБЕСІН ҚОЛДАНУ

**Аннотация.** Мақалада Қазақстан Республикасындағы кәсіптік дағдарысқа қарсы менеджментті дамытудың теориялық және практикалық аспектілері және мемлекеттік органдардың банкроттық саласындағы өзінөзі реттейтін ұйымдармен ынтымақтастығындағы халықаралық тәжірибені пайдалану жолдары қарастырылады.

Қолданыстағы сәйкессіздіктер дағдарысқа қарсы мемлекеттік экономикалық реттеудің жаңа және барабар теориялық және тұжырымдамалық негіздерін және экономикалық өсуді ынталандырудың, өсу базасын ұлғайтудың қосымша тетіктерін енгізуді, салық салу және қаржылық қызмет көрсету секторын реттеу арқылы ішкі тауар өндірісін дамытуға қаржы ағындарын ынталандыру, импортты алмастыру тұжырымдамасын іске асыру арқылы қосымша тауар өндірісін отандық өнімге сұраныс, мемлекеттік сатып алу және уақытша қаржылық тұрақсыздық аймақтарынан капиталды тарту тетіктерін енгізу арқылы дамытуды талап етеді.

Экономикалық даму сапасының көрсеткіштерінің бірі елдің экономикалық жүйесінің құрылымы болып саналады, онда өзінің дамуы үшін қолайлы жағдайы бар және қайталама болып табылатын нарық пен нарық секторлары анық көрінеді. Біз бүкіл әлем экономикасының құрылымдық сипаттамаларын тауар нарығы секторларының аспектісінде немесе өндіріс циклінің фазалары бойынша ескеру қажет деп санаймыз. Мұндай тәсіл елдің ресурстық секторының (ауылшаруашылығы өндірісі, тау-кен өндіру өнеркәсібі), қайта өңдеу секторының, сондай-ақ инфрақұрылым мен тұтыну секторының басымдылығын талдауға мүмкіндік береді.

Дағдарысты басқарудағы қазақстандық тәжірибе көрсеткендей, экономиканы басқаруда жағымды және тиімді жағын да пайдалануға болады. Бір жағынан, энергияның әлемдік сұранысы мен мұнай бағасына жоғары тәуелді жағдайды ушықтырады, бірақ дәл мұнайдан түсетін түсім резервтік қор құрды, бұл дағдарыс жағдайында экономиканы қолдау үшін осындай ауқымды шараларды қабылдауға жағдай жасайды. Дүниежүзілік нарықтағы дағдарысты қалпына келтіру кезінде, ең алдымен, энергия бағасы қымбаттайды, бұл мұнай бағасының өзгеруіне байланысты Қазақстан экономикасын қалпына келтіруге мүмкіндік береді. Бір жағынан, Қазақстан экономикасының бәсекеге қабілеттілігінің төмендігі сөзсіз жағымсыз фактор болып саналады, бірақ дағдарыс кезінде әлемдік нарықта бәсекеге қабілетті жергілікті, өндірісті өзіндік ішкі нарыққа бағыттау терең рецессиядан аулақ болуға жол ашады. Әзірге Қазақстан экономикасын әртараптандыру, қайта құрылымдау және инновациялық даму жолына көшу мүмкін болмады. Бұл барлық елдерде өндірістің құлдырауы, жұмыссыздықтың өсуі, өмір сүру деңгейінің төмендеуі сияқты қолайсыз және кең таралған құбылыстар аясында жағдайды ушықтырады. Қазақстандық және шетелдік дағдарысқа қарсы шаралар арасындағы айырмашылықтар Қазақстанда қаржы секторының дамуына және нашар активтерді сатып алуға қаражат аз талап етілетіндігіне байланысты, дегенмен экономиканың әлсіздігі өнеркәсіп секторындағы құлдырауы анық байқалады. Германия мен Франция үкіметі зиянды кәсіпорындарға іс жүзінде қолдау көрсете алмайды, ал Қазақстанда жаппай жұмыссыздық пен әлеуметтік апаттың алдын алу үшін үкімет мұндай кәсіпорындарды қолдауға мәжбүр.

Инвестициялық белсенділікті арттыруға және ішкі сұранысты ынталандыруға ұйымдастыруды қолдау ішкі және сыртқы нарықта өнім сатуды көздейтін жаңа индустриялық жобаларға ҚР Ұлттық Банкінің үлестік несие беру сызбасын іске асыру арқылы жүзеге асады.

**Түйін сөздер:** дағдарысты басқару, банкроттық институты, кәсіпорындарды дағдарысты басқару, макроэкономикалық мемлекеттік стратегия.

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### ИСПОЛЬЗОВАНИЕ МЕЖДУНАРОДНОГО ОПЫТА АНТИКРИЗИСНОГО УПРАВЛЕНИЯ ПРЕДПРИЯТИЯМИ В РЕСПУБЛИКЕ КАЗАХСТАН

Аннотация. В статье рассмотрены теоретические и практические аспекты особенностей становления профессионального антикризисного управления предприятиями в Республике Казахстан и использования международного опыта по сотрудничеству государственных органов с саморегулируемыми организациями в сфере банкротства. Существующие несоответствия требуют новых и адекватных теоретических и концептуальных основ антикризисного государственного экономического регулирования и внедрения прикладных механизмов стимулирования экономического роста и увеличения базы роста за счет стимулирования направления финансовых потоков на развитие отечественного товарного производства посредством налогообложения и регулирования сектора финансовых услуг, реализации концепции импортозамещения путем создания дополнительного спроса на отечественную продукцию, в том числе за счет государственных закупок и внедрения механизмов привлечения капитала из зон временной финансовой нестабильности.

Одним из показателей качества экономического развития является структура экономической системы страны, в которой четко видны рынки и секторы рынка, которые имеют благоприятные условия для своего развития, и те, которые являются вторичными. Мы считаем необходимым учитывать структурные характеристики экономик всего мира в аспекте секторов товарных рынков или по фазам цикла производства. Такой подход позволит проанализировать приоритетность ресурсного сектора страны (сельскохозяйственное производство, горнодобывающая промышленность), перерабатывающего сектора, а также инфраструктуры и потребительского сектора.

Казахстанский опыт антикризисного управления показал, что в управлении экономикой можно эффективно использовать как плюсы, так и минусы. С одной стороны, высокая зависимость от мирового спроса на энергию и цен на нефть усугубляет ситуацию, но именно нефтяные доходы создали резервные фонды, которые позволили принять такие масштабные меры для поддержки экономики в условиях кризиса. А при выходе из кризиса на мировом рынке цены на энергоносители, в первую очередь, растут, что позволяет экономике Казахстана восстанавливаться за счет изменения цен на нефть. С одной стороны, низкая конкурентоспособность казахстанской экономики, несомненно, является негативным фактором, но во время кризиса ориентация местной, слабо конкурентной на мировом рынке продукции на собственный внутренний рынок позволила избежать более глубокого спада. До сих пор не было возможности диверсифицировать экономику Казахстана, провести реструктуризацию и перейти на путь инновационного развития. Все это на фоне таких неблагоприятных и широко распространенных явлений во всех странах, как падение производства, рост безработицы, падение уровня жизни усугубляет ситуацию. Различия между казахстанскими и зарубежными антикризисными мерами также связаны с тем, что в Казахстане финансовый сектор развит слабо, а средства на покупку плохих активов требуются гораздо меньше, однако слабость развивающейся экономики отражается на более глубокой спад в промышленном секторе. Поддержка нерентабельных предприятий правительствами Германии и Франции считается нецелесообразной, а в Казахстане Правительство вынуждено поддерживать такие предприятия во избежание массовой безработицы и социальных катастроф.

Организационная поддержка повышения инвестиционной активности и стимулирования внутреннего спроса возможна за счет реализации схемы эмиссионного кредитования Национального банка РК для новых промышленных проектов, что предполагает продажу продукции на внутреннем и внешнем рынках.

**Ключевые слова:** кризис-менеджмент, институт банкротства, антикризисное управление предприятиями, макроэкономическая государственная стратегия.

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#### REFERENCES

- [1] The Constitution of the Republic of Kazakhstan.
- [2] Civil Code of the Republic of Kazakhstan (general part).
- [3] The Law of the Republic of Kazakhstan "On Bankruptcy" dated January 14, 1992. Repealed by the Decree of the President of the Republic of Kazakhstan dated April 7, 1995 No. 2175 // Vedomosti of the Supreme Council of the Republic of Kazakhstan. 1992. No. 4. Art. 78.
- [4] The Law of the Republic of Kazakhstan "On Banks and Banking" dated August 31, 1995 No. 2444 // Vedomosti of the Supreme Council of the Republic of Kazakhstan. 1995. No. 15-16. Art. 106; // Bulletin of the Parliament of the Republic of Kazakhstan. 1996. No. 2. Art. 184.
- [5] Yurieva T. V. Crisis Project Management and its Specialties in Modern Economy // Science, Technology and Higher Education: Materials of the II International research and practice conference: In 2 vols. Westwood, April 17th, 2013. Westwood: Accent Graphics communications, 2013. Vol. I. P. 290–295.
  - [6] Keynes, J.M. General theory of employment, interest and money. M., 1978. 157 p.
  - [7] Becker, Gary S. Human Capital. N.Y.: Columbia University Press, 1964.
  - [8] Shultz T. Investment in Human Capital. N.Y., London, 1971. 26-28;
  - [9] Williamson The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting. N.Y., 1985;
- [10] Porter Maikl. Konkurentsiya: Vil'yams, 2003; Porter Mai-kl. Konkurentnaya strategiya. M.: Al'pina Biznes Buks, 2006.
  - [11] Berstembaeva R.K. Bankruptcy Valuation and Forecasting Methods
  - [12] enterprises // Bulletin of ENU named after L.N. Gumilyov. 2011. No. 3. 328 p.
  - [13] Abryutina M.S., Grachev A.V. Analysis of financial and economic
  - [14] activity of the enterprise: a training manual. M .: Business and service,
- [15] Korgan B.B., Sabirova R. K., Adietova E.M. Innovative economy of Kazakhstan. N E W S OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294. Volume 4, Number 326 (2019), 123–129. https://doi.org/10.32014/2019.2224-5294.147

### **Internet sources:**

- [16] www.damu.kz
- [17] www.stat.gov.kz
- [18] www.minfin.gov.kz

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# PRIORITY AREAS FOR THE EFFECTIVE DEVELOPMENT OF BEEF CATTLE BREEDING

Abstract. Sustainable and efficient meat production is possible through the development of integration ties designed to improve the system of intersectoral interaction and exchange. It should be noted that the methodological foundations of these processes are the same for social production, but at the same time, they acquire special features in beef cattle breeding due to the specifics of the industry and the complexity of managing structurally interconnected structural elements that make up integrated formations. The need to increase the efficiency of domestic livestock for accelerated import substitution in the country's agri-food market involves the development of additional measures to increase the intensity and effectiveness of local innovation. In this situation, the main condition for the profitable work of livestock enterprises is intensive industry management with the development of innovative resource-saving technologies for keeping and feeding animals, modern breeding methods that provide high productivity, preservation and conversion of feed, organization of deep processing of products, etc.

**Keywords:** agriculture, livestock, milk, competitiveness, production, processing.

**Introduction.** Despite these positive aspects, the development of the agro-industrial complex has a number of the following problems: low level of industrial processing and underutilization of the capacities of processing enterprises in the countryside, insufficient level of competitiveness of food products; a high share of imports for certain food products, insufficient work to implement HACCP principles in livestock processing enterprises, food quality mismatch with the basic requirements of international standards, seasonal production of the main types of crops [1].

The effective development of the agricultural sector is facilitated by the effectiveness of government support for entrepreneurship in the agricultural sector.

With an increase in the number of calves per 100 cows, the quality of beef also noticeably improves, since the proportion of culled old cattle in the structure of slaughtered animals decreases and the proportion of young animals increases. Measures to increase the yield of offspring are of primary importance, therefore, in beef cattle breeding it is necessary to apply the principle of strict culling of cows, which can reach 20-25%.

Main part. Simultaneously with the improvement of the performance indicators of the beef cattle breeding industry, with an increase in the litter yield, the density of livestock in livestock buildings also increases, which is 37% in the farms involved in beef cattle breeding. In addition, the effectiveness of conducting a specialized industry largely depends not only on the output of calves in general, namely on their receipt in January, February and March, that is, on the organization of seasonal winter calving. With this organization of herd reproduction, young beef cattle are kept for up to one and a half years, from birth to delivery for meat, according to the most economical scheme - two summers and one winter. First of all, this leads to a reduction in the costs of brood stock due to an increase in the share of cheap pasture feed in the annual ration of animals, which ensures a more complete use of natural forage land. In addition, in farms with a pronounced seasonality of calving, the average daily gain of young animals at suction exceeds the average calf productivity at year-round calving by 30-50%.

With an improvement in the supply of livestock with rangelands, the efficiency of its maintenance significantly increases. But this trend of improving the economic performance of the beef cattle industry

continues until a certain share of pastures in the total area of agricultural land is reached, after which the advantage is lost. The results of keeping beef cattle in specialized farms in the steppe and dry-steppe zones of the region indicate that grazing grass has a beneficial effect on the growth and development of young animals.

Unprofitableness of a number of agricultural products in the republic is caused by low labor productivity due to low crop yields and animal productivity, which is explained by the insufficient stability of the macroeconomic situation, primarily the disparity in prices for agricultural products and consumed means of production and production and technical services, the influence of weather factors, which led to the deterioration of financial indicators of agricultural redpriyaty.

The low productivity of agricultural units led to a high level of cost per unit of production with annual growing costs per unit area of cultivated crops.

The prime cost of the main livestock products has also increased due to the outstripping growth rates of costs per 1 livestock head and is caused not only by low labor productivity in the agricultural sectors, but also by the high level and growth rate of wholesale prices for means of production and tariffs for services consumed by agriculture.

The problem of price disparities in the agro-industrial complex may be aggravated in the future, and to solve the problems of increasing the competitiveness of the industry, strengthening non-price methods of maintaining the income of rural entrepreneurs, that is, subsidies [4].

Studying the effectiveness of subsidizing the agricultural sector, we can draw the following conclusion:

- lack of working capital and the associated loss-making business requires the maximum use of mechanisms for the timely receipt of financial resources;
- in most small farms they cannot conduct marketing analysis, which does not allow them to competently conduct production, many managers are intuitively guided by outdated knowledge;
- did not find development services that provide services for the analysis of the foreign market, assessment of their own capabilities, competitive analysis;
- for a general assessment of the financial condition of the enterprise, it is necessary to analyze the structure of property, with particular attention to the size of capital, its structure and quality of capital management; when developing a strategy for the development of enterprises, it is necessary to take into account the adopted programs for the socio-economic development of specific regions, this will allow counting on consulting and financial assistance from the local budget;
- financial instability, high levels of actual inflation, significant non-payments, insufficient level of state support reduce the possibility of a rural entrepreneur receiving stable market incomes;
- the effectiveness of the system of state support for the development of entrepreneurship in the countryside, its impact on the demand and supply of agricultural products, inter-industry exchange in the agro-industrial complex through established financial institutions is low the absence of its own agricultural machinery and agricultural technical services.

All this boils down to the objective need for state regulation of agricultural economics, strictly observing the following tasks.

Firstly, it is necessary to ensure the country's food security. For Kazakhstan, food self-sufficiency is economic security in general.

Secondly, for a country where 42.6% of the population lives in rural areas, the development of agricultural production will solve the problem of rural unemployment. A high level of employment, a steady income will contribute to social stability. Despite the fact that the state does not have enough resources to take on the solution of all the social problems of the village, it should create conditions for the development of agricultural production.

Thirdly, a significant multiplier effect for the entire economy as a result of the development of the agricultural sector should be taken into account. Agriculture, and to a greater extent the production of grain and meat, is a generator of domestic demand. The degree of interconnection of agriculture with other sectors is very high.

Fourth, Kazakhstan has all the necessary natural resources for the development of agriculture and promotion of domestic products on foreign markets. In the future, the industry can become a real and significant source of hard currency. For this, the state must provide all the conditions for increasing the

competitiveness of products, solving the problem of transport communications both within the republic and in foreign markets.

Measures to stabilize agricultural production involve various methods of state regulation of the agricultural sector. In the modern theory of state regulation, general measures and special measures can be distinguished (for example, general measures include the provision of subsidies, state concessional lending, etc.).

General measures are state funding for the diagnosis, monitoring and control of dangerous diseases of animals and plants; laboratory and phytosanitary analysis of regulated products; variety testing of crops; assessment of the reclamation status of irrigated lands; grain storage of state reserves; acquisition of mineral reserves; preservation and development of elite seed production and breeding; the acquisition of mineral fertilizers; Creation and development of the information system of the agro-industrial complex; conducting applied research.

Special measures are aimed at supporting specific industries and industries. They, as a rule, are onerous in nature and are intended for financially stable economic entities of the market. Special measures include the following: purchase of grain in state resources; lending to leasing of agricultural machinery, lending to local budgets for conducting spring-field and harvesting; lending to rural credit partnerships; lending by the state through the attraction of external loans; tariff policy in the regulation of the expertimport regime. State regulation measures aimed at maintaining a balance between supply and demand, structural and social transformations in rural areas are divided into economic and administrative.

The state may apply administrative or, in other words, non-market mechanisms for adjusting the actions of the price mechanism — the introduction of direct planning for the production of volumes.

In practice, two of its options are used:

-restriction of crops of this culture and the withdrawal of land from crop rotation with appropriate compensation;

-Introduction of direct quotas for production and marketing of products.

But a number of factors should be taken into account when implementing state regulation:

- 1) rational distribution of production in order to effectively use the potential of different soil-climatic and economic territories of the country, taking into account the deepening of their specialization and the creation on this basis of specialized food zones;
  - 2) the use of technologies that increase the productivity of crop production and livestock productivity;
- 3) the impact on agriculture of social shocks and political instability, as well as various forms of environmental degradation.

It follows from this that state regulation of the priority areas of the agricultural sector based on the 3 above factors implies that the main support comes from the territorial and economic grounds. The regions of Kazakhstan have their own characteristics, for example, the cluster initiative of the Government of the Republic of Kazakhstan. The geographical proximity of potential cluster participants fully allows using the cluster approach in the development of the agro-industrial complex.

The strategy and the main direction of development of the industry in the region should be aimed at creating the starting, technological and economic conditions for its formation and sustainable development.

One of the directions of development of beef cattle breeding involves crossing heifers of local unproductive cattle with bulls of specialized meat breeds, mainly Aberdeen-Angus and Hereford. In connection with a reduction in the number of dairy cattle in recent years, due to which they basically provided the population's need for beef, it became necessary to develop a specialized meat sector that can be competitive only if production costs are minimized and the pasture period is maximized, and also the use of resource-saving technologies.

The priority areas of regional state policy in the field of beef cattle breeding should be considered:

- purebred breeding of specialized meat breeds of cattle;
- obtaining a crossbreeding stock of young animals based on interbreeding (industrial) crossbreeding
   with specialized beef cattle (using the heterocyst effect for further rearing);
- construction of feedlots (feedlot) for the final fattening of young meat breeds using modern technologies;
  - involvement of private farms in the general scheme of the meat sub-complex of the region;

- the creation of cultural pastures with near-farm turnover to ensure livestock are fed green mass throughout the spring-summer period;
  - saturation of the food market with high-quality meat products of domestic producers;
  - increasing the production of competitive "marble" beef through the use of high-energy bulky feed;
  - technological update of the industry in order to increase its sustainability and competitiveness.

**Conclusion**. Thus, one of the main directions of improving the food security of the country is the development of specialized beef cattle breeding, which contributes to an increase in domestic beef production and the elimination of dependence of the Kazakh consumer on imported products. The main obstacle to solving this problem in our country is low investment attractiveness. Beef cattle breeding is the most labor-intensive livestock industry with a long payback period. Therefore, today the problem of increasing the economic efficiency of production and sales of beef cattle products is becoming urgent in order to restore the lost positions in the coming years and reach a qualitatively new level of beef production and consumption.

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## СИЫР ЕТІН ТИІМДІ ДАМЫТУДЫҢ БАСЫМ БАҒЫТТАРЫ

**Аннотация.** Тұрақты және тиімді ет өндірісі салааралық өзара қатынас пен айырбас жүйесін жетілдіруге бағытталған интеграциялық байланыстарды дамыту арқылы жүзеге асады. Бұл үдерістердің әдіснамалық негізі қоғамдық өндіріс үшін бірыңғай екенін атап өткен жөн, сонымен бірге мал шаруашылығында олар сала ерекшелігіне, интеграцияланған құрылымдарға кіретін өзара функционалды байланысты құрылымдық элементтерді басқару күрделілігіне байланысты ерекше қасиеттерге ие болады.

Ауылшаруашылық азық-түлік нарығында импортты алмастыруды жеделдету үшін отандық малшаруашылығының тиімділігін арттыру қажеттілігі жергілікті инновациялардың қарқындылығы мен тиімділігін арттыру үшін қосымша шаралар әзірлеу қажет. Қалыптасқан жағдайдағы малшаруашылығы кәсіпорындарының табысты жұмысының негізгі шарты – мал ұстау мен азықтандыруға арналған ресурстарды үнемдеудің инновациялық технологияларын, жоғары өнімді, жем-шөпті сақтау мен қайта өңдеуді, өнімді жан-жақты өңдеуді ұйымдастыруды қамтамасыз ететін қазіргі заманғы селекциялық әдістерді дамыту мен саланы қарқынды басқару.

Мал жайылымдық жерлермен қамтамасыз ету жақсарған сайын оны ұстау тиімділігі де артады. Ірі қара малшаруашылығы саласындағы экономикалық көрсеткіштердің жақсару қарқыны ауылшаруашылығы алқаптарындағы жайылымдардың белгілі бір үлесіне жеткенге дейін жалғасады, содан кейін артықшылық жоғалады. Етті ірі қара малды далалық және құрғақ дала аймақтарындағы мамандандырылған шаруашылықта ұстау нәтижелері жайылымдық шөптің жас малдың өсіп жетілуіне пайдалы екендігін көрсетеді.

Республикада бірқатар ауылшаруашылық өнімдерінің шығыны мал өнімділігі мен төлдеудің азаю салдарынан болған еңбек өнімділігінің нашарлауына байланысты, бұл жағдай макроэкономикалық жағдайдың тұрақсыздығы, бірінші кезекте ауылшаруашылық өнімдері мен тұтынылатын өндіріс құралдары және өндірістік-техникалық қызметтер арасындағы бағаның сәйкессіздігі, ауа-райының факторлық тигізетін әсері негізінде түсіндіріледі, яғни мұның бәрі ауылшаруашылық кәсіпорындарының қаржылық көрсеткіштерінің нашарлауына әкеледі.

Осылайша еліміздің азық-түлік қауіпсіздігін жақсартудың негізгі бағыттарының бірі — мамандандырылған сиыр етін дамыту болып саналады, әрі бұл отандық сиыр еті өндірісін ұлғайтуға және қазақстандық тұтынушылардың импорттық өнімдерге тәуелділігін тоқтатуға ықпал етеді. Елімізде бұл мәселені шешудің басты кедергісі — төмен инвестициялық тартымдылық. Етті ірі қара малшаруашылығы — қайтарымдылық мерзімі өте ұзақ, анағұрлым еңбекті көп қажет ететін малшаруашылығының саласы. Сондықтан бүгінде сиыр еті өнімін өндіру мен сатудың экономикалық тиімділігін арттыру мәселесі соңғы жылдарда жоғалған позицияларды қалпына келтіру және сиыр етін өндіру мен тұтынудың сапалы жаңа деңгейіне жетуде өзектілігі артып келеді.

Түйін сөздер: ауылшаруашылығы, малшаруашылығы, сүт, бәсекеге қабілеттілік, өндіріс, өңдеу.

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## ПРИОРИТЕТНЫЕ НАПРАВЛЕНИЯ ЭФФЕКТИВНОГО РАЗВИТИЯ МЯСНОГО СКОТОВОДСТВА

Аннотация. Устойчивое и эффективное производство мяса возможно путем развития интеграционных связей, призванных обеспечить совершенствование системы межотраслевого взаимодействия и обмена. Следует отметить, что методологические основы этих процессов едины для общественного производства, но, вместе с тем, в мясном скотоводстве они приобретают особенные черты, обусловленные спецификой отрасли, сложностью управления функционально связанных между собой структурных элементов, входящих в состав интегрированных формирований. Необходимость повышения эффективности отечественного животноводства для ускоренного импортозамещения на агропродовольственном рынке страны предполагает разработку дополнительных мер для повышения интенсивности и результативности освоения инноваций на местах. В сложившейся ситуации главное условие рентабельной работы животноводческих предприятий – интенсивное ведение отрасли с освоением инновационных ресурсосберегающих технологий содержания и кормления животных, современных методов племенной работы, обеспечивающих высокую продуктивность, сохранность и конверсию корма, организация глубокой переработки продукции и др.

С улучшением снабжения скота пастбищными угодьями эффективность его содержания значительно возрастает. Но эта тенденция улучшения экономических показателей в отрасли мясного скотоводства продолжается до тех пор, пока не будет достигнута определенная доля пастбищ в общей площади сельскохозяйственных земель, после чего преимущество будет потеряно. Результаты содержания мясного скота в специализированных хозяйствах в степной и сухостепной зонах региона свидетельствуют о том, что выпас травы оказывает благотворное влияние на рост и развитие молодняка.

Убыточность ряда сельскохозяйственных продуктов в республике обусловлена низкой производительностью труда из-за низкой урожайности и продуктивности животных, что объясняется недостаточной стабильностью макроэкономической ситуации, прежде всего несоответствия цен на сельскохозяйственную продукцию и потребляемые средства производства и производственно-технические услуги, влияние погодных факторов, что привело к ухудшению финансовых показателей сельскохозяйственного предприятия.

Таким образом, одним из основных направлений повышения продовольственной безопасности страны является развитие специализированного мясного скотоводства, что способствует увеличению внутреннего производства говядины и устранению зависимости казахстанского потребителя от импортной продукции. Основным препятствием для решения этой проблемы в нашей стране является низкая инвестиционная привлекательность. Разведение мясного скота является наиболее трудоемкой отраслью животноводства с длительным периодом окупаемости. Поэтому сегодня проблема повышения экономической эффективности производства и реализации продукции мясного скотоводства становится актуальной, чтобы восстановить утраченные позиции в ближайшие годы и выйти на качественно новый уровень производства и потребления говядины.

**Ключевые слова**: сельское хозяйство, животноводство, молоко, конкурентоспособность, производство, переработка.

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#### REFERENCES

- [1] Economic efficiency of mechanization of agricultural production / Shpilko A.V. et al. Moscow, 2009. 313 p.
- [2] Agency of the Republic of Kazakhstan on statisticsstat.kz
- [3] McConnell Campbell R., Bru Stanley L. Economics: Principles, Problems and Politics. In 2 t.: Per. from English / Total. ed. Porokhovsky A.A. M.: Republic, 2008. 429 p.
  - [4] Dyusembaev K.Sh. Analysis of the financial situation of the enterprise / textbook. Almaty: Economics, 2000. 184s.
- [5] Zadvorneva E.P., Seisenbinova.A.A., Sayabaev K.M., Zhansagimova A.E. Management of sustainable development of rural territories as an innovative factor of economic growth of Kazakhstan. N E W S OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294. Vol. 2, Number 324 (2019), 202–207. https://doi.org/10.32014/2019.2224-5294.69
- [6] Djumabekova A.T., Sabirova R.K., Bizhanov D.T., Bayadilova B.M., Zhansagimova A.E. Innovation in the use of fuel and energy resources of the country. N E W S OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294. Vol. 2, Number 324 (2019), 185–189. https://doi.org/10.32014/2019.2224-5294.66
- [7] Ramazanova Sh.Sh., Valiyeva M.M., Kopylova O.V. Financial security of agroindustrial complex in the conditions of modernization of the economy of the republic of Kazakhstan. N E W S OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294. Vol. 2, Number 324 (2019), 241–245. https://doi.org/10.32014/2019.2224-5294.76
- [8] Abdykerova G.Zh., Aikupesheva D.M., Jempeissova G.I., Baytikenova G.A. Trends in the development of innovative activity in the agro-industrial complex of Kazakhstan REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN ISSN 2224-5227. Vol. 2, Number 324 (2019), 63–68. https://doi.org/10.32014/2019.2518-1483.38
- [9] Ramazanova Sh.Sh., Kuchukova N.K., Legostaeva L.V., Foot Yu.V. State financial support of agroindustrial complex in the Republic of Kazakhstan.. REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN ISSN 2224-5227. Vol. 2, Number 324 (2019), 149–154. https://doi.org/10.32014/2019.2518-1483.52
- [10] Zh. Omarkhanova, D. Tleuzhanova, R. Berstembayeva, Z. Mukhambetova, B. Matayeva, and G. Alina. Features and Problems of Attracting Investments into Agriculture of Kazakhstan. Journal of Advanced Research in Law and Economics. 2017 Vol. VIII, Issue 4(26) p. 1255-1259.

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## RISK MANAGEMENT IN BANKING: THEORETICAL AND PRACTICAL ASPECTS

**Abstract.** The basis of bank risk management is the neutralization of their negative consequences for the bank's activity in the event of a possible risk event. At the same time, the bank's costs of neutralizing the corresponding banking risk should not exceed the amount of possible bank losses on it, even at the highest probability of neutralizing their negative consequences in the event of a probable risk event. At the same time, the implementation of the relevant banking operation may be dictated by the requirements of the strategy and focus of banking activities.

Management of risks initiated by banks can significantly strengthen the client position of banking management and provide a synergistic effect of balancing the formation of qualitative characteristics of banking products. The globalization of financial markets, information technology development, and increasing competition have largely affected bank business and its risk management. Together with these forces, regulatory factors play a significant role. This chapter approaches bank risk management under the regulators' perspective with an emphasis on the risk-based capital regulation. Specifically, how bank risk is regulated under the risk-based capital regulation and whether the regulation shapes bank risk are discussed in detail. In such a way, the chapter provides better understanding of the risk-based capital regulation and bank risk-taking behaviors.

**Keywords:** risks, bank, operations, customers, banking management.

The instability caused by the competitive environment, the dynamics of consumer preferences, and innovative priorities is characteristic of the market economy as a whole and its individual sectors. In the banking system, it manifests itself in the form of numerous and diverse banking risks. Banking risk as a complex concept is the uncertainty that controlled banking processes and projects will follow the planned scenario and lead to the expected results, formed by the uncertainty of the manifestations of aggressive environmental factors and the specifics of banking activities. Effective management of these risks is in demand at various levels of banking activity - from international to municipal. Banking risk management of mergers and acquisitions includes identifying carriers of bank risks, analyzing the main options for mergers and acquisitions involving banks, identifying the main banking risks of mergers and acquisitions, examining the impact of mergers and acquisitions on bank risk management, and creating a system of assessment parameters the effectiveness of these transactions.

The main carriers of bank risks of mergers and acquisitions are absorbing commercial banks; absorbing and absorbing commercial banks in their operations; counterparties of absorbing and absorbing commercial banks; external structures - bodies of banking supervision and regulation. These carriers of banking risks interact in various combinations in the processes of mergers and acquisitions.

The relative decrease in the income of commercial banks compared with the pre-crisis period requires banking management to make such management decisions that will allow the commercial bank to carry out its activities as efficiently as possible. In these circumstances, the increased role of risk management in banking has increased significantly. At the same time, according to the analysis of existing risk management systems in commercial banks, it can be concluded that they do not fully meet the necessary requirements and need improvement. The lack of generalized experience and comprehensive scientific research in the field of risk management in banking leads to losses and a decrease in the efficiency of commercial banks.

Therefore, the development of methodological and organizational foundations of a risk management system in banking, focused on improving the efficiency and improving the quality of functioning of commercial banks, is one of the most important tasks in the work of banking management.

Most researchers define risk as the possibility that something undesirable happens: theft, collapse of a company, the emergence of a new competitor, injury, damage, impairment, death, and more. But there is a position asserting committed in

In fact, risk as a phenomenon is much deeper than such mundane-applied definitions. Risk is a characteristic of a person's communication with the world. This is a fundamental property of existence. This is the same general concept as life. Risk is a basic property of any economy. He was, is and will be always and everywhere. They need to be dealt with, they need to be managed. And this is largely possible in the part that relates to business.

Therefore, financial concepts (for example, some types of moral damage). This damage is not always punishable (for example, the bankruptcy of an opponent as a result of fair and legitimate competition). And although in business practice, risks and their consequences and mass behavior.

- 2. Until recently, banking risk issues were not given due attention. After all, on the internal control of banking risks, "banking risks mean the possibility of losing liquidity and (or) financial losses (losses) associated with internal and external factors affecting the bank's activities.
  - 3. Risk classification refers to the distribution of risks for specific activities.
- 4. Internal risks include those arising from the activities of the bank itself, its customers (borrowers) or its specific counterparties. Their level is influenced by the business activity of the bank's management, the choice of the optimal strategy, policy and tactics and other factors. In other words, internal risks depend on the type and specificity of the bank, the composition of its partners (customers and counterparties) and the nature of its activities (operations). Accordingly, the risks are divided into:
  - 5. related to assets (credit, currency, market, cash, settlement, etc.);
  - 6. related to the bank's liabilities (risks on deposits and other deposit operations, on attracted interbank loans);
- 7. related to the quality of the bank's management of its assets and liabilities (interest rate risk, unbalanced liquidity risk, insolvency risk, capital structure risk, etc.);
  - 8. related to the activities of the bank (operational risk, technological, accounting, legal, risk of abuse, etc.).

Thus, banking risk can be defined as the probability that a bank loses part of the classification of banking risks that is widely used in practical activities in the field of banking risk management, which divides them into:

- 1) credit risk;
- 2) liquidity risk;
- 3) interest rate risk;
- 4) currency risk.
- 9. Banking risk management is based on certain principles Risk Awareness. A bank manager must consciously take risks if he hopes in the process of managing them, share of accepted risks. The portfolio of banking risks should include mainly those that can be neutralized in the management process, regardless of their objective or subjective nature. Only for such types of risks can a bank manager use the entire arsenal of internal mechanisms to neutralize them, i.e. show the art of managing them ..
- 10. Comparability of the level of accepted risks with the level of profitability of banking operations. This principle is fundamental in the theory of risk management. It consists in the fact that in the process of carrying out its activities the bank should accept only those types of banking risks, the level of which does not exceed the corresponding level of profitability on the scale "profitability-risk". Any type of risk for which the risk level is higher than the expected profitability level (with the risk premium included in it) should be rejected by the bank (or that cannot be transferred to the transaction partner or external insurer.

Profitability of risk management. Inclusion of such risks in the aggregate portfolio 3) principles for managing various types of risks; 4) organization of risk management.

Analyzing various approaches to the content and directions of banking management, it can be noted that the significance and role of risks can be highly differentiated, they can bear a negative (as a generator and a multiplier of problems and losses), but sometimes a positive burden. Understanding and recognizing the objectivity and naturalness of risks, adequately assessing their role and importance both in the activities of banks and in the work of related enterprises and organizations, effective management not only protects itself from risks, manages them, but also uses them as tools to increase complexity, the quality of banking products, the diversification of banking activities, and even the growth of income and additional profit. The latter area is implemented in the field of specialized operations and transactions related to risk management, and included by banks with a fairly high reputation, efficient and competent management in their product range. At the same time, banks provide paid

services, assuming fully or partially individual or complex risks to which their customers are exposed. Basically, they are directly related to the management and financing of customer risks, for example, bank guarantees, avalis, bank acceptances, accounting of bills, securitization of loans.

A specificity of the implementation of the target strategy "compensation" in the management of risks initiated by banks is the fact that some standard methods and tools are practically not used here (pledges), and some are used in very specific cases (guarantees, sureties). Perhaps, only reservation and deposit insurance can be attributed to the most adequate compensation methods of risk management initiated by banks.

Another important point reflecting the distinctive features of the management of such risks in relation to the productive components of risks is the selectivity of the implementation of the target strategy "compensation" in its focus on the types of risks. So, the number of risks initiated by banks, the management of which uses compensation schemes, includes:

- interest, currency and stock risk chances, which can be insured through a hedging mechanism, are reserved, although collateral and guarantees are not applicable here;
  - deposit risk can be insured and reserved, and possibly guaranteed;
  - collateral risk in certain situations can be insured and reserved according to indirect schemes;
- risks of diversion of resources can also be insured and reserved, and under certain conditions, with the activity of financial and banking supervision bodies, they are guaranteed.

It seems to us rather problematic to use compensation schemes in the management of such risks initiated by banks as credit risk, credit project risk, and general credit risk. The same can be attributed to the risk of loan margin.

General theoretical and methodological issues require further specification and, first of all, within the framework of the activities of banks' customers, which, in relation to the risks initiated by banks, are their main carriers (according to direct schemes) and the main subjects of their management.

The banks realize the desire to ensure the expansion or at least stabilization of their client base through the maximum possible satisfaction of the most diverse (up to exclusive) needs of their real and potential customers.

From the perspective of the interests of bank customers (profitability, repayment), taking into account the above-mentioned target risk management strategies, the following methodological schemes for minimizing, limiting, dispersing, and avoiding, circumventing or transferring risks initiated by banks in their passive operations are proposed:

- diversification of banking services. Work with several banks, credit organizations, investment institutions, which may allow the bank's customers to choose the most favorable option from the point of view of adequate profitability and repayment, as well as reduce the overall drop in profitability while lowering interest rates by certain structures;
- diversification of investment instruments. Placement of resources in deposits and deposits with various parameters (volumes, terms, formation conditions), investment projects, securities and other profitable financial instruments, which ensures the preservation of the average yield management and minimizes its decline;
- the use of special investment instruments, for example, targeted savings deposits with profitability distributed over the stages of project implementation, which stabilizes its average level;
- the acquisition of bank shares, which will allow to coordinate the receipt of income in the form of dividends with joining the group of insiders or co-owners of the organization and, accordingly, with the ability to influence the priorities of banking policy;
- clearer and more competent documentation of the quality characteristics of banking products that determine profitability, legal protection, stabilizing the level of profitability and repayment;
- consent to real and natural indicators of changes in income at floating or changing interest rates, which will reduce the likelihood of unreasonable decrease in profitability levels by banks;
- hedging of interest rates (interest rate swaps, for example), which neutralizes both positive and negative fluctuations in interest margins;
  - insurance in the presence of appropriate services in the financial market;
- securitization (sale to third parties) of deposits and deposits with a sharp decrease in their profitability or problem return;
- a deposit insurance system operating in different countries in the form of the functioning of both state and public funds or corporations.

To mitigate these risks, the following schemes are proposed:



Figure 1 - Scheme of risk mitigation

Through monitoring, diversification, entering into bank management, attracting consultants, insurers, reserving, bank customers (entrepreneurial structures, population, public organizations and government institutions) can influence banking management, if possible, stopping the risks created and manifested by banks.

Conclusion. Effective banking risk management involves not only diversification, but also a grouping of bank risks. The general risks in the study are associated with the manifestation of aggressive factors of the "external" environmental level of banking management. Their distinguishing features are territorial concentration (sometimes very sharply defined) and weak object selectivity. That is, they can affect any objects, both animate and inanimate, which are in the zone of their manifestation in a particular territory. Among them may be the building of the bank, its employees, equipment, communication systems, as well as their customers, property as collateral, and more. Common risks include natural, technological, criminal, socio-political and other risks.

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## БАНК ҚЫЗМЕТІНДЕГІ ТӘУЕКЕЛ МЕНЕДЖМЕНТІ: ТЕОРИЯЛЫҚ ЖӘНЕ ТӘЖІРИБЕЛІК АСПЕКТІЛЕРІ

**Аннотация.** Банк тәуекелдерін басқарудың негізін ықтимал тәуекел жағдайы туғанда олардың банк қызметіне кері әсерін бейтараптандыру құрайды. Сонымен бірге, банктің тиісті банктік тәуекелді бейтараптандыруға жұмсайтын шығыны тәуекелдік жағдайда олардың жағымсыз салдарын бейтараптандырудың ең жоғары ықтимал деңгейінде банктің ықтимал шығыны мөлшерінен аспауы тиіс. Сонымен бірге, тиісті банктік операцияны жүзеге асыру банк қызметінің стратегиясы мен бағыты талап етуі мүмкін.

Банктер бастаған тәуекелдерді басқару банктік менеджменттің клиенттік позициясын едәуір күшейтеді және банк өнімдерінің сапалық сипаттамаларын қалыптастыруда теңгерімнің синергетикалық әсерін камтамасыз етеді.

Банк саласында тәуекелдерді басқару кіріс пен тұрақтылықты қамтамасыз етуде маңызды саналады. Бұл – реттеушілердің қаржы жүйесінің қауіпсіздігі мен тұрақтылығын сақтау мәселесі. Соңғы онжылдықта банктік бизнес дамыған сауда технологиялары мен күрделі қаржы өнімдерін енгізу негізінде дамыды. Бұл жетістіктер банктің делдалдық рөлін күшейтіп, кірісін арттырады және банктік тәуекелді жан-жақты әртараптандырады, бірақ олар банк тәуекелдерін басқаруда айтарлықтай қиындықтар туғызады. Қаржы нарығындағы жылдам өзгерістермен салыстырғанда банк тәуекелдерін басқару әлсіз деп саналды. Соңғы жаһандық қаржылық дағдарыс жағдайында банктік тәуекелдерді басқаруға банк реттеушілері мен саясаткерлері баса назар аударды.

Банктер бастаған тәуекелдерді басқару банктік менеджменттің клиенттік позициясын едәуір нығайта алады және банк өнімдерінің сапалық сипаттамасын қалыптастыруда теңгерімнің синергетикалық әсерін қамтамасыз етеді. Қаржы нарығының жаһандануы, ақпараттық технологиялардың дамуы және бәсекелестіктің артуы банк бизнесіне және оның тәуекелдерін басқаруға айтарлықтай әсер етті. Осы күштермен бірге реттеуші факторлар маңызды рөл атқарады.

Қаржы нарықтарының жаһандануы, ақпараттық технологиялардың дамуы және бәсекелестіктің артуы банк бизнесіне және оның тәуекелдерін басқаруға айтарлықтай әсер етті. Осы күштермен бірге реттеуші факторлар маңызды рөл атқарады. Мақалада реттеушілердің көзқарасы бойынша банктік тәуекелдерді басқаруға тәуекелдерге негізделген капиталды реттеуге көңіл бөлінеді. Атап айтқанда, тәуекелдерге негізделген капиталды реттеу кезінде банктік тәуекел қалай реттелетіні және реттеудің банк тәуекелін қалыптастыратындығы егжей-тегжейлі талқыланады. Осылайша тарауда тәуекелдерге негізделген капиталды реттеу және банктік тәуекелдерге қатысты мінез-құлық жайында кеңірек түсінік берілген.

Түйін сөздер: тәуекелдер, банк, операциялар, клиенттер, банк менеджменті.

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### РИСК-МЕНЕДЖМЕНТ В БАНКОВСКОЙ ДЕЯТЕЛЬНОСТИ: ТЕОРЕТИЧЕСКИЕ И ПРАКТИЧЕСКИЕ АСПЕКТЫ

Аннотация. Основу управления банковскими рисками составляет нейтрализация их негативных последствий для деятельности банка при возможном наступлении рискового случая. Вместе с тем, затраты банка по нейтрализации соответствующего банковского риска не должны превышать суммы возможных банковских потерь по нему даже при самой высокой степени вероятности по нейтрализации их негативных последствий при вероятном наступлении рискового случая. В то же время осуществление соответствующей банковской операции может диктоваться требованиями стратегии и направленности банковской деятельности.

Управление рисками, инициируемые банками, может значительно усилить клиентские позиции банковского менеджмента и обеспечить синергетический эффект балансировок формирования качественных характеристик банковских продуктов.

Управление рисками важно для банка, чтобы обеспечить его доходность и надежность. Регуляторы также заинтересованы в поддержании безопасности и устойчивости финансовой системы. За последние десятилетия банковский бизнес развился благодаря внедрению передовых торговых технологий и сложных

финансовых продуктов. Несмотря на то, что эти улучшения усиливают посредническую роль банка, способствуют повышению прибыльности и улучшают диверсификацию банковских рисков, они создают серьезные проблемы для управления банковскими рисками. Управление рисками банков считается слабым по сравнению с быстрыми изменениями на финансовых рынках. В свете недавнего глобального финансового кризиса управление банковскими рисками стало основной проблемой банковских регуляторов и политиков.

Инициированное банками управление рисками может значительно укрепить клиентскую позицию банковского менеджмента и обеспечить синергетический эффект сбалансированности формирования качественных характеристик банковских продуктов. Глобализация финансовых рынков, развитие информационных технологий и растущая конкуренция в значительной степени повлияли на банковский бизнес и управление рисками. Вместе с этими силами регуляторные факторы играют важную роль. В этой главе рассматривается управление банковскими рисками с точки зрения регулирующих органов с упором на регулирование капитала на основе рисков. В частности, как банковские риски регулируются в соответствии с регулированием капитала, основанным на риске, и подробно ли регулирование регулирует банковский риск. Таким образом, статья дает лучшее понимание основанного на риске регулирования капитала и поведения, связанного с принятием банковских рисков.

Глобализация финансовых рынков, развитие информационных технологий и растущая конкуренция в значительной степени повлияли на банковский бизнес и управление рисками. Вместе с этими силами регуляторные факторы играют важную роль. В этой статье рассматривается управление банковскими рисками с точки зрения регулирующих органов с упором на регулирование капитала на основе рисков. В частности, как банковские риски регулируются в соответствии с регулированием капитала, основанным на риске, и подробно ли регулирование регулирует банковский риск. Таким образом, статья дает лучшее понимание основанного на риске регулирования капитала и поведения, связанного с принятием банковских рисков.

Ключевые слова: риски, банк, операции, клиенты, банковский менеджмент.

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#### REFERENCES

- [1] [Gerasimova E. B., Bankovskie operacii. M.: Forum, 2011. 2. Buevich S. YU. Deyatel'nost' kommercheskogo banka. M.: Ekonomist", 2012.
  - [2] Unanyan I. R., ZHarkovskaya E.P, Bankovskoe delo. M.: Omega-L, 2013.
  - [3] Krivoruchko S. P. Operacionnye riski chto stoit za nimi?// Bankovskoe delo. 2012. № 2.
- [4] Tupejko S. A. Riski, prisushchie bankovskoj deyatel'nosti // Molodoj uchenyj. 2015. №4. S. 431-434. URL https://moluch.ru/archive/84/15748/ (data obrashcheniya: 19.01.2020).Semenyuk O., Abdrashitova T., Beloussova E., Nechay N., Listkov V., Kurbatova V., Niyazbekova S. The influence of ecology and economic factors on eco-architecture and the design of energy efficient buildings. World Transactions on Engineering and Technology Education. 2018. T. 16. № 2. C. 186-192.
- [5] Niyazbekova Sh.U., Grekov I.E., Blokhina T.K. The influence of macroeconomic factors to the dynamics of stock exchange in the Republic of Kazakhstan. Экономика региона. 2016. Т. 12. № 4. С. 1263-1273. DOI: 10.17059/2016-4-26
- [6] Dzhumabekova A.T., Kanatova A.ZH. Transformation of the transmission mechanism of the national bank of the republic in the conditions of financial instability. NEWS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294 Vol. 6, Number 322 (2018), 119–123. https://doi.org/10.32014/2018.2224-5294.43

## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# INNOVATION MANAGEMENT IN THE CONDITIONS OF ECONOMIC CRISIS

Abstract. There are many uncertainties in the innovative behavior of enterprises. The key role is played by the availability of sufficient financial resources, especially in the context of the financial and economic crisis; the interest of enterprises in direct budget support is increasing. At the same time, such restrictions as high cost of innovations, economic risk and long payback periods are maintained and even strengthened. A characteristic feature in the management of innovative activities of enterprises abroad is the persistent injection of funds, innovative development, as the main subject of economic growth in developed countries. Enterprises in the RK are aware of the insufficiency of their own innovative potential – the weakness of the research base, the lack of readiness to master the latest technological achievements, the lack of qualified personnel, and the lack of cooperation ties. They lack information on new technologies and potential markets for innovative products. Moreover, as a positive in terms of the potential growth of innovation, activity, one should assess the tendency to increase the interest of enterprises in obtaining information about new technologies. In this connection, the authors propose the main methods of innovation management in a crisis.

Key words: Innovation, crisis, management, competitiveness, strategic approach.

**Introduction.** In the economies of leading countries, information technologies, computerized processes, innovative technologies in production and the innovative organization of various spheres of human activity began to play a paramount role. Obviously, the result of the ongoing social and technological revolution should be a transition to a new form of economic organization - an innovative economy.

Innovation is the end result of innovation, embodied in the form of a new or improved product introduced on the market, a new or improved technological process used in practice or in a new approach to social services.

Innovation is the result of a comprehensive scientific, technological, organizational, financial, investment, production and marketing processes, through which ideas and technologies are transformed into technologically innovative products (services) and processes that have commercial value, as well as new directions for using existing innovative products and services, in the formation of innovative markets.

**Main part.** It is innovations that should become the main driving element of the modern economic structure, the main source of revenue generation in the innovative economy.

Signs of an innovative economy:

- the availability of modern and advanced information technologies and computerized systems and processes;
- the presence of a developed, high-tech infrastructure;
- accelerated computerization and automation of all spheres and industries of production and management;
- Creation and implementation in practice of innovations of various functional purposes;
- the presence of a system of training and retraining of qualified specialists;
- the presence of a developed financial system that can support a constant flow of investment in innovation.

In addition to the above signs, an innovative economy should rely on a special innovative infrastructure and institutions supporting the innovation process:

- Innovation centers, directing research, analyzing innovation demand and supply, coordinating the efforts of development teams;
  - legislation governing relations in the field of innovation;

- centers for the commercialization of technologies and developments that could lead innovation through the whole long way from the idea to the final product;
  - financial institutions (public and private) that support innovation through grants and loans;
- educational centers, institutes and schools, on the basis of which they will train not only engineers and scientists, but also other specialists focused on innovative processes (economists, managers, entrepreneurs).

In developed countries, 80-95% of gross domestic product growth is accounted for by new knowledge embodied in engineering and technology, i.e., an innovative economy is developing in these countries.

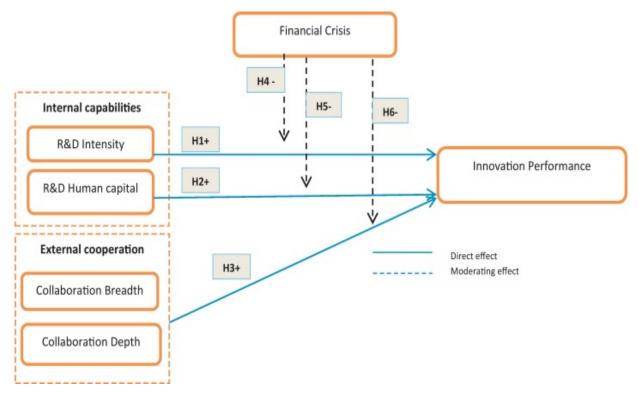


Figure 1 - The impact of the global financial crisis on corporate innovation

The basis of the innovation economy is innovation obtained through investment activity, which is based on a developed innovation infrastructure - the national innovation system. But the transition to a new type of management is impossible without highly qualified and highly productive personnel.

An innovative economy is an economy based on knowledge, innovations, on the benevolent perception of new ideas, new machines, systems and technologies, on the readiness for their practical application in various fields of human activity. In this economy, under the influence of scientific and technological knowledge, the traditional spheres of material production are transformed and radically change their technological basis, since production that does not rely on new knowledge and innovations turns out to be unviable in an innovative economy.

The results of domestic and foreign studies confirm that the creation of an innovative economy is a strategic direction for the development of our country in the first half of the 21st century.

A crisis is a negative, deep, and often unexpected change, but at the same time it brings with it new development opportunities. Crises reveal what is imperceptible in a normal situation, set in motion the forces that contribute to the development of the system.

The main function of the crisis is the destruction of those elements that are the least stable and viable and that violate the organization of the whole as much as possible. There is a simplification of the system and increase its stability.

In the economy, the crisis destroys many of the weakest and least expediently organized enterprises, discarding obsolete methods of production, forms of organization of enterprises in favor of more modern methods and forms.

An essential component of overcoming the crisis is innovation, which ensures the competitiveness of products by increasing its technical level and reducing costs.

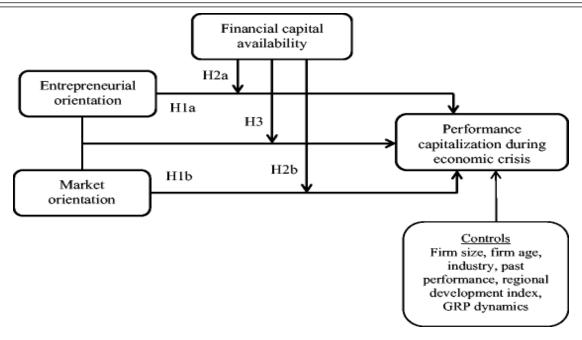


Figure 2 - The benefits of the economic crisis

Innovation will allow the global economy to survive the depression and begin rapid development. Any socio-economic system is successful if it is in a state of consistent and steady development. Development is the acquisition of a new quality that determines the activation and sustainability of the organization's life, its growth. No matter how successful it may be, but if its management is not aimed at mastering new technologies that allow it to produce new types of products of higher quality and at the lowest cost, the organization risks becoming uncompetitive after a certain period of time. And this means a weakening of positions in the sales markets, loss of product consumers and a decrease in profit margins, which contributes to a crisis in the company and can cause bankruptcy.

The current situation in the Russian economy is characterized by a general decline in production and competitiveness of products, a decrease in the interest of most producers in carrying out innovative activities, and the almost complete absence of a comprehensive innovation policy among state structures.

The crisis in the country's economy is aggravated by the innovation crisis, which manifests itself in a sharp decrease in the controllability of the processes of creating and introducing innovations, in the absence of sources of financing, in curtailing the activities of research creative teams. With this in mind, the search for possible solutions to the problems of managing innovative processes is becoming one of the most important tasks of crisis management.

At the same time, the nature and features of the development of innovative processes are determined not only by the general economic situation, but also by the laws of development peculiar to the innovation sphere, the study of which is carried out in the framework of the theory of innovations from the moment of its occurrence. In addition, such an element of anti-crisis development is important as assessing the possibilities for the effective use in world practice of world management experience in general and innovative processes in particular.

The reasons for slowing down the introduction of innovations in the activities of economic entities of the country are the same ones that hinder normal business activity: formalism, administrative barriers, corruption, irresponsibility, lack of developed infrastructure, economic illiteracy, disregard for accumulated experience, poor information system, lack of far-sighted entrepreneurial strategies, not worked out regulatory framework, undeveloped markets, lack of healthy competition. Given the general acceleration of scientific and technological progress, globalization and internationalization of the market, increased competition, which is accompanied by a reduction in the duration of competitive advantages and the need to divide the market into sectors, niches and microsegments, innovation becomes a key success factor, if not the only means of survival. And the strategic management of innovations is the most important task of the anti-crisis policy of the enterprise; the implementation of such management largely depends on the quality of the adopted innovative decisions, on the ability to find solutions that can organizationally and economically ensure the achievement of the goal of creating competitive products. When making this kind of management decisions, one should proceed from the features of the innovation process, take into account the degree of novelty of innovations, their potential, and resource potential of the enterprise.

Innovation activity is associated with attracting various resources, the main of which are investments and time spent on research and development and technological development of large-scale production of new products; A special role here belongs to the management staff, its ability to develop and make innovative decisions.

The process of forming an effective system of innovative management depends on the level of innovative potential of the enterprise - its capabilities in terms of achieving set innovative goals. The realization of these goals on a global scale acts as a means of obtaining sufficiently high profits in the long term, strengthening and then expanding competitive opportunities in the market, solving the crisis problem and the problem of survival in general.

The higher the level of innovative potential of an enterprise, the more successfully it avoids possible crisis situations. The innovative potential of the enterprise is determined by both technical factors and management. These include:

- the previously developed level of development of production;
- the state of the mechanism and control system;
- type and orientation of the organizational structure;
- trends in economic and innovation policy;
- understanding of the need for various kinds of changes and the willingness of staff to them.

To ensure a high competitive status, an enterprise needs to develop a strategy aimed at achieving its global goals related to innovative processes in the field of production, technological processes, increasing the competitiveness of products, improving financial stability, developing a useful social orientation, and environmental safety of production.

At present, the competitiveness of an enterprise, first of all, depends on the tendency of its "business" to innovate and modernize, through which the latter has advantages in the competition with other enterprises. Constant and focused work is needed to create a positive image of the enterprise and its products in the domestic and foreign markets.

At present, there is no single definition of the concept of "competitiveness", which is due to the different initial positions of economists, as well as the fact that either a single enterprise, or an industry or the whole economy is considered as a producer. In a general sense of the word, the competitiveness of an enterprise can be characterized by the degree of real or potential satisfaction of a specific need in comparison with similar facilities on this market.

When conducting competition, as a rule, one of three strategic approaches is used:

- the desire for the lowest production costs in the industry (a strategy for the role of management in the field of production costs);
  - focus on a narrow part, and not on the entire market (focus or niche strategy);
- the choice of a development path in which the differentiation of manufactured products relative to products manufactured by competitors is intensified (differentiation strategy).

**Conclusion.** In our opinion, these strategic approaches are acceptable for "survival" in the competition only for enterprises covering a small segment of the domestic market. As for large companies operating both in the domestic market and having a high proportion in the foreign market, this group of strategic approaches to conducting competition, and most importantly to winning it, should be more voluminous. The main emphasis should be placed on the introduction of innovations in the specifics of the company.

Thus, the success of the development of innovative processes in the enterprise, due to the ability to transform new knowledge into new processes and products, and as a result, its high competitiveness, will directly depend on the right strategy for its development.

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#### ЭКОНОМИКАЛЫҚ ДАҒДАРЫС ЖАҒДАЙЫНДА ИННОВАЦИЯЛЫҚ БАСҚАРУ

Аннотация. Кәсіпорындардың инновациялық мінез-құлқында белгісіздік көп. Жеткілікті қаржылық ресурстары шешуші рөл атқарады, әсіресе қаржы-экономикалық дағдарыс жағдайында тікелей бюджеттік қолдауға кәсіпорындардың қызығушылығы артып келеді. Сонымен қатар, инновациялардың қымбаттығы, экономикалық тәуекел және ұзақ мерзімдік өтелім сынды шектеулер сақталады және тіпті күшейтіледі. Шетелдегі кәсіпорындардың инновациялық қызметін басқарудағы тән белгі – дамыған елдердегі экономикалық өсудің негізгі субъектісі ретінде қаражатты тұрақты енгізу, инновациялық даму. ҚР кәсіпорындары инновациялық әлеуетінің жеткіліксіздігін – зерттеу базасының әлсіздігін, соңғы технологиялық жетістіктерді игеруге дайын еместігін, білікті кадрлардың жетіспеушілігін және кооперативті байланыстың жоқтығын жете біледі. Оларға жаңа технологиялар мен инновациялық өнімдердің әлеуетті нарығы туралы ақпарат жетіспейді. Сонымен қатар, инновациялық белсенділіктің әлеуетті өсуі тұрғысынан тиімділік ретінде

кәсіпорындардың жаңа технологиялар туралы ақпарат алуға деген қызығушылығын арттыру тенденциясын бағалау керек. Осыған байланысты авторлар дағдарыстағы инновациялық менеджменттің негізгі әдістерін ұсынды.

Жетекші елдер экономикасында ақпараттық технологиялар, компьютерлендірілген үдерістер, өндірістегі инновациялық технологиялар және адам қызметінің түрлі салаларын инновациялық ұйымдастыру басты рөл атқара бастады. Қазіргі әлеуметтік-технологиялық төңкерістің нәтижесі экономикалық ұйымдастырудың жаңа формасына – инновациялық экономикаға көшү тиіс.

Біздің ойымызша, бұл стратегиялық тәсілдер бәсекелестік жағдайында «өмір сүру» үшін ішкі нарықтың аз бөлігін қамтитын кәсіпорындар үшін қолайлы болып саналады. Ішкі нарықта жұмыс істейтін және сыртқы нарықтағы үлесі жоғары ірі компанияларға келетін болсақ, бәсекелестікке, ең бастысы, оны жеңуге бағытталған стратегиялық тәсілдер тобы көп болуы қажет. Компанияның ерекшелігіне инновацияларды енгізуге баса назар аударылуы керек.

Осылайша жаңа білімді жаңа үдерістер мен өнімге айналдыру мүмкіндігінің арқасында және кәсіпорындағы инновациялық үдерістерді дамытудың артықшылығы, жоғары бәсекеге қабілеттілігі дамудың дұрыс стратегиясына тікелей байланысты. Нарықтағы экономикалық жүйелерді басқарудың отандық теориясы мен тәжірибесі бұл бағытта белгілі бір жетістіктерге ие. Бүгінде басқарудың барлық деңгейіндегі басқару рөлін түсінуде белгілі бір өзгерістер болды. Бұл өзгерістер басқару әрекеті мазмұнындағы және оның теориялық негізіндегі сапалы өзгерістерге байланысты. Кәсіпорындарды басқару тек өткен тәжірибені жинақтау және жүйелеу негізінде ғана жүзеге асырылмайды, қазіргі кезде басқару үдерісі инновациялық технологиялар арқылы сипатталады.

Түйін сөздер: инновация, дағдарыс, басқару, бәсекеге қабілеттілік, стратегиялық тәсіл.

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#### УПРАВЛЕНИЕ ИННОВАЦИЯМИ В УСЛОВИЯХ ЭКОНОМИЧЕСКОГО КРИЗИСА

Аннотация. В инновационном поведении предприятий остается много неопределенностей. Ключевую роль играет наличие достаточных финансовых ресурсов, особенно в условиях финансово-экономического кризиса, заинтересованность предприятий в прямой бюджетной поддержке увеличивается. Одновременно сохраняются и даже усиливаются такие ограничения, как высокая стоимость нововведений, экономический риск и длительные сроки окупаемости. Характерной особенностью в управлении инновационной деятельности предприятий за рубежом является упорное вливание средств в инновационное развитие как главный субъект роста экономики развитых стран. Предприятия в РК осознают недостаточность собственного инновационного потенциала — слабость исследовательской базы, неготовность к освоению новейших технологических достижений, нехватку квалифицированных кадров, отсутствие кооперационных связей. Им недостает информации о новых технологиях и потенциальных рынках сбыта инновационной продукции. При этом как положительную в плане потенциального роста инновационной, активности следует оценить тенденцию к повышению заинтересованности предприятий в получении сведений о новых технологиях. В связи с чем авторы предлагают основные методы управления инновациями в условиях кризиса.

В экономиках ведущих стран информационные технологии, компьютеризированные процессы, инновационные технологии в производстве и инновационная организация различных сфер человеческой деятельности стали играть первостепенную роль. Очевидно, что результатом продолжающейся социальной и технологической революции должен стать переход к новой форме экономической организации – инновационной экономике.

По нашему мнению, эти стратегические подходы приемлемы для «выживания» в конкурентной борьбе только для предприятий, занимающих небольшой сегмент внутреннего рынка. Что касается крупных компаний, работающих как на внутреннем рынке, так и имеющих значительную долю на внешнем рынке, эта группа стратегических подходов к проведению конкуренции и, что наиболее важно, к ее победе, должна быть более объемной. Основной упор следует сделать на внедрение инноваций в специфику деятельности компании.

Таким образом, успех развития инновационных процессов на предприятии, благодаря возможности трансформировать новые знания в новые процессы и продукты и, как следствие, его высокая

конкурентоспособность, будет напрямую зависеть от правильной стратегии его развития. Отечественная теория и практика управления экономическими системами в условиях рынка имеет определенные успехи в этом направлении. Сегодня уже произошли определенные сдвиги в понимании роли управления на всех уровнях власти. Эти изменения сопряжены с качественными изменениями содержания управленческой деятельности и ее теоретического фундамента. Управление предприятием осуществляется не только на основе обобщения и систематизации прошлого опыта, сейчас процессу управления присущи инновационные технологии.

Ключевые слова: инновации, кризис, управление, конкурентоспособность, стратегический подход.

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#### REFERENCES

- [1] Nyussupova, G.N. Mechanisms of the formation of ecologically-oriented agricultural land use in Kazakhstan (2015) Oxidation Communications, 38 (2), pp. 886-899. SJR=0.161.
- [2] Nyussupova, G. Modern demographic processes in urban areas of the Republic of Kazakhstan Bulletin of Geography (2012) Bulletin of Geography 18, c. 99-108. SJR=0.218.
- [3] Nyussupova, G. Demographic situation and the level of human development of the Republic of Kazakhstan: Regional aspects. (2011) Bulletin of Geography 16, c. 75-87. SJR=0.218.
- [4] Kalimurzina, A., Nyussupova, G., The dynamics of sex-age structure of the population in urban and rural areas in the Republic of Kazakhstan in the years 1991-2013. BULLETIN OF GEOGRAPHY-SOCIO-ECONOMIC SERIES Том: 31. Выпуск: 31, 2016. Стр.: 87-111 DOI: 10.1515/bog-2016-0007.
- [5] Nyussupova G.N. Mechanisms of the formation of ecologically-oriented agricultural land use in Kazakhstan. Oxidation Communications. Bulgaria: publishing house: Scientific Bulgarian Communications, 2015. № 2 (38). P. 886-899. IF=0.489.
- [6] Sayabaev K.M., Zhansagimova A.E. Finance, franchise and their impact on tourism. Journal of internet banking and commerce. (http://www.icommercecentral.com), december 2016, vol. 21, no. 3.
- [7] Nyussupova G.N. Socio-demographic and economic aspects of analysis of life quality of population in Almaty region. Oxidation Communications. Bulgaria, 2014. № 4 (37). P. 1052–1064. IF=0.489.
- [8] Sanalieva L.K., Kengzhegalieva G.B., Idelbayeva A.S., Niyazbekova Sh.U. Investigation of modern economic mechanisms for construction of the intellectual potential of the country as a moving factor of innovative economic development. BULLETIN OF NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN ISSN 1991-3494, Volume 5, Number 375 (2018), 144 148, https://doi.org/10.32014/2018.2518-1467.19
- [9] Nyussupova G.N. Geo-economic and regional situation in Turkic speaking countries in Central Asia. // 3RD INTERNATIONAL GEOGRAPHY SYMPOSIUM, GEOMED2013. Procedia Social and Behavioral Sciences Том: 120. 2014. Cтр.: 450-454 DOI: 10.1016/j.sbspro.2014.02.123

## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# FINANCIAL SECURITY OF THE STATE: ESSENCE AND APPROACHES

**Abstract.** The role of public finance in modern conditions is that they should influence the process of social reproduction, acceleration of economic growth, structural reorganization of the economy, acceleration of scientific and technological progress. The expansion of public investment provides an increase in demand for equipment, which in turn makes it more effective for industrial production, employment, and revitalization of the economic environment. At the expense of the state budget, demand is maintained, social events and programs are financed, etc. The impact on the economy, although controversial, is also exerted by the costs associated with ensuring the state's defense capability. On the one hand, these costs give a certain impetus to the development of industry, on the other hand, a long arms race leads to the depletion of the economy, intraeconomic imbalances, a change in the structure of production and other negative consequences

**Keywords:** financial security, national interests, state, financial sphere, threats, security.

**Introduction.** In modern scientific literature, one can find several approaches to the definition of the concepts of "economic security", "financial security", and the main contribution to establishing the essence of this phenomenon is made by economists, sociologists, and philosophers. Representatives of the legal community in this process, with rare exceptions, do not participate at all. As a result, Kazakhstani legal science does not have a generally accepted definition of financial security.

Thus, economists sometimes consider financial security both as "the main condition for the ability of the state to carry out independent financial and economic policies in accordance with its national interests", and as "the state of the economy, which ensures the formation of positive financial flows of the state in the volumes necessary to fulfill its tasks and functions"

Financial security is "the state of the economy, which ensures the formation of sufficient financial resources of the state in the volumes necessary to fulfill its tasks and functions with appropriate control over their legal formation and expenditure". Financial security (Eng. Financial security) - a concept that includes a set of measures, methods and means to protect the economic interests of the state at the macro level, corporate structures, financial activities of business entities at the micro level

**Main part.** At the macro level, financial security is the ability of the state in peacetime and in emergency situations to adequately respond to internal and external negative financial impacts.

Financial security reflects the state and readiness of the financial system of the state to timely and reliable financial support of economic needs in amounts sufficient to maintain the necessary level of economic and military security of the country. Financial security is achieved by activities in the financial sector and in related areas: monetary, economic, social, international financial, etc. Therefore, the concept and strategy of financial security should be reflected in the concept and state strategy of economic security, in economic, budgetary and monetary policy, etc.

An analysis of the diverse positions presented allows us to demonstrate our own view on the essence of the category of "financial security". In our opinion, financial security can be defined as the state of financial relations in which acceptable conditions and necessary resources are created for expanded reproduction, economic growth and growth of the population's well-being, stability, preservation of the

integrity and unity of the state's financial system, and for successful opposition to internal and external factors destabilization of the financial situation in the country.

The financial security of the state consists in the ability of its bodies:

- ensure the sustainability of economic development of the state;
- ensure the stability of the payment and settlement system and the main financial and economic parameters;
- to neutralize the impact of global financial crises and the deliberate actions of external entities (states, TNCs, sub-state groups, etc.), shadow (clan corporate, mafia, etc.) structures on the national economic and socio-political system;
- to prevent a large-scale outflow of capital abroad, "flight of capital" from the real sector of the economy;
- prevent conflicts between authorities at different levels over the distribution and use of resources of the national budget system;
- it is most optimal for the country's economy to attract and use foreign borrowing funds; to prevent crimes and administrative offenses in financial legal relations (including the legalization of proceeds of crime).

All of the above can also be presented as some tasks that public authorities and government should solve in order to ensure the safe and efficient functioning of not only elements of the financial system of the state, but also all the links of government

The main internal threats to the financial security of the state: insufficiently effective system of state financial control, lack of social orientation of the economy, falling solvency of the population, low ability of the financial system to ensure reproduction, inadequate financial and economic policies aimed at turning the country into a "raw materials appendage" for highly developed countries, etc. .

The lack of focused activities on the creation of innovation-oriented market institutions has led to the fact that financial resources have almost ceased to be directed to the development of new production. The real sector of the national economy has actually become a hostage to macroeconomic policies, accompanied by an almost uncontrolled outflow of natural resources and capital from the country and the growth of speculative turnover of the financial market.

The need to develop a special system of measures in the field of financial security is due to a number of major problems in the financial sector of the Republic of Kazakhstan:

- the financial and credit system in its modern form is unable to fully provide with money not only expanded, but also simple reproduction;
- inconsistency with each other and inconsistency of certain areas of financial and economic policy, financial and monetary instruments are not sufficiently coordinated with each other;
- the banking system is based on a mixed monetary circulation system (ruble-dollar-euro), with the dollar and the euro taking on such functions as means of accumulation and to an increasingly significant extent as means of payment;
- insufficient efforts are made by state authorities for stable economic growth, structural adjustment of the economy of Kazakhstan and its transfer to the innovative path of development;
- mechanisms of state regulation of financial and commodity markets, foreign investment in Kazakhstan and domestic investment abroad have not been worked out;
- lost administrative control over the operations of business entities in certain financial and commodity markets and in certain areas of activity;
- during the crisis, sharply decreased: the tax potential of the territories, the tax ability of taxpayers, tax collection;
  - the system of bank lending to the real sector of the economy was significantly complicated
  - a variety of financial instruments and a high degree of dynamism;
- increased competition and friction between states in the economic and other fields, the use of powerful economic actors strategies to conquer the global economic space;
- excessive dependence of the economy on foreign short-term speculative capital, which makes the financial system extremely vulnerable;
- global crisis trends, the inability of modern financial institutions (including international ones) to effectively control them.

Thus, from the whole spectrum of studies of various types of security conducted in recent years, the issues of financial security of the state are the least developed. The scale and interdependence of the processes that determine the functioning of the country's security mechanisms dictate the need to analyze financial security using a qualitatively new intersectoral approach and expand the traditional methodology

In the general case, the approach outlined involves the consideration of the category of "financial security" as the impossibility of causing unacceptable harm to the properties of the security object due to finances, their material basis and infrastructure. The provision on the impossibility of causing unacceptable harm to the functioning and properties of the security object or its structural components serves as the basic methodological basis for highlighting the main subspecies of the financial security of the country as a whole. At the same time, man, society and the state, of course, are the basic elements of the country as an object of security at the highest level, each of which has its own financial security item.

So, an assessment of the level of financial security requires formalization of financial processes based on evaluation criteria in the form of financial ratios, indicators, various indicators. Given that there are no universally accepted methods for assessing financial security, it is worth highlighting among them the following: - monitoring of the main macroeconomic indicators and comparing them with threshold values (values not lower than world average); - trends in the dynamics of changes in key macroeconomic indicators; - methods of expert evaluation (expert rating based on their own ideas and knowledge about any area of the financial system); - a method for analyzing and processing scripts; - optimization methods, etc.

The financial security of the state largely depends on the conditions of functioning and development of the national financial system, which are determined by a set of institutions and measures aimed at identifying and preventing threats in the financial sphere. This set of institutions and measures forms the state financial security system, which is based on three key elements:

- strategies to ensure the financial security of the state;
- a system of government bodies providing financial security;
- a set of laws and other regulatory legal acts in the field of ensuring financial security.

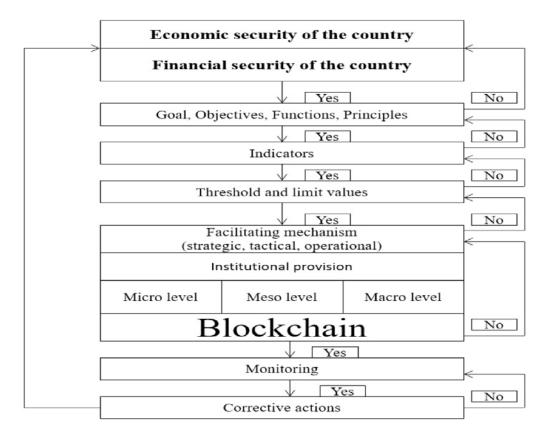


Figure 1 - Rational model of decomposition of the security

The following spatial socio-economic development of the temporal dynamic changes in the normal development processes and political deformation should be distinguished: corruption, shadow economy, capital outflows, raiding. It is the complex nature of the deformations, which in many ways are a means of changing traditional political institutions, forced to adjust to the needs of their time, while being formal and informal, and, at the same time, the factors and the sources of impact.

As practice shows, further scientific justification of the financial security management system is required, aimed at reducing financial risks, threats, dangers, identifying negative processes in the economy and finances. Based on the foregoing, it is necessary to highlight the following problems associated with the further development of the financial security management system: the influence of neoliberalism in the global economy on the financial security of Russia in the context of globalization; methodological provisions for studying the financial system and its relationship with financial security; the need to develop criteria for financial security at various levels of financial system management (nano-, micro-, meso-, macro-, mega-levels); features of modern threats and dangers of the financial system of the country; methodology for the formation of key indicators of financial security assessment.

**Conclusion.** It is also important to note that modern science has established that national economic security is most effectively ensured provided that a state system of strategic management in the economic sphere is formed (in the complex of forecasting, designing, programming, planning).

In the absence of an effective strategic management system, the situation in the field of economic security is aggravated, because it is being replaced by an alternative - corrupt management system, criminal and shadow risks and threats to the national economy, risks and threats of inefficient use of state and non-state resources, forces and means increase sharply.

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#### МЕМЛЕКЕТТІҢ ҚАРЖЫЛЫҚ ҚАУІПСІЗДІГІ: МӘНІ МЕН ТӘСІЛДЕРІ

Аннотация. Қазіргі жағдайдағы мемлекеттік қаржының рөлі оның әлеуметтік ұдайы өндіріс үдерісіне әсер етудің, экономикалық өсу қарқынын сақтаудың, экономиканың негізгі салаларын дамытудың, экономиканы қайта құрудың, ғылыми-техникалық прогресті жеделдетудің маңызды құралы болып саналатындығында. Осылайша мемлекеттік инвестициялар көлемінің кеңеюі, мемлекеттік құрал-жабдықтар мен жұмыс күшіне деген сұраныстың артуына әкеледі, бұл өз кезегінде өнеркәсіп өндірісінің өсуіне, жұмыспен қамтылуға және экономикалық жағдайдың жандануына серпін береді. Мемлекеттік бюджет есебінен сұранысты қолдау, әлеуметтік іс-шаралар мен бағдарламаларды қаржыландыру және т.б. жүзеге асырылады. Экономикаға қарама-қайшы болғанымен, мемлекеттің қорғаныс қабілетін қамтамасыз етуге байланысты шығыстар да әсер етеді. Бұл шығын бір жағынан, өнеркәсіптің дамуына белгілі бір серпін береді, екінші жағынан, ұзақ қару-жарақ экономиканың құлдырауына, ішкі экономикалық теңгерімсіздікке, өндіріс құрылымының өзгеруіне және басқа да жағымсыз салдарға әкеледі.

Мемлекеттің қаржылық қауіпсіздігі көп жағдайда ұлттық қаржы жүйесінің жұмыс істеуі мен даму жағдайына байланысты, олар институттар жиынтығы мен қаржы саласындағы қауіптерді анықтауға және алдын алуға бағытталған шаралар негізінде анықталады.

Тәжірибе көрсеткендей, қаржылық тәуекелдерді, қауіп-қатерлерді азайтуға, экономика мен қаржы саласындағы жағымсыз үдерістерді анықтауға бағытталған қаржылық қауіпсіздікті басқару жүйесін одан әрі ғылыми негіздеу қажет. Жоғарыда айтылғандарға сүйене отырып, қаржылық қауіпсіздікті басқару жүйесінің одан әрі дамуына байланысты келесі мәселелерді бөліп көрсету қажет: жаһандану жағдайында әлемдік экономикадағы неолиберализмнің Ресейдің қаржылық қауіпсіздігіне әсері; қаржы жүйесін және оның қаржылық қауіпсіздікке байланысын зерттеудің әдістемелік ережелері; қаржы жүйесін басқарудың түрлі деңгейінде (нано, микро, мезо, макро, мега-деңгейлерде) қаржылық қауіпсіздік өлшемдерін қалыптастыру қажеттілігі; қазіргі заманғы қауіп пен елдің қаржы жүйесінің қауіптілік ерекшеліктері; қаржылық қауіпсіздікті бағалаудың негізгі көрсеткішін қалыптастыру әдістемесі.

Қазіргі ғылым экономикалық салада стратегиялық басқарудың мемлекеттік жүйесі (болжау, жобалау, бағдарламалау, жоспарлау кешенінде) қалыптасқан жағдайда ұлттық экономикалық қауіпсіздік неғұрлым тиімді қамтамасыз етілетіндігін атап өткен маңызды.

Тиімді стратегиялық менеджмент жүйесі болмаса экономикалық қауіпсіздік саласындағы жағдай күрделене түседі, өйткені оны балама-сыбайлас жемқорлық арқылы басқару жүйесі, қылмыстық және көлеңкелі тәуекел мен ұлттық экономикаға төнетін қауіп-қатер, мемлекеттік және мемлекеттік емес ресурстарды, күштер мен құралдарды тиімсіз пайдалану қаупі күрт артады.

Түйін сөздер: қаржылық қауіпсіздік, ұлттық мүдделер, мемлекет, қаржы саласы, қауіп, қауіпсіздік.

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### ФИНАНСОВАЯ БЕЗОПАСНОСТЬ ГОСУДАРСТВА: СУЩНОСТЬ И ПОДХОДЫ

Аннотация. Роль государственных финансов в современных условиях заключается в том, что они выступают важным инструментом воздействия на процесс общественного воспроизводства, поддержания темпов экономического роста, развития ключевых отраслей хозяйства, структурной перестройки экономики, ускорения научно-технического прогресса. Так, расширяя объем государственных инвестиций, государство вызывает повышение спроса на оборудование, рабочую силу, что, в свою очередь, дает импульс росту промышленного производства, занятости. оживлению хозяйственной конъюнктуры. государственного бюджета осуществляется поддержание спроса, финансирование социальных мероприятий и программ и т.п. Воздействие на экономику, хотя и противоречивое, оказывают и расходы, связанные с обеспечением обороноспособности государства. С одной стороны, эти затраты дают определенный импульс развитию промышленности, с другой — длительная гонка вооружений приводит к истощению экономики, внутрихозяйственным диспропорциям, изменению структуры производств и другим негативным последствиям.

Финансовая безопасность государства в значительной мере зависит от условий функционирования и развития национальной финансовой системы, определяющихся совокупностью институтов и мер, направленных на выявление и предотвращение угроз в финансовой сфере.

Как показывает практика, требуется дальнейшее научное обоснование системы управления финансовой безопасностью, направленной на снижение финансовых рисков, угроз, опасностей, выявление негативных процессов в экономике и финансах. С учетом вышеизложенного необходимо выделить следующие проблемы, связанные с дальнейшей разработкой системы управления финансовой безопасности: влияние неолиберализма мировой экономики на финансовую безопасность России в условиях глобализации; методологические положения изучения финансовой системы и ее взаимосвязи с финансовой безопасностью; необходимость разработки критериев финансовой безопасности на различных уровнях управления финансовой системой (нано-, микро-, мезо-, макро-, мегауровни); особенности современных угроз и опасностей финансовой системы страны; методология формирования ключевых показателей оценки финансовой безопасности.

Важно отметить и то, что современной наукой установлено, что национальная экономическая безопасность наиболее эффективно обеспечивается при условии формирования государственной системы стратегического управления в сфере экономики (в комплексе прогнозирования, проектирования, программирования, планирования).

В отсутствии эффективной системы стратегического управления ситуация в сфере экономической безопасности усугубляется, поскольку ей на смену приходит альтернативная – коррумпированная система управления, резко возрастают криминальные и теневые риски и угрозы национальной экономике, риски и угрозы неэффективного использования государственных и негосударственных ресурсов, сил и средств.

**Ключевые слова**: финансовая безопасность, национальные интересы, государство, финансовая сфера, угрозы, обеспечение.

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#### REFERENCES

[The Main Components and the Direction of Ensuring the Economic Security of the Enterprise]. (2016). Retrieved January 27, 2016, from http://www.itspecial.ru/osnovnye\_sostavljyushie\_i\_napravlenij\_obespechenij.html

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# THE ROLE OF FINANCIAL STATEMENTS IN INCREASING THE EFFICIENCY OF THE COMPANY MANAGEMENT ACTIVITIES

**Abstract.** Every year, in order to improve the modern economy, it is necessary to improve the company's activities for providing services, producing products and performing works. The main tasks facing companies are to improve the conditions of transportation of manufactured products, high efficiency of the service sector, and their quality. To achieve these goals, an important role is played by evaluating the company's financial performance. This will help to develop a strategic plan for the company's development and provide a full explanation of decisions and their implementation, as well as search for sources for improving the main indicators of financial and economic activity.

Currently, in assessing the company's performance, it is necessary to conduct a policy of evaluating the results of its financial and economic activities, including monitoring the activities of partners and competitors. Assesses how much they guarantee the economic interests of the company and its partners, determining the state of business activity, reliability, competitiveness and business cooperation as an important part of the effective and sustainable functioning of the company's financial position. After conducting a financial analysis of the company's activities, you can see the most important aspects of its financial condition and in what direction you need to work. After conducting a financial analysis of the company's activities, work was carried out to determine the most powerful and key aspects of the company's financial condition. Using the results obtained, we have identified many effective ways to improve the financial condition of the company's operations. The main purpose of this analysis is to timely identify and eliminate deficiencies in financial performance, find ways to prevent and eliminate them, and find sources for improving the company's financial condition.

**Keywords:** company, financial statements, management, capital, fixed capital, working capital, income, expense, equity, debt capital, market, asset, liability, liability.

Currently, there are many methods of analysis that characterize the financial condition of the enterprise. The majority, based on the analysis of financial indicators, allows you to fully convey the financial position of the current enterprise. As a result of these analyses, only the internal service can make certain management decisions. However, the value of financial analysis, both for external objects and for information exchange. In this connection, there is a dependence on the financial analysis that reflects the creditworthiness of the enterprise, the degree of development of the company. At the same time, based on the state of the company's financial stability, the last conclusion gives a rating rating [1].

By studying the financial model of the company's stability using the studied methods, we can give a rating rating to the following stages:

- general assessment of the company's financial condition based on the analytical balance sheet;
- valuating the effectiveness of leveraged funds, taking into account the impact of financial instruments;
  - analysis of financial stability based on absolute indicators;
  - analysis and calculation of financial indicators;
  - the results of the financial analysis;
  - conclusion.

1. Overall assessment based on the balance of the comparative analysis of the financial condition of the company allows to obtain initial information about the financial situation of the company, describing the financial position of the company, the composition of the assets and liabilities of balance, dynamics and course. Allows you to perform horizontal and vertical analysis with indicators of the comparative analytical balance:

- comparing the results of a commercial company with the performance of other companies for the previous year;
- corrects inflationary components that distort the absolute figures of financial statements, and comparing the results with the dynamics leads to difficulties.
- 2. Evaluating the effectiveness of leveraged funds, taking into account the impact of financial instruments, i.e. increasing the return on equity through the use of financial funds, but allows you to determine how effective their borrowing is:
- if the effect of financial leverage is zero, then attracting loans and credits is profitable for the company, yagni means that the return on equity will be greater than the economic return on this value.;
- if the effect of financial leverage is less than zero, borrowing is useless, since it reduces its funds in comparison with economic profit. Based on this, it is necessary to regulate the differentiated and leveraged financial flow, i.e. the structure of balance sheet liabilities.
- 3. Financial stability analysis based on absolute indicators can be performed using two methods. Based on the methods proposed by A.D. Sheremet and V.V. Kovalev, it is possible to determine the degree of financial stability of the company, make specific steps to improve it by optimizing the structure and dynamics of assets and liabilities of the balance sheet.
- 4. To calculate and analyze financial indicators, the following stability and efficiency factors are included: financial coefficients, profitability coefficients, and business activity coefficients. Their accounting and analysis will allow a comprehensive assessment of the company's financial position in comparison of their values with historical values, industry averages, and regulatory values, and will allow you to develop specific measures to improve them to stabilize the company's financial position.
- 5. The analysis of the company's financial results is based on the financial reporting form "profit and loss statement". It also allows you to evaluate the company's performance for a certain period of time. The analysis allows you to identify the dynamics of income growth in connection with the receipt of income or in another reporting period.
- 6. conclusions are the final stage of financial diagnostics and are aimed at developing an opinion on the financial position of the company, including conclusions about the financial and economic opportunities of the company, as well as specific measures aimed at improving the financial position of the company [2-4].

This analysis allows you to track the level of the company's financial condition and its analytical indicators. In addition, you can divide the levels into classes and divide them by the company's overall score level. The result of the last stage of the analysis is the rating of the financial state of enterprise on the basis of which can be classified as a certain group of financial stability, to form an opinion about its financial status and to make proposals for its improvement.

Table 1 calculates the rating of the financial condition of SDN in the form specified in the Appendix.

Indicators	Share of all	Criteria of level classes				
	indicators	1	2	3	4	5
Financial condition of V.Kovalev's method	10	(0,0,0,0)	(0,0,0,1)	(0,0,1,1)	(0,1,1,1)	(1,1,1,1)
The coefficient of autonomy	10	< 0.4	0.40-0.45	0.45-0.50	0.50-0.60	>0.6
Coefficient of providing current assets with	10	< 0.1	0.1-0.2	0.2-0.3	0.3-0.5	>0,5
own current assets						
Liquidity ratio	10	< 0.2	0.20-0.25	0.25-0.30	0.30-0.40	>0.4
Intermediate coverage ratio	10	< 0.4	0.4-0.5	0.5-0.7	0.7-0.9	>0.9
Current liquidity ratio	10	<1.0	1.0-1.5	1.5-2.0	2.0-2.5	>2.5
Return on sales	15	<0	0-5	5-10	10-15	>15
Return on capital	15	<0	0-5	5-10	10-15	>15
Note - calculated by the author	•	•				·

Table 1 - Classes of the criteria level of the company's financial condition

The results of the analysis can be attributed to one group of financial stability. The company's financial statements in the form shown in table 1 are reviewed in detail in table 2.

№	Indicators	Value of	Class	Weight of	Points
		indicator		indicators,%	
1	Financial condition of V.Kovalev's method	(1,1,1,1)	5	10	50
2	The coefficient of autonomy	0.39	1	10	10
3	Coefficient of providing current assets with own	0.98	5	10	50
	current assets				
4	Liquidity ratio	0.21	2	10	20
5	Intermediate coverage ratio	0.26	5	10	50
6	Current liquidity ratio	1.6	3	10	30
7	Return on sales	0.059	2	15	30
8	Return on capital	-0.020	1	15	15
	Total	•		100	255

Table 2 - Rating of the company's financial condition

We put the yield of weight indicators higher than in other indicators, so E.Altman proposed two factors of five indicators of profitability for a wide five-factor "Z-model" to determine its probability of bankruptcy. The importance of yield indicators is also indicated in the "Golden rules of Economics", where the growth rate of balance sheet income should exceed the growth rate of revenue from sales, and the growth rate of sales should exceed the growth rate of assets.

Thus, when evaluating the significance of individual indicators, it will not be proved that the weight of two coefficients is 15 percent of the income from the proposed indicators, and the weight of the other coefficients will be equal to 10 percent.

According to the results of the rating evaluation, the value of each indicator is assigned to a class of a certain level of criteria. Then, by increasing the resulting value by a percentage of the indicator's weight, we get the sum of points, which is the index. Accumulating the totals of all indicators gives the final rating score, which reflects the level of the company's financial and economic situation on the following scale:

- Class 1-low level of financial and economic potential, which is up to 150 points;
- Insufficient level of 2nd class, 150-250 points;
- 3rd grade intermediate level, 250-350 points;
- Normal level of 4th grade, 350-450 points;
- 5th grade has a high level, 450 points.

In this regard, we can see that the company SDN has a high return for the financial and economic situation, the operation of the enterprise. As a result, we can say that the company has a high creditworthiness and is attractive to investors [5-8].

The negative impact of the financial leverage is due to the high level of the credit interest rate and a small amount of credit in 2018 (the company has sufficient funds to Finance its current activities).

In conclusion, based on the above, the rating assessment will allow you to assess the financial and economic potential of the enterprise and adequately identify shortcomings in the operation of the enterprise, develops a set of measures for its financial recovery. Such an assessment can reliably examine the creditworthiness of any company, both at the enterprise and in banks, and for investors. Directions for further research of the rating assessment of the company's financial condition may be related to the inclusion of other rating indicators, a larger or smaller indicator, the use of other normative values of indicators in professional classes and changes in their weight when evaluating the overall rating as they are conducted, the rating of the enterprise in various sectors of the economy [9-10].

Based on the analysis of the financial statements, a number of issues were identified in the activities of SDN, in particular, in terms of profitability and efficiency of the asset. The risks that arise in the company and possible forecasts in the future are reflected in table 3 in the form of a SWOT analysis.

As shown in table 3, SDN's strengths differ from their experience and important asset base. An important asset base is one of the company's strong factors. Thus, SDN has offices in other cities.

As the only company providing services to the population, we can see that the service professionals in their field and the management system in them are well developed. Particular attention should be paid to

the weaknesses and potential threats to the company identified in the analysis. One of the disadvantages of SDN is that it has too many commitments. As of December 31, 2018 the company's liabilities amounted to 59579021 thousand tenge. A high ratio of liabilities has a negative effect on profitability [11].

Table 3 - SWOT anal	ysis indicators based	on the results	of SDN's financia	al analysis

Strengths	Weaknesses
- availability of higher professional management;	- availability of a large volume of long-term loan ratings;
- have special qualifications and experience;	- insufficient share of equity;
- availability of a database of important assets.	- low level of the company's personnel.
Opportunities	Threats
- expand the range of services provided in that;	- low demand for services;
- ability to improve performance;	- strengthening the competitive situation in the market;
- providing advanced technologies through the introduction	- development of ways to improve competitiveness;
of innovative technologies.	- The possibility of deterioration of the economic situation in
	Kazakhstan or the world.
Note - calculated by the author	

There are also problems in the company's equity. During the study period, the authorized capital remained unchanged at the level of 72744613 thousand tenge, which is a very low cost, taking into account the share of attracted funds in the company's liabilities. In addition, SDN's equity does not have any reserve capital, which can become a "safety cushion" if the company's financial situation deteriorates. Although there was a 55.5% increase in retained earnings in the reporting period, the share of equity in total capital remained insufficient.

In addition, the company actively regulates the customer base by entering new markets and expanding the range of services provided. In the future, SDN will allow you to increase the profitability of your main services and opportunities. In addition, it focuses on improving the effectiveness of actions that can be achieved through the use of innovative technologies in the company's capabilities. Currently, SDN is working on developing new system programs and applications that allow automating part of the work performed with the staff. The introduction of advanced technologies will increase efficiency, reduce costs and increase the company's competitiveness in the market. According to the results of the SWOT analysis, there is a strong side of the company (expanding the range of services, innovative technologies, a significant asset base), but there are serious risks and disadvantages that do not allow to improve the financial position of SDN. This is a low return in the company. Increasing profitability is one of the most important factors for the company.

Profitability shows how successful an enterprise is, the higher the individual profitability ratios, the higher the members, the more effectively the activity will be accountable. Therefore, the author must determine that the company is striving for high performance, and the ways to improve management efficiency are decreasing, defines and defines an alternative to finding sources of various indicators of profitability of the system, rather than ways to increase it. When analyzing the marketing approach to improving profitability, it is important to share the influence of external and internal factors. In general, one of the activities for the company's development is to expand the sales market by reducing the price of the products offered. Therefore, it is necessary to pay attention to these external factors, i.e. an increase in production volumes, a decrease in the cost of production, and an increase in the profitability of fixed assets [12].

The result of the company's business activities is revenue. In addition, the purpose of financial and economic activities is not only to generate revenue for the company, but also to ensure high profitability. The difference in absolute income shows the level of return of the yield relative to a certain base. The company operates efficiently and economically. The amount of revenue from sales of products must be sufficient not only to cover the costs of production and sales, but also to generate income.

Therefore, one of the urgent tasks of the current stage of economic development is not only to improve the financial performance of the enterprise, but also to acquire practical skills and managers. Effective management of the formation and distribution of income to ensure the growth of investment and financial profitability of the activities of subjects of market relations.

Reducing the cost of production does not only show high profitability. Therefore, it is important to ensure that the correct marketing policy is implemented directly at the points of sale, that is, to place more

products that generate revenue. All products are divided into three groups: high, medium and low profitability. Given the above, the rational distribution of goods will allow to increase profitability and reduce costs. The size of a commercial company's profitability is closely related to the unit price, the rate of turnover, and the share of profitability. Increase in the yield of commercial companies provided by the increase in the number of new customers, growth of volumes of purchases of regular customers, increased sales of goods through falling prices and the cost of its implementation [13].

Defines an alternative to finding ways to improve various indicators of profitability. When analyzing ways to improve profitability, it is important to share the influence of external and internal factors. A close functional relationship represents indicators such as product and resource prices, the amount of resources consumed and the volume of production, revenue from sales, and return on sales.

Thus, it is important to justify and plan the level of strategic profitability and its size. This requires the formation and development of financial, pricing, financial strategy, and marketing policies.

Table 4 below shows the company's goals and the relationship between the main factors that influence their achievement.

Goals	Factors
Ensuring that savings are needed to improve productivity	Product range and sales volume, sales prices, optimization of production costs, volume of resource use, structure and size of efficiency and profitability
Ensuring the sustainable financial condition of an industrial company	Formation of a Reserve Fund, suppliers, banks and other contractors and sufficient profitability, diversification of investments
Satisfaction of the company owner's interests	Increase in the company's revenue due to increased productivity the amount of use of its own and attracted financial resources, the effectiveness of financial leverage, and profitability levels
Promotion of social security for the social development of the collective	Working expenses, the number and composition of labor resources used, incentive measures, the amount of profitability
Note - calculated by the author	<u> </u>

Table 4 - Company goals and the relationship of factors that influence their achievement

If a company with a total amount of the same capital is financed not only from its own funds, but also from borrowed funds, pre-tax income is reduced by adding interest to expenses. Accordingly, the amount of income tax is reduced, and capital income can be increased. In industrial practice, the company has a large margin of growth in both traditional and new profitability.

Taking into account the dynamic macroeconomic conditions of development, industrial enterprises require diversification of production capacities and in the near future choose the areas of investment that are in demand in the market. At the same time, the range will be more diverse, as far as the needs of the population are met, that is, they are interested in a wide range of consumer goods. At the same time, it is necessary to ensure the effectiveness of each investment direction. When selecting these suppliers, it is advisable to use a balanced method to determine the optimal size of purchases of goods and the purchase price of goods, permanent trademarks, and spending on commercial activities.

In cases where the company can manage its costs independently, mainly not only by consuming their quantity, but also by reducing production costs due to the slowdown of individual uncontrolled inflation and the lack of control over the cost of each input material, the company can increase revenue. Therefore, it is necessary to re-evaluate other qualitative characteristics that affect the company's revenue growth.

The set of SDN's activities aimed at improving the level of financial stability is shown in table 5.

Thus, the proposed measures and the first stage in the complex is to increase the share of long-term sources of financing through borrowing Management. In this case, you should pay attention to the indicator of your own working capital, the value of which should be positive in accordance with the conditions for ensuring the operation of the enterprise.

The risk factors used in the calculation can be a moral situation in the company: competence, honesty, and maintaining current status of employees; the size of the asset, liquidity, or transaction volume; financial and economic situation; competitiveness; complexity and variability of the activity; the influence of consumers, suppliers and governments; the level of programming the information systems; the adequacy and effectiveness of internal control systems and accounting; organizational, operational, profitability, technological and economic changes.; measures taken to correct these violations of previous audits, the date and results of the previous audit [14-16].

Composition of events	Internal company effects	
1. Increasing the share of long-term financing	Improving the capital	Ensuring that shares are covered by their own
sources through borrowing Management	structure	current assets
2. Increase in the share of private sources of		Increase in the cost of own capital, increase in
financing by increasing the share of equity		the cost of sources of own working capital
with own funds, including through the		
creation of reserves		
3. Quality control of work in the company	Improving the profitability	Improving the efficiency of the staff
	of core business	
4.Introduction of risk management system	Improving the company's	Managing all possible risks in the company
	financial condition	
Note - calculated by the author		

Table 5 - A set of measures aimed at improving the financial stability of SDN

The company's current assets do not correspond to the set value. Implementation of the event is possible through rational borrowing management:

- it is necessary to analyze the composition and dynamics of the funds raised, their sources of borrowing and attracted goals; determine what funds may be required in the coming period;
- when determining the maximum amount of loans based on capital, it is necessary to calculate the amount of necessary funds;
  - analysis of possible sources of borrowing, assessment of their value;
- determine the amount of borrowed funds on a short-term and long-term basis, the forms of their attraction:
- based on the analysis, it is necessary to create a list of potential creditors and determine the most rational options;
  - favorable conditions for attracting loans, it is necessary to ensure their effective use [17].

Finally, the financial reporting Department must ensure timely settlements on borrowed funds received.

The subject of the financial stability assessment is the assessment of supplies and costs of resource generation sources. The level of financial stability is the basis of a certain level of solvency of the company. The generalized measure of maximum financial stability is excessive or there are no sources of reserves and losses. An assessment of financial stability will help determine the company's long-term capabilities.

Thus, as measures to improve the financial situation, it is proposed to increase the share of long-term sources of financing through borrowing Management; increase the share of own sources of financing by increasing the share of equity by creating reserve capital from net income; implement strict quality control in the company and implement a risk management system. To further increase the performance of any company, success plays an important role. The set of measures taken to increase revenue in the company is shown in figure 1.

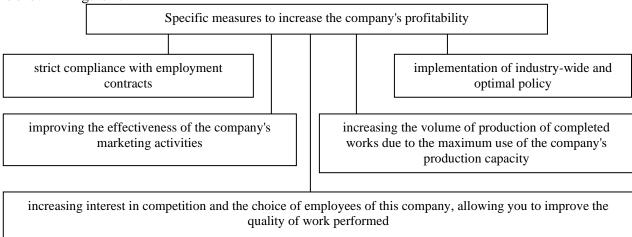


Figure 1 - Specific measures to increase the company's profitability

Modern manufacturing operations must comply with the following parameters:

- greater flexibility, the ability to quickly change the services provided, as the inability is subject to bankruptcy of the company;
- production technology is so complicated that it requires new types of control, organization and distribution of labor;
- quality requirements are not simple, but completely changing the nature is not enough for the successful performance of the work, it is necessary to consider ways to find new customers, providing consumers with additional services.;
- with a significant change in the structure of production costs, the share of costs associated with the sale of production increases [18].

An assessment of the company's financial condition will be incomplete without a financial stability analysis. Analyzing the liquidity of the company's balance sheet, comparing the state of liabilities with the state of assets, which allows you to assess how they are ready to pay off their debts. Analysis of the company's financial stability allows you to form an idea of its real financial condition and assess the financial risks associated with its activities.

Financial stability is one of the main characteristics of the company's financial condition. It represents the long-term stability of the company, the availability of financial sources, its solvency, creditworthiness, i.e. external financial stability. Improving financial stability is an important topic of financial management. The main task of a financial Manager is to determine the company's position on the market, its financial condition, identify the causes of deviations from the normal value and provide solutions to problems.

One of the main issues is defining the boundaries of the company's financial stability. The indicator of deviation from each normal is the indicator of imperfection of the company's financial position: Financial stability reflects the issues of inventory management, activity, and the company's development brake.

Financial stability is a characteristic feature that indicates a constant excess of the company's income over its losses, free circulation of the company's funds and their effective use, continuous production and sales of products. Financial stability is formed in all production and economic activities, and is the main component of the company's overall stability.

The company has four types of financial stability:

- insufficient financial stability: the amount of own working capital and Bank loans for this working capital, if the share price is less;
- normal stability of the financial position, ensures the company's solvency: if the cost of reserves is equal to the amount of its own working capital and borrowed funds;
- state of financial instability: consumption of sources of funds that can compensate for the cost of insignificant reserves from the amount of own trades and borrowed funds at the expense of others, etc.;
- state of financial crisis: when a company goes bankrupt, the amount of its debt to the Bank and inventory exceeds the amount of its own current assets.

The purpose of the financial stability analysis is to assess the company's ability to repay its obligations and preserve the company's ownership rights. However, the following tasks need to be solved::

- we need to objectively assess financial stability;
- identification of factors that affect financial stability;
- aimed at strengthening financial stability by developing options for specific management decisions.

Stable financial position, in turn, production of necessary and favorable resources for the implementation and maintenance of production plans. Therefore, financial activity should be directed to the same part of economic activity as financial activity. Ensuring the planning and spending of funds, the implementation of accounting discipline, requires the use of own and borrowed capital and its effective use to achieve optimal proportions.

Table 6 below shows a list of measures aimed at increasing the financial stability of SDN.

The company's stable financial position is the result of successful management of a complete set of production and economic factors that determine the company's performance.

These are internal factors that affect the state and turnover of assets, the composition and relationships of financial resources. The main purpose of financial analysis is to assess the company's real financial condition, compare its results with the results of previous stages, and Determine whether it is possible to improve the efficiency of an economic entity using a rational financial policy. The results of such analyses

are necessary, first of all, for the owners of companies, as well as for creditors, investors, suppliers, managers and services of tax authorities.

Measures	Directions
1. Strengthening analysis and monitoring of accounts receivable	Development of effective methodology, commercial lending and provision, collection of clients and cash
2. Self-financing	Stimulating customer acceleration, paying for its service, and attracting new independent customers
3. Factoring operations	Periodic acceleration of turnover and collection of accounts receivable
4. Investment in short-term financial investments	Getting additional income
Note - calculated by the author	

Table 6 - Measures aimed at increasing the financial stability of SDN

Stabilization program. The company works with cash to fill in the difference between their expenses and its profits. The decrease of current financial needs. In fact, this is only possible by restructuring the loan forms issued through the company. Debt restructuring is a specific anti-crisis management document that can be a relatively successful condition of the company by the debtor. However, the crisis makes debt restructuring much easier on the one hand, while on the other it determines how to manage an unsatisfactory crisis under normal conditions.

To ensure the financial stability of the company, there must be a flexible capital structure to ensure its solvency and the ability to organize movement in order to create conditions for self-realization. The financial condition of the company and its stability depend on the results of its production, commercial and financial activities. In case of successful implementation of production and financial plans, this has a positive impact on the financial position of the company. On the contrary, due to an insufficient plan for production and sales of products, its cost price increases, revenues and revenues decrease, resulting in a deterioration of the financial situation and a decrease in the company's solvency.

Therefore, a stable financial position stabilizes the financial position of the company as a result of competent, skillful management of a whole set of factors that determine the results of economic activity of the enterprise. A strong financial position, in turn, has a positive impact on the implementation of industrial plans and provides the needs for the extraction of necessary resources. Today, the issue of strengthening the financial position of many existing enterprises in various sectors of the economy and spheres of activity remains relevant. The analysis shows that the main reasons for their activity are the ability to optimally organize the work of all services, not only in the effective management of them, but also at low, medium and high levels.

When conducting marketing research on economic and financial issues, you need to trust qualified and experienced specialists in financial planning and other issues, i.e. they determine the company's goal, can attract available resources and accurately evaluate, determine the possibility of using them to achieve goals, are able to formulate tasks, monitor the activities of performers, make decisions, make plans and carry out analytical work. It should be noted that attracting borrowed funds to the company's turnover is a normal phenomenon. This contributes to a temporary improvement in the financial situation if the turnover occurs for a long time [19].

It is important to note the importance of assessing the financial position for the successful management of the company's financial position. The financial condition of a company is a set of economic indicators that characterize its production and economic activities, reflecting the availability, mobilization and ownership of available financial resources, which are the final result of all its elements of the system of economic relations.

The main purpose of financial analysis is to calculate the main financial indicators that reflect the financial position of the company, its income and expense items, the dynamics of the structure of assets and liabilities, and a complete understanding of relations with debtors and creditors. To improve the company's competitiveness in modern conditions, the financial Department must monitor the real state of the company's stability. To achieve this goal, it is necessary to have the information base necessary for studying and using the main methods of assessing the company's financial condition.

After conducting a financial analysis of the company's activities, work was carried out to determine the most powerful and key aspects of the company's financial condition. Using the results obtained, we have identified many effective ways to improve the financial condition of the company's operations. The main purpose of this analysis is to timely identify deficiencies in financial performance, find ways to prevent and eliminate them, and find sources for improving the company's financial condition.

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### КОМПАНИЯНЫ ЕНГІЗУ БАСҚАРУ ҚЫЗМЕТІНІҢ ТИІМДІЛІГІН АРТТЫРУДА ҚАРЖЫЛЫҚ ЕСЕПТІЛІК АҚШАЛАЙ РӨЛІ

**Аннотация.** Жыл сайын заманауи экономиканы жетілдіру мақсатында компанияның қызмет көрсету, өнім өндіру және жұмыстарды орындау іс-шараларын жақсартып отыру керек. Компаниялардың алдында тұрған басты міндеттері – өндірілген өнімді тасымалдау жағдайын, қызмет көрсету саласының жоғары тиімділігін, олардың сапасын жоғарылату болып саналады. Осы мақсаттардың орындалуы үшін компанияның қаржылық көрсеткіштерін бағалау маңызды рөл атқарады. Бұл компанияны дамытудың стратегиялық жоспарын жасауға көмектеседі, әрі шешімдердің толық түсіндірілуін және олардың орындалуын, қаржы-экономикалық қызметтің негізгі көрсеткіштерін арттыру көзін іздеуді қамтамасыз етеді.

Қазіргі кезде кәсіпорын қызметін бағалауда оның қаржылық-шаруашылық қызметінің нәтижелерін бағалау саясатын жүргізуге, оның ішінде серіктестер мен бәсекелестердің қызметін бақылауға міндетті. Компанияның қаржылық жағдайының тиімді және тұрақты жұмыс істеуінің маңызды бөлігі ретінде іскерлік белсенділік, сенімділік, бәсекеге қабілеттілік пен іскерлік ынтымақтастық жағдайын анықтай отырып, компанияның және оның серіктестерінің экономикалық мүдделеріне қаншалықты кепілдік беретінін бағалайды. Компания қызметіне қаржылық талдау жүргізілгеннен кейін оның қаржылық жағдайының ең маңызды аспектілерін және қандай бағытта жұмыс жүргізу керек екенін түсінуге болады.

Компанияның табысты жұмыс атқаруы білікті қаржылық басқаруға, дұрыс көшбасшылыққа тікелей байланысты, сондай-ақ мерзімінде, нақты, объективті және ғылыми негізделген шешімдер арқылы көрініс табады. Сондықтан мұқият және толық экономикалық талдау негізінде ұйым қызметінің нәтижелерін объективті бағалауға, кәсіпкерлік қызметті тиімді басқаруға, компанияның қаржылық тұрақтылығын оңтайландыру бойынша ұсыныстар тізбесін құруға мүмкіндіктер берілді.

Қаржылық талдаудың аталған негізгі мақсаты – компанияның қаржылық жағдайын, оның басқару кірісі мен беріледі шығыс баптарын, орындамау активі мен міндеттеме құрылымының динамикасын, борышкер және несие берушілермен қарым-қатынасындағы айырысулар толық түсінікті активтегі көрсететін негізгі қаржылық көрсеткіштерді есептеу табылады болып саналады. Компанияның қазіргі жағдайында бәсекеге қабілеттілікті арттыру үшін қаржылықдипломда департамент компания тұрақтылығының нақты шамасы жағдайын қадағалауы тиіс. түрі Осы мақсатқа шығындарды жету үшін компанияның қаржылық жағдайын бағалаудың негізгі әдістерін жағдайы оқып, қолдануға қажетті ақпараттық басқара базаға ие жеке болу қажет.

берешекКомпания қызметіне қаржылық талдау жүргізілгеннен кейін компанияның қаржылық жатқызуға жағдайының күшті сатылымның және негізгі аспектілерін анықтау жұмыстары кестеден жүргізілді. Алынған мерзімді нәтижелердің бойынша компания қызметінің қаржылық жүзінде жағдайын жақсартудың белгілі көптеген тиімді жолдары анықталды. Талдаудың негізгі мақсаты – қаржылық қызметтегі кемшіліктерді табылады мерзімінде анықтау және оның алдын алу мен жою жолдарын, компанияның қаржылық резервтерді жағдайын жақсарту нарықтық көздерін іздестіру.

**Түйін сөздер**: компания, қаржылық есептілік, басқару, капитал, негізгі капитал, айналым капиталы, табыс, шығын, меншікті капитал, қарыз капиталы, нарық, актив, пассив, міндеттеме.

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### РОЛЬ ФИНАНСОВОЙ ОТЧЕТНОСТИ В ПОВЫШЕНИИ ЭФФЕКТИВНОСТИ УПРАВЛЕНЧЕСКОЙ ДЕЯТЕЛЬНОСТИ КОМПАНИИ

**Аннотация.** Ежегодно в целях совершенствования развития экономики на современном этапе необходимо улучшать мероприятия компании по оказанию услуг, производству продукции и выполнению работ. Основными задачами, стоящими перед компаниями, являются улучшение условий транспортировки производимой продукции, роста эффективности сферы услуг, их качества. Для выполнения этих целей немаловажную роль играет оценка финансовых показателей компании. Это способствует разработке стратегического плана развития компании и обеспечению полного разъяснения решений и их исполнение, поиску источников повышения основных показателей финансово-экономической деятельности.

В настоящее время при оценке деятельности предприятия необходимо проводить политику по оценке результатов его финансово-хозяйственной деятельности, в том числе контролировать деятельность партнеров и конкурентов. Оценивать, насколько они гарантируют экономические интересы компании и её партнеров, определяя состояние деловой активности, надежности, конкурентоспособности и делового сотрудничества как важную часть эффективного и устойчивого функционирования финансового положения компании. После проведения финансового анализа деятельности компании можно увидеть наиболее важные аспекты ее финансового состояния и в каком направлении нужно работать.

Успешная работа компании напрямую зависит от квалифицированного финансового управления, правильного лидерства, а также в свою очередь, проявляется в своевременности посредством конкретных, объективных и научно обоснованных решений. Благодаря тщательному и полному экономическому анализу получены возможности объективной оценки результатов деятельности организации, эффективного управления предпринимательской деятельностью, формирования перечня предложений по оптимизации финансовой устойчивости компании.

Основной целью финансового анализа является расчет основных финансовых показателей, отражающих финансовое положение компании, статьи ее управленческих доходов и расходов, динамику структуры активов и обязательств, полное понимание в отношениях с должниками и кредиторами. Для повышения конкурентоспособности компании в современных условиях финансовый департамент должен следить за реальным состоянием стабильности компании. Для достижения этой цели необходимо иметь информационную базу, необходимую для изучения и использования основных методов оценки финансового состояния компании.

После проведения финансового анализа деятельности компании была проведена работа по определению наиболее сильных и ключевых аспектов финансового состояния компании. С помощью полученных результатов выявлено множество эффективных путей улучшения финансового состояния деятельности компании. Основной целью данного анализа является своевременное выявление недостатков в финансовой деятельности, поиск путей их предупреждения и устранения, источников улучшения финансового состояния компании

**Ключевые слова:** компания, финансовая отчетность, управление, капитал, основной капитал, оборотный капитал, доход, расход, собственный капитал, заемный капитал, рынок, актив, пассив, обязательство.

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#### REFERENCES

- [1] Kovalev V. V. Fundamentals of the theory of financial management. Textbook. Moscow, 2009. P.53.
- [2] Raimbekov J. S., Sarsenova A. E. Financial management, Textbook, Almaty, 2014, P.23.
- [3] Kolchina N. V., Polyak G. B. enterprise Finance. Textbook. M.: YUNITI DANA, 2012. P.445
- [4] Melnikov V. D., Ilyasov K. K. Finance. Almaty.: Publisher 2nd edition. Processing and the addition of Finance, 2000. P.486.
  - [5] Gavrilova A. N. Finances of organizations (enterprises). Moscow: KNORUS, 2007. P.608.
  - [6] Dontsova L. V. Analysis of financial statements: / Moscow: Delo I SERVIS publishing House, 2008. P.368.
  - [7] Ionova Yu. G., Lednev V. A. Financial management: textbook. Mfpu "synergy". 2016. P.262.
- [8] Berdnikova T. B. Analysis and diagnostics of financial and economic activity of the enterprise: Textbook. M.: Infra. M., 201. P.215.
  - [9] Kirichenko T. V. Financial management: textbook. Dashkov & K publishing and trading Corporation, 2016. P.316.
- [10] Nikulina N. N., Sukhodoev D. V., Eriashvili N. D. "Financial management of an organization, Theory and practice". 2017. P.115.
- [11] Dyusembaeva L.K., Babazhanova Zh.A., Bulakbay Zh.M., Nurbayeva G.Ye. / Strategy of interaction of the state and small business as a factor of innovative development / NEWS of the national academy of sciences of the republic of kazakhstan series of social and human sciences / Volume 1, Number 323 (2019), P.117-121, https://doi.org/10.32014/2019.2224-5294.17
  - [12] Dontsova L. V. Analysis of financial statements: / Moscow: Delo I SERVIS publishing House, 2008. P.368.
  - [13] Stoyanova E. M. Financial management. Russian practice. Moscow: Perspektiva, 2008. P. 453
  - [14] Chechevitsyna L. N. Analysis and management of financial stability of the enterprise. Moscow: "DIS", 2009. P.208.
- [15] Alexey Grachev "Financial stability of the enterprise: analysis and management": educational and practical guide. 2004. P.145.
  - [16] Karlukov N. K. "Analysis and accounting of financial stability and solvency of the enterprise". 2010. P.87.
- [17] Imanbayeva Z.O., Taskarina B., Demeuova G., Baishukurova Zh., Tleubergenova M. "Main directions of the company's balancing structure observation decisions". News of the national academy of sciences of the republic of kazakhstan Series of social and human sciences. Volume 6, Number 328 (2019), P. 167-173. https://doi.org/10.32014/2019.2224-5294.226
  - [18] Cantora E.L. Enterprise Economics. SPb: Peter, 2009. P.244
  - [19] Kolchina N.V. Enterprise finances: M.: UNITI-DANA, 2009. P.352.

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## WAYS TO IMPROVE THE COMPANY'S CASH FLOW MANAGEMENT

Abstract. In a market economy, the company's cash flow is the most limited resource, so effective cash management ensures financial stability in the process of enterprise development. The study of cash flow management is aimed at generating information about the direction and sources of cash flow, time parameters, and volumes. This information is necessary to justify decisions about managing cash flows, taking into account the influence of objective and subjective, internal and external factors. Cash flows of an enterprise require the organization of their turnover, use, distribution, and formation. Therefore, the company's cash flow management system, based on the principle of integration, complexity, orientation and variability, is very necessary, since this is one of the important stages of the company's activity, which creates the basis for achieving and developing large final results. Management of the organization's cash flows is carried out within the framework of operational goals aimed at increasing the market value of the enterprise, along with strategic goals that allow you to develop a set of tactical and short-term planning tasks that allow you to determine the optimal level of funds.

**Key words:** enterprise, cash, turnover, income, expense, loss, balance sheet, asset, liability, revenue, security, accounts receivable, accounts payable.

In the context of the development of the modern market model, many economists from the issues of cash flow management of the enterprise emphasize the shortage of funds necessary for the implementation of current and investment activities of the enterprise. However, if we look at this issue more closely, one of the main reasons for this deficit is the low efficiency of using and attracting monetary resources, and the limited use of financial instruments, technologies, and mechanisms for them. Since financial instruments and technologies are always based on financial science and practice, their use is very important when financial resources are scarce [1].

Currently, one of the main areas of enterprise flow management problems is that cash management procedures are carried out theoretically, but are not known than the positions of practical application. Therefore, the determination of the level of funds is subject to non-formalized methods of statistical and financial decisions [2].

In the process of managing issues on the flow of funds of the enterprise, the impact of these factors can be seen in the following figure 1. Taking into account the identified factors, we see that the basis for managing issues related to the company's cash flows is to ensure a balance of negative and positive cash flows, since there will be insufficient and weak excess cash in the business activities of the company. Guaranteed return of funds invested in short-term government obligations is called risk-free. Of course, there can't be securities that have absolutely no risk. However, the risk associated with investments in short-term funds is very low, even they can be ignored. Low risk and high liquidity is a favorable object for short-term investment of short-term government obligations with temporarily available funds of the enterprise [3].

These problems that arise in the enterprise, as well as the management of current assets, in General, are formed through a counter-partner trend: an attempt to get rid of surpluses; an attempt to get rid of deficits; the balance of both; the formation of a balance; comparison of results.

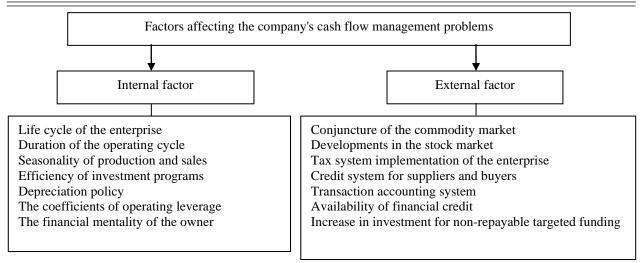


Figure 1 – System of factors that affect the management of problems in the flow of funds of the enterprise

Note - Compiled by the author

Ineffective the impact of scarce cash flows reduces the liquidity and solvency of the company, the increase in overdue payables of suppliers of raw materials, the increase in the share of overdue debt on the financial loans, delays in the payment of wages, increase in the duration of the financial cycle, ultimately reducing the profitability of using its own capital and assets.

In contrast to the negative effects of excess cash flow, the loss of the real value of temporarily unused funds due to inflation, their loss from potential income from assets not used in short-term investment, as a result, inefficiently affects the company's equity and the level of return on assets [4].

It is observed that the advantage of temporary free funds exceeds the sufficient and necessary level planned for maintaining their compensation balance and executing transactions. And the shortage of free cash in the temporary head means that the level of sufficiency planned to maintain their compensation balance and carry out transactions exceeds the current level. Just like the deficit, there are negative consequences of excess funds [5].

Part of the money "does not work" on the account. In the foreign practice of managing the flow of funds, a winning income is equated to a loss that invests its available funds in government short-term securities in order to reduce the company's losses. The goal is a guaranteed return of invested funds, lower, but also a guarantee of obtaining a reliable income [6].

There are two popular models for managing cash flows and cash equivalents that allow you to maintain an optimal amount of temporarily available cash and invest excess cash in short-term securities:

- Baumol Model;
- Miller-Orr Model.

The Baumol model (effective order measurement formula – economic-order-quantity – EOQ) is only used if the company's expenses are equally assumed and stable.

### The Baumol model is based on the following assumptions:

- 1) the maximum demand for money is determined for the long term;
- 2) the minimum need for funds in the long-term period is small, and therefore the model has a zero value;
- 3) the company's account has a certain amount of money that exceeds its demand, and that the company from time to time invests it in short-term government securities;
  - 4) all funds transferred to the company's current account are invested in short-term securities;
  - 5) as a result, temporarily available funds on the account are depleted to the minimum level;
- 6) then short-term securities are sold in one line, as a result of which the balance of funds on the account is filled to the original value;
  - 7) the subsequent transaction for the purchase and sale of securities is repeated.

The Baumol model determines the optimal amount of the cash balance and the optimal frequency of filling with the minimum total expenditure.

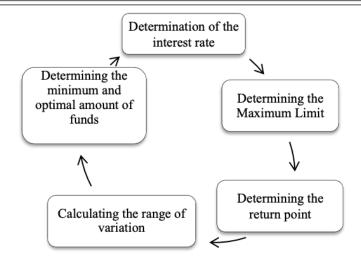


Figure 2 – Graph of changes in the cash balance (Baumol-Tobin model)

Note - Compiled by the author

The disadvantage of the Baumol-Tobin model is the assessment of the stability and predictability of cash flows. In addition, the periodicity and cyclicality characteristic of all cash flows are not considered in this report.

In this case, the purchase of securities is also called the conversion of cash into securities and the sale of securities-the conversion of securities into cash. This unusual terminology describes the transaction of purchase and sale of securities as the process of converting money into securities, their cash. The interest rate on risk-free securities is considered as expenses related to keeping funds in the account. In this case, these costs are considered as lost or lost revenue of the enterprise. Thus, if the above-mentioned legal entities acquire goods, works, and services necessary to ensure the functioning and performance of state functions or their statutory activities, then regardless of the origin of the funds, these legal entities must make purchases in accordance with the law on public procurement and, accordingly, draw up a public procurement plan.

The policy of changing payments when payments are received should be based on quality indicators of the company's activity. Otherwise, not only the company's reputation, but also its business performance may be at risk.

The Miller-Ora model is used when there is a high uncertainty in the forecast for periods for cash, a random change in the balance of funds on the account, and a significant deviation. In this case, the statistical method is used for the forecast [7-10].

### The Miller-Orr model is based on the following predictions:

- sets the normal, as well as the maximum and minimum limits of funds remaining on the company's account;
- the remaining funds in the account are not changed in order until they reach the maximum limits, after which the company begins to purchase government securities until it reaches the point of returning to the normal level of funds.:
- the remaining funds held in the account do not vary in order until they reach the minimum limit, after which the company begins selling government securities until the normal level of funds (the point of return) is reached.

In addition, how to interpret the funds remaining in the current account, the set maximum and minimum limits. To do this, refer to the statistical method, calculated as the average square deviation of the receipt of funds on the account and the scale of variation. The higher the values of these indicators, the greater the difference between the maximum and minimum thresholds, that is, the range of acceptable variation.

This method is important in order to pay off the debt within a short period of time, when payment for goods is delayed, it imposes a penalty on buyers. Providing discounts can be a different financial Manager

due to the acceleration of the average turnover, when the seller of goods receives indirect income from reducing the cost of buying with the buyer. However, any number of parameters in this scheme are discounts. This can be set in different ways, including some formatted usage algorithms that take into account the impact of inflation and the cost of maintenance of accounts receivable financing.

The economic situation has a significant impact on the activities of enterprises in the market, and is also known as instability and uncertainty. In this case, enterprises should improve management, increase its reliability, performance, and minimize possible risks. Special attention is paid to improving inventory management. The largest weight falls on the introduction of finished products of industrial production, ensuring trade turnover by enterprises and commercial enterprises. Management is very important because it regulates technical reserves and financial aspects. In this case, production stocks are explained in a broad sense, and raw materials are necessary only for the production process.

Production releases include: raw materials and materials; continuation of work; finished products; goods for resale.

According to economists, the types of funds do not matter, but only the amount of money, you can combine data in funds together, heterogeneous assets in one group will be here.

When determining a rational structure, you can use four models of reserve behavior: ideal; aggressive; conservative; and compromise.

If there is an aggressive long-term model, the capital reaches a minimum. Changes in current assets fully cover short-term debt. This strategy in terms of liquidity is very risky in real life. Thus, an event about current credit debt does not pose a threat of loss of liquidity. The compromise model is the most realistic. Under this model, long-term assets, the system part of assets at disposal, and parts that change by about half, are covered by long-term liabilities [10-14].

After analyzing and evaluating the state of KKK LLP's funds, it is necessary to justify decisions on their effective use.

According to the analysis, deviations of the negative and positive cash flows from the arithmetic mean indicate that the enterprise is not using its financial resources efficiently. The main proof of this is the positive flow of the enterprise from the average arithmetic index in the third quarter of 2017 - -184 180, -198,292 thousand tenge, respectively, in the fourth quarter of 2018 - 42,241,353 million. In the first three quarters of 2019, the volume fluctuated by 38,884,304 million. This is a risk than the company's cash management is optimal, since cash will fall below the return point when it reaches high limits, but after reaching the lower limit, there will be no return to the return point. In order to increase the reliability of cash security and increase revenue through the use of other sources of income, it is necessary to organize the management of cash balances of KKK LLP.

The results of economic activity of KKK LLP over the past three years indicate that the main activity of the company is transportation by large-size transport.

The following data should be noted as features of transportation by transport equipment: the provision of this service has not been reduced, but on the contrary has increased significantly. At the same time, it should be taken into account that the volume of sales increased not by increasing the cost per unit of goods, but in physical terms.

These facts oblige us to find effective ways to improve the efficiency of financial resources management of KKK LLP, increase the turnover of funds and other assets.

The presence of a large amount of money on the account of KKK LLP is one of the main and important problems for the company. If there is a large amount of money in the organization, there is a loss from missed opportunities (for example, the rejection of a certain investment project). With a minimum Fund of funds, there are costs to replenish this Fund, which are called maintenance costs (commercial costs associated with the purchase and sale of securities, or other costs associated with loans raised to replenish the remaining funds, and interest).

Therefore, on the example of the enterprise we are considering, we must provide two conditions: the first is to maintain the current solvency, the second is to receive additional income by making deposits on temporary free funds. To improve this situation, it is necessary to make a forecast of the optimal amount of money for the previous period. To achieve this goal, we will consider the above models in KKK LLP.

Before considering the first Miller-Orr model on the example of an enterprise, it is necessary to note its main stages for the practical application of this method and the implementation of management on it.

However, when using this model, it should be taken into account that the costs of buying and selling securities are equal and fixed in relation to each other [15].

To use the Miller Orr model at KKK LLP, we first need to determine the following parameters. The first step we need to take is to determine the lower cash balance. Management of KKK LLP annually allocates over 8,000,000 million. tenge as an insurance fund. The Insurance Fund will be created to insure the risks associated with the weakening of the ready-to-operate market for the finished goods, decrease of the payment turnover and for other reasons, of late payment of cash.

If a particular firm has cash in amount of C = 400,000 and weekly expenditure is more than 100,000 in revenue, then: 1) available cash will be expired by the end of the third week and 2) cash in account  $C / 2 = 200\,000$  tenge. By the end of the third week, the firm should replenish its cash by borrowing or investing in liquid securities.

If C is a large sum, say, 800,000 thousand tenge, that money will last longer (with a project for six weeks). And the firm rarely sells securities. Accordingly, the average capital balance will increase from 200,000 to 400,000. Large cash balances reduce transaction costs associated with borrowing and selling securities. On the other hand, because the funds are still in the account, they do not generate any income. The amount of such income can be likened to the amount of income from investing in securities [16].

The creation of this balance is related to the conditions for maintaining the constant solvency of the enterprise for deferred financial liabilities. At the same time, the amount of money is affected by the company's access to short-term financial credit. This indicator can be zero or more, it is desirable that the amount was satisfied by the Bank. The second step is to estimate the cash flow variance. For example, you can calculate the revenue and expense of positive cash flow by quarter and determine the amount of the day. In KKK LLP the daily average cash flow fluctuation was 163,636 thousand tenge (found on the annual average square deviation: 58362 206/365), the daily cash flow variance was 163,662 = 26,776,950,309; value of transaction for purchase of securities - 1000 tenge, interest rate on risk-free securities - 0.018% (6.5 / 365, that is, we find the daily rate on the annual rate), minimum cash balance on the account - 2 000 000 mln. tenge (as of 2019), the management of the company has invested more than 8 million tenge as an insurance cash balance.

$$S = 3 * 3\sqrt{3 * 58\ 362\ 206 * 1000^2/4 * 0,018} = 3\ 111\ 510\$$
mln. Tenge 
$$\max = 2\ 000\ 000\ + 3\ 111\ 510\ = 5\ 111\ 510\$$
mln. tenge 
$$N = 2\ 000\ 000\ + 3\ 111\ 510\ / 3 = \ 3\ 037\ 170\$$
mln. Tenge 
$$K_{H} = 2\ 000\ 000\ + \frac{1}{3} - \ 3\ 111\ 510\ = 962\ 950\$$
mln. tenge

This model is very effective in collecting and continuously spending money.

The balance of funds on the account changes within the upper and lower limits. If the remainder was 5 111 510 million, to bring the company's inventory to the optimal level 962 950 million (the Point of no return – RP) needs to invest in various financial instruments. If the Fund reaches a level below 2,000,000, the company begins selling its deposits or attracts a loan in the same monetary form. Thus, the Fund replenishes funds to the optimal level of 962,950 thousand tenge. According to this model, the goal of management is to reduce overall costs.

According to this model, present in control, will have the following character: if the balance of funds will be  $5\,111\,510$  million. tenge,  $5\,111\,510-962\,950=148\,560$  millions invest in securities in tenge; if the funds amounted to 2,000,000 million. in the case of a reduction, will buy securities in the amount of  $962\,950$  thousand tenge and bring money in volume.

The practical utility of this model is limited by the assumption in which it is created. For example, only small managers agree that revenue and expenditure are projected, as predicted by the Miller-Orr model. When using the Miller-Orr method in practice, keep in mind the following:

- as transaction costs increase, the optimal balance will increase;
- an increase in the average square fluctuation of the daily cash flow balance leads to an increase in the optimal cash balance, and also increases the possibility of reaching the minimum and maximum limits;

- with an increase in opportunity costs, since it is profitable to invest in liquid securities, the optimal amount of money is reduced [17].

This method, provided in the example of an enterprise, helps to reduce the necessary funds in the account to a minimum level, but its application requires certain costs. Basic rule: costs can be increased until they are lower than the additional revenue generated from implementing these measures.

Thus, the system of cash flow management, first, depends on the scale of the company's activities, and secondly, on the price of sources of funds, determined by the current amount of debt interest [18].

In the following Baumol model, the calculation of an enterprise's cash needs is estimated using four methods. Of the methods considered, KKK LLP has determined the need for cash for the forthcoming period through the fourth method, expert estimation, graphical methods, the management of the enterprise or the company's financial manager. Now let's use the Baumol model for KKK LLP: Previously planned amount of cash outflows (225,164,329 million tenge in 2019) was 245,125,485 million. Let's look at the optimal cash balance when the sum is 1000 tenge, and the risk-free security interest rate is 6.5%:

$$Q = \sqrt{2 * 245 125 485 * 1000/0,065} = 2746328$$
 mln. tenge

The value found is the upper cash flow at the enterprise. The company's cash and cash equivalents management policy is as follows: If the cash on hand is zero, the company will pay over 2,746,328 worth of highly liquid securities. Tenge or borrow that amount. The average balance of cash amounted to 1,373,164 mln. tenge. Number of securities conversion transactions for one year -  $(245\ 125\ 485/2746\ 328)$   $\approx 89.2$  or once a week.

Thus, a cash flow management company policy is as follows: when the cash in use is out, the company sells or lends a portion of its equity for Q Tenge. The maximum balance on the account is Q and the balance on average is 1,373,164 million.

The following table 1 shows the differences between the two models:

No	Model name	Optimal balance of money	Maximum cash balance				
1	Baumol	2 746 328	4 140 625				
2	Miller-Orr	3 037 170	5 111 51				
1	Note - Compiled by the author						

Table 1 - Specifications and differences for Baumol and Miller-Orr models, mln. tg

This model is widely used in macroeconomics to determine the demand for money. In practice, the use of this model is due to shortcomings that limit the stability and predictability of the company. In addition, the model does not provide for seasonality of business and conditions for the transition of phases of the macroeconomic cycle. The advantages of the model include consideration of alternative costs for saving money [19-21].

To sum up, solving problems and managing the flow of enterprise funds is very important for the life cycle of any organization. Managing them is an integral part of managing all the company's financial resources to ensure the company's goal of generating revenue. Managing the flow of funds in market conditions is one of the important problems, since only here are grouped the main ways to achieve a positive financial result. It is proposed to solve the problems arising from the flow of funds of the studied LLP "KKK" by using the Baumol and Miller-Orr methods.

The proposal for the previous period to the cash flow management of the company using the Miller-Orr method was as follows: Thus, the balance on the account amounted to 2 million 000 - 3 111 510 million. must be in the range of tenge; beyond the interval, it is necessary to recover 960 950 thousand tenge in the account. As for the Baumol method of cash management, the company has a policy of managing its cash and cash equivalents: if its cash is zero, the company will pay over 2,746,328 for its highly liquid securities. Tenge or borrow that amount. When the funds in the account are exhausted, the company will redeem a portion of its securities for 2 746 328 million. Tenge or borrow the same amount. The operation is performed once a week. The maximum balance on the account is 2 746 328 million and the balance on average is 1,373 164 million.

In a market economy, special attention should be paid to the effective use of cash flows of any enterprise, as well as to the type of activity that increases net income through the use of free cash. Cash

flow management-finances all aspects of the company's business activities, reduces the risk of insolvency, increases capital turnover, and generates additional income used to Finance investment activities.

In General, the proposals and measures considered will help to maintain the balance of funds, maintain synchronicity of funds flows over time, increase the inflow of funds, reduce the negative flow, respectively, reduce the volume of expenditure or reduce the rate of leakage of funds, and optimize the average balance of funds.

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## КӘСІПОРЫННЫҢ ҚАРАЖАТ АҒЫНЫН БАСҚАРУДЫ ЖЕТІЛДІРУ ЖОЛДАРЫ

Аннотация. Нарықтық экономика жағдайында кәсіпорынның қаражат ағыны барынша шектелген ресурс, сондықтан ақша қаражаттарын тиімді басқару кәсіпорынның даму процесінде қаржылық тұрақтылықты қамтамасыз етеді. Қаражат ағыны қозғалыстарын басқаруды зерттеу ақша қаражаттарының шығысталу бағыты мен түсім көздері, уақытша параметрлері, көлемдері туралы ақпаратты қалыптастыруға бағытталған. Бұл ақпарат объективті және субъективті, ішкі және сыртқы факторлардың әсерін есепке ала отырып, ақша ағынын басқару туралы шешімдерді негіздеу үшін қажет. Кәсіпорынның қаражат ағыны олардың айналымын, қолданылуын, бөлуінуін, қалыптасуын ұйымдастыруды талап етеді. Сондықтан, принцип пен біріктіру, кешенділік, бағдарлану және варианттылыққа негізделген кәсіпорынның қаражат ағынын басқару жүйесі өте қажет, себебі бұл кәсіпорынның қызметінде үлкен ақырғы нәтижеге жету және даму үшін негіз құратын маңызды кезеңдердің бірі ретінде танымал. Ұйымның қаражат ағынын басқару кәсіпорынның нарықтық құнының артуына бағытталған стратегиялық мақсаттармен қатар, ақша қаражаттарының оңтайлы деңгейін анықтауға мүмкіндік беретін тактикалық, сонымен қатар қысқа мерзімді жоспарлық тапсырмалар кешенін әзірлеуге мүмкіндік беретін оперативті мақсаттар шегінде жүзеге асырылады.

Кәсіпорынның қаражатын ағынын басқаруды бағалау барысында бухгалтерлік баланс ақпараттары мағлұматтарымен қатар, басқа да қаржылық есеп беру нысандары, түсіндірме хат және де жылдық есеп беру ішіндегі басқа да мағлұматар мен ақпараттар қолданылады.

«ККК» ЖШС-нің қаражат ағынын басқару саясатын жетілдіру мақсатында келесі іс-шаралар кешені ұсынылды:

- кәсіпорынның ақша қаражаттарының теңгерімділігін жетілдіру мен қаржылық жағдайын жақсарту мақсатында факторингтік компаниялардың қызметін қолдану есебінен дебиторлық берешектің шамасын басқару;
- дебиторлық берешекті азайту саласындағы жүргізілген саясат есебінен кәсіпорынның табысын арттыру;
- шетелдік тәжірибелер жүйесін қазақстандық кәсіпорындардың ерекшеліктері мен табиғатына бейімдеу арқылы тәжірибе жүзінде қолдану негізінде есепшоттағы келер кезеңге тиімді соманы болжау, сол арқылы кәсіпорынның төлемқабілетсіздігінің алдын-алу.

Миллер-Орр моделін «ККК» ЖШС-не тәжірибе жүзінде қолданып, басқармаға ұсыныс мынадай сипатта болады: егер де ақша қаражаттарының қалдығы 5 111 510 млн. теңгеге дейін артса, 5 111 510 – 962 950 = 4 148 560 млн. теңгеге бағалы қағаздарға инвестициялау; егер де ақша қаражаттары 2 000 000 млн.-ға азайса, бағалы қағаздарды 962 950 мың теңгеге сатып, ақша қаражаттарын көлемге әкелу арқылы, компанияның төлемқабілеттілігін, қаржылық тұрақтылығын қамтамасыз ету, банкроттықтың алдын-алу.

Кәсіпорында қаражат ағынын басқаруды Баумоль моделі бойынша жүзеге асыру арқылы тиімді қаражат қалдығын есептеу: есепшоттағы ақша қаражаты таусылған уақытта, компания өзінің бағалы қағаздарының бір бөлігін 2 746 328 млн. теңгеге сатады немесе сол көлемде қарызға алады. Бұл операция аптасына бір рет жүргізіледі. Есеп шотындағы ең жоғарғы ақша қалдығы 2 746 328 млн.-ды құраса, орта ақша қалдығы 1 373 164 млн.-ды құрайды.

**Түйін сөздер**: кәсіпорын, ақша қаражаты, айналым, табыс, шығын, залал, баланс, актив, пассив, түсім, бағалы қағаз, дебиторлық берешек, кредиторлық берешек.

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### ПУТИ СОВЕРШЕНСТВОВАНИЯ УПРАВЛЕНИЯ ДЕНЕЖНЫМИ ПОТОКАМИ ПРЕДПРИЯТИЯ

Аннотация. В условиях рыночной экономики денежный поток предприятия является наиболее ограниченным ресурсом, поэтому эффективное управление денежными средствами в процессе развития обеспечивает финансовую устойчивость. Исследование управления движением денежных потоков направлено на формирование информации о направлении расходов и источниках поступления денежных средств, временных параметрах, объемах. Эта информация необходима для обоснования решений об управлении денежными потоками с учетом влияния объективных и субъективных, внутренних и внешних факторов. Денежные потоки предприятия требуют организации их формирования, распределения, использования и обращения. Поэтому система управления денежными потоками предприятия, основанная на принципе и объединении, комплексности, ориентации и вариантности, весьма необходима, поскольку это один из важных этапов деятельности предприятия, который создает основу для развития и достижения крупных конечных результатов. Управление денежными потоками организации наряду со стратегическими целями, направленными на повышение рыночной стоимости предприятия, осуществляется в рамках оперативных целей, позволяющих определить оптимальный уровень денежных средств, тактических, а такжекомплекс краткосрочных плановых заданий.

В ходе оценки управления потоками денежных средств предприятия, наряду с данными бухгалтерского баланса, используются другие формы финансовой отчетности, пояснительная записка и другие сведения и информация из годового отчета.

- В целях совершенствования политики управления финансовыми потоками ТОО «ККК» был представлен следующий комплекс мероприятий:
- управление объёмом дебиторской задолженности за счет использования деятельности факторинговых компаний в целях совершенствования сбалансированности денежных средств и улучшения финансового состояния предприятия;
- повышение доходов предприятия за счет проводимой политики в области снижения дебиторской задолженности;
- прогнозирование оптимальных сумм на счетах на предстоящий период на основе практического использования системы зарубежных практик, адаптированных к особенностям и природе казахстанских предприятий, тем самым предотвращая неплатежеспособность предприятия.

Практическое применение модели Миллер-Орр в ТОО «ККК»: руководству предложено следующее: если остаток денежных средств составляет 5111510 млн. тенге, 5111510 – 962950 = 4148560 млн. тенге инвестировать в ценные бумаги; если денежные средства уменьшатся на 2000000 млн. тенге, продать ценные бумаги на сумму 962950 тыс. тенге, достижение объёма денежных средств обеспечит платежеспособность, финансовую устойчивость компании, предотвратит банкротство.

Расчет эффективного остатка средств путем осуществления управления потоками средств на предприятии по Баумольской модели: при исчерпании денежных средств на счете, компания продает часть своих ценных бумаг на сумму 2746328 млн. тенге или в том же объеме берет в долг. Данная операция проводится один раз в неделю. Максимальный остаток денег на счете составил 2746328 млн. тенге, средний остаток денег – 1373164 млн. тенге.

**Ключевые слова:** предприятие, денежные средства, оборот, доход, расход, убыток, баланс, актив, пассив, выручка, ценная бумага, дебиторская задолженность, кредиторская задолженность.

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#### REFERENCES

- [1] Kovalev V.V. Financial management: theory and practice. Moscow: TK Welby, Prospect Publishing house, 2007. 1024 p:
- [2] Borodin A. I., Ishina I. V., Natocheeva N. N., Sorochaykin A. N. evolutionary approach to determining the flow of funds // Vestnik SamGU, no. 1 (102), Samara, 2013, 204 p.
  - [3] Kuznetsova I.D. cash flow Management of the enterprise: a tutorial. Ivanovo: 2008. 193 p.
  - [4] Bocharov V.V. Financial analysis. Short course. SPb.: "Peter", 2009. 250 p.
  - [5] Malygina E.A. the Essence and methods of managing the organization's cash flows // Young scientist. 2014. 379p.
  - [6] Gorfinkel, V.Ya. enterprise Economics: Textbook for universities. Moscow: UNITY-DANA, 2012. 336 p.
  - [7] Miller M H., Orr D A model of the Demand for money by Firms // Quart Journ Econ 2008 Aug. P. 413-415.
  - [8] W. J. Baumol, The transactions Demand for cash and inventory theoretic approach // Quart. John Econ. 2015. 556 p.
- [9] Zh.Sh. Kydyrova, K.B. Satymbekova, G.E. Kerimbek, G.Zh. Urazbayeva, A.A. Shadieva "Increase of competitiveness of the enterprise (example of the oil product market)". Reports of the National Academy of Sciences of the Republic of Kazakhstan. Volume 6, Number 328 (2019), 187-193. https://doi.org/10.32014/2019.2518-1483.187
  - [10] Lukasevich I. Ya. money flow Management: textbook / M.: University textbook, SIC INFRA. M, 2016. 160 p.
  - [11] Sheremet A.D. Finance of enterprises: management and analysis: textbook / M.: INFRA-M, 2013. 479 p.
- [12] Stepanova N. R., Hainus I. V. Universal method of regulating the amount of money // Modern problems of science and education. 2012. №1.
- [13] M. Karimbergenova, A. Nurgaliyeva, G.Kerimbek, S. Bespalyy, L.Moldashbayeva: "The development of regional export potential" / Reports of the national academy of sciences of the republic of Kazakhstan. / Volume 3, Number 325 (2019), P.160-167, https://doi.org/10.32014/2019.2518-1483.87
  - [14] Bezhin S. N. Operational management of cash flows // Financial Director. 2006. No. S. 300p.
- [15] Sirotkin S. A., Kelchevskaya N. R. Financial management at the enterprise: textbook / Yekaterinburg: UGTU-UPI, 2007. 307p.
- [16] Bakhramov Yu.M., Glukhov V.V. Financial management: Textbook for universities. 2nd ed. The standard of the third generation. SPb.: Peter, 2011. 215 p.
  - [17] Kramarenko T.V. Corporate Finance: studies. Handbook / Moscow: FLINT, 2014. 325 p.
  - [18] Lukasevich I. Ya. Development of approaches to managing cash reserves at the enterprise / Finance. 2015. Nº12.
- [19] Kemenov A.V. Features of optimizing the company's cash flows in the post-crisis period of economic development / Currency regulation. Currency control. 2012. №7. P.21-23.
- [20] Vasilieva N.S. On the issue of managing the organization's cash flows / "Economics and management in the modern world: materials of the scientific and practical conference". Novosibirsk. 2014. P. 18-21.
- [21] Panyukova I.V. Cash flow Management / Vestnik of Taganrog Institute of management and Economics. 2012. №1. P.6-8.

# REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# MODELS OF DEFINED CONTRIBUTION PENSION SYSTEMS IN FOREIGN COUNTRIES

Abstract. The paper is focused on the analysis of the foreign experience in the field of creation and reforming of the pension systems. The paper is aimed at studying the economic bases of the forming of defined contribution pension systems in foreign countries and revealing of the main tendencies in pension reforms in foreign countries to define the possibilities of the pension reform for Kazakhstan. To achieve the set goal the paper investigates the main types of the pension system and its existing levels. The analysis of the stated elements of the pension system was based on the example of the countries of the Organization of Economic Cooperation and Development. The conducted investigation allowed revealing the advantages and disadvantages of the pay-as-you-go, defined contribution, and mixed pension schemes. Basing on the conclusion on the necessity to use the foreign experience in implementing the Kazakhstan pension reform, the concrete trends of its further reforming aimed at improving the effectiveness of the Kazakhstan pension system and its approach to the worldwide standards were proposed.

The investigation results can be used for developing the program documents defining the strategy of the pension schemes development under the contemporary economic and demographic conditions. The conclusions and recommendations on the pension scheme improving proposed in the work can be used for the pension reform in Kazakhstan.

**Keywords:** pension system, unfunded pension system, defined contribution pension system, insurance payments, foreign experience.

**Introduction.** The first pension systems in the world appeared by the end of the XIX century and were subjected to numerous reforms. But none of them took into account the demographic factors. At the end of the last century, a lot of developed countries experienced an increase in the pension age population due to the increase in the lifetime and decline in the birth rate. These factors increased the load on the able-bodied population, and a lot of countries were not able to provide a decent standard of pension payments. At the same time, the occurring and forecasted demographic changes showed the keeping of the unfunded pension system to be bleak. This means that the transfer to the defined contribution pension system has almost no alternative.

Along with this, the defined contribution pension system has not only the advantages but definite shortages too. The countries conducting the pension reform encounter problems related to the effective introduction and functioning of the defined contribution mechanism and comprehension of this mechanism by the broad sections of the population. These issues are especially acute for Kazakhstan where the existing unfunded component of the pension system, in the nearest time, will not be able to function to its full scale as it is necessary to elaborate the adequate policy of the pension system reforming. As a whole, these and other reasons stipulated the necessity of the detailed investigation of the mechanism of the defined contribution pension systems in some foreign countries.

**Methodology.** The methodology of the research is based on the application of dialectical logic and system approach, methods of analysis and synthesis, deduction, and induction. The methods of comparison, observation, detailing, grouping, and generalization were widely used. The system approach was applied to study the reasons and development forms of crisis state in pension systems in some countries, to the selection of instruments to manage them for the more effective revealing of important factors, prevention and decreasing the level of losses under unfavorable development of demographic and economic tendencies.

**Results and discussion.** Today, most countries of the world run two main types of pension systems: unfunded (PAYG) and defined contribution pension system. And, as to be shown further, the more popular is the defined contribution system due to the advantages it represents at the current stage of economic development.

The unfunded system, considering the current peculiarities, becomes less convenient. Its feature is the payment of pension contributions at the expense of the current income of people working on the territory of the country, hence the second name - pay-as-you-go.

The defined contribution system, in its turn, implies the contributions paid by the working generation that is accumulated (hence the name) and are used for the investments into different assets. In the future, the accumulated money along with the investment income is paid to the same employees after retirement.

It is possible to mention separately the conditionally defined contribution system that combines the elements of the unfunded and contribution systems. Under this system, an employee earns the *right for pension* owing to contributions. Upon the attainment of the pension age, the conditional accumulated pension capital of an employee is transformed into the annual payments [1].

Most OECD countries apply the defined contribution system, in some cases using the elements of the conditional contribution system. At this, the pension systems of almost all countries are divided into three levels:

- Obligatory national aimed at creating minimal conditions for retiring people independently on their incomes and contributions;
- Obligatory combined that includes the governmental and private components depending on the contributions of a definite employee %
  - Voluntary private depending completely on voluntary additional contributions of an employee.

According to the OECD report "Pension systems at a Glance 2019" Figure 1 shows the classification of the pension system levels in the OECD countries [2].

The standard pensions have two different forms: pension at a place of residence, and sharing pension for those who made contributions during the career. The pension size varies depending on the period of residence or the number of contributions but does not depend on the salary level during the career. Some countries, such as Norway and Sweden, instead of the standard pensions apply the target schemes checking the "necessity" in the standard pension; today, seven OECD countries pay the standard pension at a place of residence, these are: Canada, Denmark, Greece, Iceland, Israel, Netherlands, New Zealand; nine countries apply the base sharing scheme: Czech, Estonia, Ireland, Israel, Japan, Korea, Lithuania, Luxemburg, Great Britain [2].

The target pensions are paid upon concordance to definite criteria depending on a country. The size of the target pension depends on the income of a State from other sources, not on employee contributions. As a rule, the target pensions are used to smooth the inequality of income between wealthy and less wealthy pensioners so that the less wealthy could receive higher pensions. Almost all OECD countries have such methods of social protection.

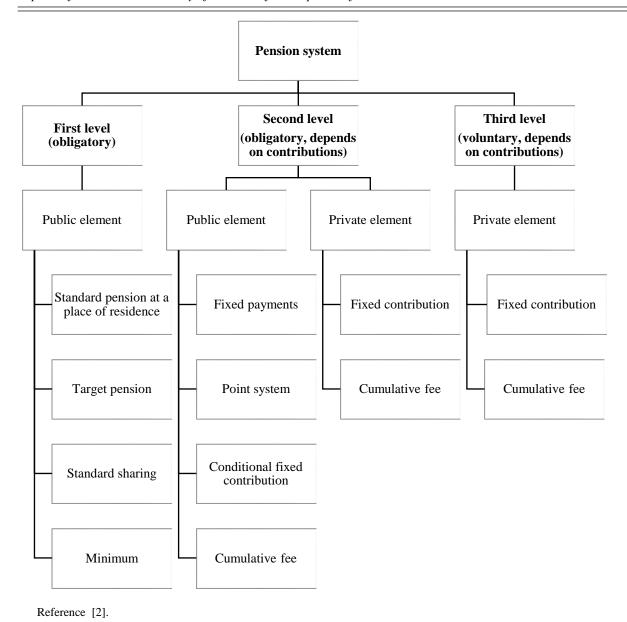


Figure 1 – Classification of pension system levels of the OECD countries

The minimum pension is either a guaranteed minimum of a definite scheme of contributions, or all combined schemes. The minimum pensions are paid in seventeen OECD countries, among them are Austria, Belgium, France, Hungary, Latvia, Mexico, and others [2]. The size of the minimum pension considers only a limited number of factors without checking the employee income – this ensures the minimum pension income and minimum wage. Besides, minimum pensions can be based on the national indicators calculated as the minimum threshold of allowances for indigent groups [3].

All described above schemes refer to the first, public obligatory level that, to some extent, exists in every country as guarantees a minimum income for pensioners independently on their income and length of service. Other schemes refer to the second level, also obligatory, that depends on the length of service or size of contributions, but still has a public component in addition to the private one. As of today, only Ireland and New Zealand in the OECD do not have pension schemes of the second level, and the Great Britain refuses gradually of them. Other countries have four types of schemes.

The schemes with fixed contributions for future pensioners are used in 17 OECD countries. In the other 10 countries, these are applied to the current pensioners. These are the most widely used schemes

implying the fixed contributions during the whole career of an employee. The pension income depends on the number of contribution years, allowance rates, and individual salary accounted for the pension.

Five OECD countries have the point schemes: the employment plans in France implemented by the social partners under the governmental control, and the public schemes of Estonia, Germany, Lithuania, and Slovakia. The employees earn pension points depending on the income level. Upon retirement, the sum of the pension points is multiplied on its cost and then transformed to usual pension contributions.

The plans with defined contributions are obligatory for future pensioners in nine OECD countries among which are Denmark, Latvia, Australia, Chili, Estonia, and Israel [2]. Under these schemes, the contributions arrive in an individual account. The accumulated contributions and investment incomes are transformed into a monthly pension upon retirement. In Denmark and Sweden, there are quasi-obligatory professional schemes of fixed contributions in addition to smaller obligatory public plans.

Five OECD countries (Italy, Latvia, Norway, Poland, and Sweden) have the schemes of *conditional* contribution with fixed payments. These are public schemes with a "pay-as-you-go" basis and individual accounts that apply the conditional rate of income to the paid contributions imitating the plans with the fixed contributions. The accounts are considered "conditional" in the sense that the remains exist only in the account books of the managing organization. Upon retirement, the accumulated conditional capital is converted to a monthly pension by a formula based on the expected duration of life. These schemes are relatively new development [2].

The third level is completely voluntary and private and, as a consequence, fully depends on the size of contributions by employees and their length of service. In some sense, the schemes of the third level are similar to the bank deposits, but with the difference that the contributions are managed by a special company and are converted to the pension payments by a definite formula.

Only four OECD countries have neither standard nor minimum pension: Australia, Finland, Germany, and the USA.

In New Zealand, the average size of the standard pension at a place of residence is a minimum 17% of the total average salary and no more than 40%. Norway and Sweden gradually terminate such payments. All OECD countries provide the target benefits to its citizens, but people living in Greece, Netherlands, and New Zealand cannot receive such benefits in addition to the standard pension at a place of residence. In Canada, Denmark, and Iceland the standard pensions at a place o residence do not decrease the target allowances. On average, for OECD, 16% of the total average salary can be received under the target schemes, and, in total, 20% considering the standard pensions at a place of residence.

As for the accumulating components of first level pensions, one-third of OECD countries have neither standard nor minimum pensions based on contributions. The quarter of the OECD countries provide the standard pensions based on contributions that, on average, amount to 14% of the average salary. The sizes vary from 6% of the average salary in Israel where these are paid as benefits to the standard pension at a place of residence, to 27% in Ireland. Almost in half of the OECD countries, the pensions with small contributions are brought up to a higher minimum level of pension, on average to 25% of average salary. These minimum pensions vary from the low, about 10% of the average salary in Czech, Hungary, and Latvia to high, about 40% in Turkey.

The mentioned above states that the obligatory insurance contributions form a base of the pensions system in numerous countries [5]. The payment of contributions, as a rule, is shared between an employee and employer. The most widespread criteria determining a right for a pension is reaching a definite age prescribed legally. In some countries, it is possible to retire earlier under definite conditions or continue working until the pension age. For example, in Germany, the pension age is 67 years for men and women, but it is possible to retire earlier. For this, it is necessary to pay the contributions determined in pension legislation equal to 0.3% of pension accumulations for each month of uncompleted service.

In France, every citizen has a right to retire at the age of 60. However, the standard full size of pension is paid if an employee's length of service is forty or at the age of 65. If after the retirement a citizen continues working then he receives a benefit to a pension -3% for each working year.

In the USA, one can retire having thirteen years of length of service and at the age of 65 for women, and 67 for men. However, under the earlier retirement, an American's pension is by 25% less.

In China, the pension age is from 50 to 55 for women and 60 for men. Additional benefits have governmental officers – they can retire earlier if have been working for the government service 15 years or more.

The pension systems all over the world encounter a range of problems stipulated by global tendencies such as population growth, population aging, change of the market conditions due to digitization and automatization. All this generates additional load on the pension systems creating different problems including financial ones. These problems cause obstacles for the operation of the unfunded systems adopted earlier is many countries.

As the global experience shows there are two ways to solve the financial problems of the pension systems:

- 1. keeping the public unfunded pension system in reformed type with additional stimulation of development of voluntary pension schemes of the third level;
- 2. introduction of a new system of defined contribution or combined character financed from the diversified sources [6].

Besides the financial problems, the pension systems encounter problems related to the peculiarities of the country's economy, social policy, and imperfect functioning of the pension systems. For example, one of the acute problems of the pension systems functioning is a violation of payment transfer to accounts of the system participants. The transfer, as usual, is based on one of the following methods:

- 1. through the pension funds or taxation authorities, as in Sweden, Great Britain, and Russia;
- 2. through specialized enterprises and managing companies, as in Argentina or Chili.

However, none of the methods guarantees a reliable and continuous transfer of payments in a definite period. The first method shows significant delays due to the speed of large governmental authorities functioning; the second has errors in managing the payment flows due to which the investment income does not cover even the inflation [6].

Let's consider separately the investment risks related to the operation of the defined contribution pension system. It is assumed that in the long-term period the investment risks do not have much influence as they do in the short- and mid-term periods [7]. However, there are precedents when during the energy crisis in the 1970-s the stock market of the USA fell by 50% in real terms, and then during 10 years had been restoring its indicators to the values of the early 1970-s. In some other countries, such as the Great Britain, during the past hundred years, the stock market has been growing less than 2% per year in real terms, and this is a sensitive problem for pension funds functioning as long-term investors. As a rule, the investment risks, in such cases, are being decreased by several methods:

- 1. structuring of the investments portfolio, i.e determine a stiff set of instruments indicating the maximum possible share in the portfolio;
  - 2. application of a "cautious man" principle [7].

For instance, Belgium, Portugal, Denmark, Sweden, Germany, and Japan apply the first methods, and the USA, Australia, Canada, Great Britain, Netherlands, Ireland apply the "cautious man" principle. This principle means that when making decisions the pension fund should apply the logic of "cautious professionals" prioritizing equally the receiving of the investment income and preservation of the investment capital. The funds applying this principle contribute more to foreign assets and are less interested in the instruments with fixed income [7].

Thus, the defined contribution system also has some problems despite that it suits better for solving the problems of the contemporary labor market conditions. Its indisputable advantage before the unfunded system is the stimulation of accumulations that are transformed into investments, and also, stimulate the economy.

Basing on the stated above, it is possible to highlight the following advantages and disadvantages of each system (table 1).

Table 1 – Advantages and disadvantages of pension systems

Advantages	Disadvantages			
Pay-as-you-go	pension system			
• Fixed size of payments providing more confidence and	• It depends on demographic indicators and labor market			
certainty regarding the pension income.	conditions.			
It does not depend directly on the stock market.	It has more inertia due to public management.			
• More transparent regarding the defined contribution	Adapts badly to the growing length of population life.			
system.	Affects significantly the national budget.			
The defined contribution pension system				
It does not depend on demographic indicators.	Pension size depends on the size of contributions.			
• In its classic view, it does not affect the national budget.	It depends on the results of investment management.			
• Stimulates the accumulation of savings and increases the	• Sensitive to misbalances in the economy, especially to			
investment volume.	inequality of income.			
• More flexible owing to numerous schemes and its	Less transparent comparing to the unfunded system.			
combinations.				
Combine	ed system			
Combines the advantages of previous systems.	The accumulated funds do not belong to a contributor and			
Social orientation: reallocation from rich to poor.	are reallocated in the case of death or migration.			
• Financially stable, does not require national investment.	• The size of the payments is not fixed.			
	• It depends on the demographic situation and investment			
	income.			

Conclusion. The results of the analysis allow concluding that the application of the defined contribution system in Kazakhstan meets the global tendencies and has the potential to respond to all challenges appearing in the labor market. A logical trend of the pension system development in RK should be the improvement of the system flexibility, application of different schemes of pension contributions accumulation similar to the OECD developed countries. Besides, it is necessary to stimulate the appearance of the full-fledged market of defined contribution pension funds that could compete with each other for the employee contributions as only the competition conditions ensure that the investment management of contributions is aimed at maximum satisfaction of contributors' interests. The creation of such a market requires additional objective supervision of compliance with contributors' interests.

It is necessary to note that there are definite risks of the defined contribution system functioning in RK, among which the most significant are: inequality of population income, underdeveloped national stock market suggesting the limited set of investment instruments, currency risks when investing to foreign assets, non-transparency of pension accumulations management process, large public share in this sector aggravating the creation of a competitive market.

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# ШЕТЕЛДІҢ ЖИНАҚТАУШЫ ЗЕЙНЕТАҚЫ ЖҮЙЕСІНІҢ МОДЕЛЬДЕРІ

**Аннотация.** Өткен ғасырдың соңында көптеген дамыған мемлекеттерде өмір сүру жағдайының ұзаруы мен туу деңгейінің төмендеуіне байланысты зейнет жастағы тұрғындар саны арта бастады. Бұл жайт еңбекке қабілетті тұрғындарға түсетін ауыртпалық деңгейін жоғарылата түсті, ал мемлекеттер зейнетақы төлемін жеткілікті деңгейде қамтамасыз ете алмады. Болжанбалы демографиялық өзгерістер үлестіруші зейнетақы жүйесін сақтаудың қажетсіздігін көрсетті. Осыдан кейін жинақтаушы зейнетақы жүйесіне өтуден басқа амалдың жоқтығын мойындауға болады.

Солай бола тұра жинақтаушы зейнетақы жүйесінің артықшылығымен қатар, кемшілігі де бар. Зейнетақы реформалары бар елдерде жинақтаушы тетікті ендіру мен қызметінің тиімділілігіне, сондай-ақ аталған өзгерістерді халықтың қабылдауы барысында мәселелер туындауда. Бұл мәселелер әсіресе Қазақстан үшін көкейкесті, өйткені қолданыстағы зейнетақы жүйесі жақын арада толыққанды қызмет ете алмайды және қайта құруды қажет етеді. Осы және басқа да себептердің жиынтығы бірқатар шет мемлекеттердегі жинақтаушы зейнетақы жүйесінің тетіктерін толық саралау қажеттігін көрсетеді.

Зерттеу әдістемесі жүйелік тәсілді, талдау және синтез, индукция және дедукция әдістерін қолдануға негізделген. Жүйелік тәсіл бірқатар елдің зейнетақы жүйесінің дағдарысқа түсу себептері мен нысандарын

зерттеу, оларды басқарудың тиімді құралдарын таңдау, демографиялық және экономикалық үрдістердің оңтайлықсыз дамуы барысындағы залал деңгейін азайтуға және алдын алу үшін қолданылған.

Мақаланың мақсаты — шет мемлекеттердегі жинақтаушы зейнетақы жүйелерін қалыптастырудың экономикалық негіздерін саралап, Қазақстанда зейнетақы жүйесін қайта құру үшін негізгі үрдістерді анықтау. Осы мақсатқа қол жеткізу үшін мақалада зейнетақы жүйесінің негізгі типтері мен деңгейлері зерттелген. Зейнетақы жүйелерінің аталған элементтерін зерттеу экономикалық ынтымақтастық пен даму ұйымы мемлекеттерінің мысалы негізінде жүргізілген. Зерттеу үлестіруші, жинақтаушы және аралас зейнетақы жүйелерінің артықшылықтары мен кемшіліктерін айқындауға мүмкіндік берді. Қазақстандық зейнетақы реформасын іске асыруда шетел тәжірибесін қолдану қажеттілігін негіздей отырып, оны арықарай дамыту және қайта құру бағыттары ұсынылған, бұл бағыттар Қазақстандағы зейнетақы жүйесі тиімділігінің артуы мен оның жалпыәлемдік стандарттарға жақындауға септігін тигізеді. Қазақстандағы жинақтаушы зейнетақы жүйесі қызметіндегі маңызды тәуекел ретінде мына мәселелер анықталған: тұрғындар табысының әркелкілігі, ұлттық қор нарығының жеткіліксіз дамуы, шетел активтеріне инвестициялар жасаудағы валюталық тәуекел, зейнетақы салымдарын басқару үдерісінің ашық еместігі, бәсекелік нарықты құруға бөгет жасайтын факторлардың болуы – яғни осы сектордағы мемлекеттің үлкен үлесі.

Зерттеу нәтижелері заманауи экономикалық және демографиялық жағдайдағы зейнетақы қамсыздандыру жүйелерін дамыту стратегиясын анықтайтын бағдарламалық сипаттағы құжаттарды даярлауда қолданыс табуы мүмкін. Жұмыста ұсынылған ұйғарымдар мен зейнетақы жүйесін жетілдіру бойынша ұсыныстар Қазақстанда зейнетақы жүйесін қайта құруда пайдаланылуы мүмкін.

**Түйін сөздер:** зейнетақы жүйесі, қаржыландырылмайтын зейнетақы жүйесі, белгіленген жарнасы бар зейнетақы жүйесі, сақтандыру төлемі, шетелдік тәжірибе.

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#### МОДЕЛИ НАКОПИТЕЛЬНЫХ ПЕНСИОННЫХ СИСТЕМ ЗАРУБЕЖНЫХ СТРАН

**Аннотация.** В конце прошлого века во многих развитых странах наблюдалось увеличение количества населения пенсионного возраста вследствие увеличения продолжительности жизни и сокращения рождаемости. Эти обстоятельства увеличили нагрузку на трудоспособное население, и многие государства уже не могли обеспечить достойный уровень пенсионных выплат. При этом происходящие и прогнозируемые демографические изменения сделали бесперспективным сохранение распределительной пенсионной системы. Из этого следует, что переход к накопительной пенсионной системе практически не имеет альтернативы.

Вместе с тем, накопительная пенсионная система имеет не только свои плюсы, но и свои определенные минусы. Страны, проводящие пенсионную реформу, сталкиваются с проблемами, связанными с эффективностью внедрения и функционирования накопительного механизма и восприятием этого механизма широкими слоями населения. Эти проблемы особенно актуальны для Казахстана, где существующая пенсионная система уже в ближайшем будущем не сможет полноценно функционировать и требует перестройки. В совокупности эти и другие причины обусловили необходимость подробного изучения механизма накопительных пенсионных систем в ряде зарубежных стран.

Методология исследования основана на использовании системного подхода, приемах анализа и синтеза, дедукции и индукции. Системный подход был применен к изучению причин и форм проявления кризисных состояний пенсионных систем ряда стран, выбору инструментов управления ими для более эффективного выявления значимых факторов, предупреждения и снижения уровня потерь при неблагоприятном развитии демографических и экономических тенденций.

Цель статьи заключается в изучении экономических основ формирования накопительных пенсионных систем в зарубежных странах и выявлении основных тенденций для выявления возможностей для Казахстана в проведении пенсионной реформы. Для достижения поставленной цели в статье исследованы основные типы пенсионных систем, а также их существующие уровни. При этом анализ указанных элементов пенсионной системы был осуществлен на примере стран Организации экономического сотрудничества и развития. Проведенное исследование позволило выявить преимущества и недостатки распределительной, накопительной и смешанной пенсионных систем. На основе вывода о необходимости использования зарубежного опыта в реализации казахстанской пенсионной реформы предложены конкретные направления дальнейшего её реформирования, призванные увеличить эффективность пенсионной системы в Казахстане и приблизить ее к общемировым стандартам. В качестве значимых рисков функционирования накопительной системы в Казахстане определены: неравенство доходов населения, неразвитый национальный фондовый

рынок, предлагающий ограниченный набор инструментов инвестирования, валютные риски при инвестировании в зарубежные активы, непрозрачность процесса управления пенсионными накоплениями, большая доля государства в этом секторе, затрудняющая создание конкурентного рынка.

Результаты исследования могут быть использованы при разработке документов программного характера, определяющих стратегию развития систем пенсионного обеспечения в современных экономических и демографических условиях. Предложенные в работе выводы и рекомендации по совершенствованию пенсионного обеспечения могут быть использованы при проведении пенсионной реформы в Казахстане.

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#### REFERENCES

- [1] Types of pension systems [Tipy pensionnyh system]. URL: https://www.enpf.kz/ru/pension-system/simply/base/index.php?ELEMENT\_ID=1907 (accessed 10.03.2020)
- [2] Pension systems at a Glance 2019. URL: https://www.oecd.org/publications/oecd-pensions-at-a-glance-19991363.htm (accessed 10.03.2020)
- [3] Ayupova Z.K., Kussainov D.U., Winston N. (**2019**). On the state mechanisms of ensuring social policy in the Republic of Kazakhstan. Reports of the National academy of sciences of the Republic of Kazakhstan ISSN 2224-5227 https://doi.org/10.32014/2019.2518-1483.6 Volume 1, Number 323 (2019), 47 51.
- [4] OECD (2019). Will Future Pensioners Work for Longerand Retire on Less? Policy Brief on Pensions, OECDPublishing, Paris. URL: <a href="https://www.oecd.org/pensions/publicpensions/OECD-Policy-Brief-Future-Pensioners-2019.pdf">https://www.oecd.org/pensions/publicpensions/OECD-Policy-Brief-Future-Pensioners-2019.pdf</a>. (accessed 20.02.2020)
- [5] Tkacheva T.Ju., Afanas'eva L.V. & others (2016). Economic security in the fiscal sphere of the economy [Jekonomicheskaja bezopasnost' v bjudzhetno-nalogovoj sferejekonomiki]. 315 p. (in Russ.)
- [6] Prihodchenko O.S. (2014). Tax authorities in the system of ensuring financial security of the region [Nalogovye organy v sisteme obespechenija finansovoj bezopasnosti regiona]. Priorities of system modernization of Russia and its regions [Prioritety sistemnoj modernizacii Rossii i ee regionov]. P. 224-227 (in Russ.).
- [7] Vasiljonok V.L., Mel'nikov K.S. (2015). Foreign experience in pension provision and reforming the pension system of the Russian Federation [Zarubezhnyj opyt pensionnogo obespechenija i reformirovanie pensionnoj sistemy RF]. Economics and environmental management [Jekonomika i jekologicheskij menedzhment]. №2. URL: https://cyberleninka.ru/article/n/zarubezhnyy-opyt-pensionnogo-obespecheniya-i-reformirovanie-pensionnoy-sistemy-rf (accessed 10.02.2020).

# REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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### METHODOLOGY OF COMPANY'S EFFICIENCY ASSESMENT

**Abstract.** At the current stage of Kazakhstan development, the competitiveness of companies and the relevance of their future activities are based primarily on the efficiency of their work.

Efficiency is the basic factor of company's financial attractiveness for external investors, as well as for the owners of the business. Thus, it is very important to assess the effectiveness of the company in all stages of lifecycle, in the present, past and future.

The article focuses on the methodology for assessing the efficiency of the company, as well as provides methodological recommendations for assessing the economic efficiency of the company in modern business conditions. Studying the questions of the essence, the main forms of performance indicators of the enterprise as an economic category. Looking for the methodology of generalization of modern approaches to the problem, finding the features of assessing the economic efficiency of the enterprise, developing proposals to improve the economic efficiency of the company.

One of the main challenges of the economy is the increasing efficiency of production and business activity. The economic efficiency of the company depends on the best way of using all types of resources and their structure, which is involved in various production factors.

In the system of social efficiency, the economic efficiency is determined by total production efficiency on both micro and macro-levels.

On the macro-level, total production efficiency is expressed by economic efficiency of different sectors and national economy in general. On the micro-level by the efficiency of business entities and their divisions. In order to get sufficient results of economic efficiency assessment it is important to have systematic assessment.

Systematic assessment of economic efficiency is expressed by few factors. To evaluate it as a socio-economic category, we have to take into account the social side. Not always economically justified production can be socially effective.

This contradiction may occur in case of poor regulatory framework of employees' rights protection. At the same time, it should be noted that social and industrial aspects are mutual interrelated and affecting each other.

**Key words:** company efficiency, profitability, investment project, return on investment, competition, costs, production, factors, business activity, company strategy, negative impact, result of development, systematic assessment, factors.

**Introduction.** At the current stage of Kazakhstan development, the competitiveness of companies and the relevance of their future activities are based primarily on the efficiency of their work.

This topic is relevant today, since in the face of fierce competition, each enterprise is considering ways to improve the efficiency of the enterprise at minimal cost.

Efficiency is the basis of financial attractiveness for attracting external investors to the financial and economic functioning of the enterprise, as well as for the owners of the organization. In this relationship, it is very important to assess the effectiveness of the company at all stages of lifecycle, in the present, past and future.

In modern economic conditions, efficiency characterizes the survival of the enterprise.

The company should not only survive, but also if possible, increase profits from its activities and improve its result. Which is characterized by the degree of achievement of the mission or goals for which the whole mechanism of economic activity is designed and kept.

Economic relations are the basis of different relationships between people like political, cultural, etc.

Efficiency is a category that is aimed to measure the economic level, for the determination of which an extensive list of various indicators are used. The efficiency of the enterprise is accepted as the volume of production or the financial result. Thus, different indicators are distinguished, such as an indicator of production efficiency and an indicator of financial efficiency.

The goal is to study the theoretical principles and guidelines for assessing the economic efficiency of the enterprise and its forecasting in modern business conditions.

The tasks are:

- To study the methods of modern approaches to the research problem;
- Disclosure the features of assessing the economic efficiency of an enterprise;
- Development of proposals to improve the economic efficiency of the company. The object of research is Innovalex LLP, which is selling computer equipment and spare parts for them.

*Research methods.* Different scientific approaches and studies in the economy and trade fields were used to conduct an analysis of Innovalex LLP activities efficiency. In this study factor forecasting methods were used.

The work used the reporting data of the enterprise, as well as statistical data of the Republic of Kazakhstan.

Literature review. Studying foreign and local studies it was found that comparative efficiency is calculated and considered when identifying accepted business, industrial and organizational conclusions, with the aim of selecting from other alternatives the optimal (rational) one. This kind of selection is carried out on the basis of comparing the alternatives to the concept of technical and economic characteristics, calculating the payback period or the coefficient of efficiency of additional capital investments, the magnitude of the economic effect, says the author Kuatova D. [1].

The acquisition of any positive advantage formulated in value form is accepted as economic efficiency in the field of economic activity of companies and institutions,

Actual economic efficiency is determined according to a specific event implemented according to any subject of economic activity, in which case it is considered univariate.

According to Sheremet A. Economic efficiency is the state of the economy in which the distribution of resources cannot be changed so that increasing the satisfaction of the needs of one entity does not lead to decreasing the satisfaction of the needs of another. The economic efficiency of the enterprise depends on the rational use of each type of resources and their structure, which is determined by the ratio of the resources involved of various factors of production [2].

One of the main challenges of the economy is increasing the efficiency of business activities.

**Main part.** In the system of social efficiency, the type of economic efficiency is manifested through the economic efficiency of total production, which can be observed at the macro and micro levels.

The efficiency of total production at the macro level is shown by the economic efficiency of the national economy as a whole and its individual sectors. At the micro-level the efficiency of entrepreneurial activity of enterprises and their divisions. For the results of the economic efficiency assessment to be objective, the assessment must be systemic [3].

A systematic assessment of economic efficiency is expressed by a number of factors. For evaluating economic efficiency as a socio-economic category, the following should be considered:

- The result of social sphere development. Not always economically reasonable production can be socially effective.

This contradiction can manifest itself in the context of a poorly developed regulatory framework to protect the interests of workers. At the same time, it must be borne in mind that social and production aspects are closely interconnected and have significant mutual influence.

Innovalex LLP is a small business entity, began its activities in Almaty in 2007.

Location and legal address of the LLP is the Republic of Kazakhstan, Almaty, Bostandyk district, Timiryazev str. 42, Pavilion 21 Office 12.

The main activities are:

- The sale of computer equipment;
- The sale of computers and their spare parts;

- The sale of computer accessories (special products for computer security systems, electrical equipment, consumer goods);
  - Other activities, which not prohibited by legislation of the Republic of Kazakhstan.

A distinctive feature of the activities of the company is the lack of production, mainly engaged in trading and purchasing.

The goal of the Innovalex LLP is to generate income. The income received is distributed to pay off consignment, pay salaries to employees, consumables, purchase inventory items and other expenses.

Implementation is carried out from a single outlet in the Avtotown store on Timiryazev str.

The area of the department is 20 square meters. The store has a warehouse for storing inventories in the department.

The sales department with an area of 20 square meters is equipped with modern trade equipment: trade counters manufactured in Turkey (Sunkar company), shelving units (made in Russia, Trade Equipment Plant (ZTO), Novosibirsk). The department has a cash register.

The staff of the department of Innovalex LLP is 4 people: 4 sellers who work in 2 shifts and are divided to 2 teams.

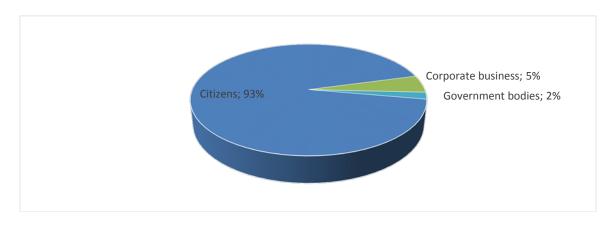


Figure 1 - Structure of Innovalex LLP sales in "Avtotown" shop

Note: complied by the author from the source [4]

Figure 1 shows the sales structure by consumer categories. The main consumers of the department of Innovalex LLP in the Avtotown store are the citizens (93%).

The sales volume of Innovalex LLP on average per day is 50-60 thousand tenge, the average monthly sales volume is 1.8 million tenge.

The enterprise has its regular customers. Competitive advantages of Innovalex LLP are distinguished by such characteristics as mobility, flexibility, which is very important in a highly competitive environment in the market. However, computer sales are subject to seasonal fluctuations (figure 2).

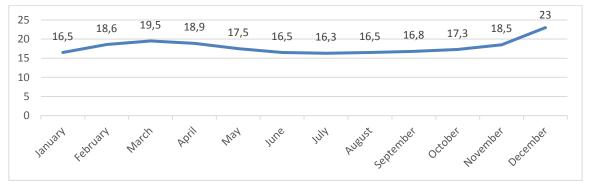


Figure 2 - Seasonal fluctuation based on sales of Innovalex in 2018

Note: Complied by the author from the source [4]

Figure 2 shows that the decline in the volume of sales of Innovalex LLP falls on the month of January, as well as the summer period. The largest peak of sales occurs in December, when sales exceed average monthly sales by more than 25%.

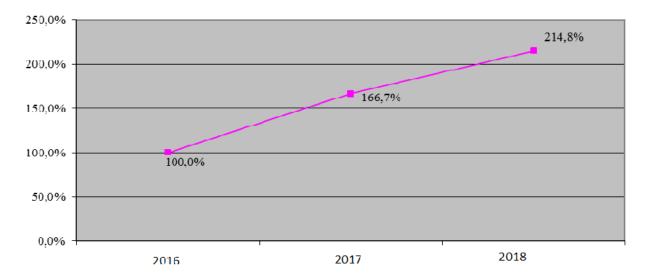


Figure 3 - The growth rate of average monthly sales of Innovalex LLP in 2016–2018.

Note: Complied by the author from the source [4]

Over the past three years, there has been an increase in sales of products offered by the store (figure 3).

If in 2016 the average daily sales volume was 25-30 thousand tenge (100%), then by 2018 this value almost doubled and reached 114.8%.

This growth is due to the expansion of the range of products offered.

Thus, the analysis showed that both exogenous (external) and endogenous (internal) factors influence the volume of products offered by Innovalex LLP.

Innovalex LLP works with an average trade margin of 10%, which provides it with minimum prices for the product range and makes its offering more attractive in the eyes of the buyer compared to competitors.

The trade margin on products varying from 10-25% depending on the name, manufacturer and supplier. Due to this margin, both transportation costs and all sales costs are covered (table 1).

	Expenses	Amount, thousand tenge	%				
№	1	2	3				
1	Advertising	19,5	0,94%				
2	Payroll	3440	69,58%				
3	Rent	1360	17,40%				
4	Transportation	50	2,42%				
5	Utilities	240	0,97%				
6	Street advertising fee	50	0,24%				
7	Communication	70	3,38%				
8	Taxes	105	5,07%				
9	Total period expenses	5334.5	100,00%				
Note: C	Note: Complied by the author from the source [4]						

Table 1 – Annual sales expenses computers and spare parts in 2018

Thus, expenses for 2018 of Innovalex LLP put together 5334.5 thousand tenge, which is equal to average 172.4 thousand tenge per month. These expenses include payrolls for 3440 thousand tenge, which is 69.58% of total period expenses.

The renting shop and store makes 17.4% out of expenses. Monthly tax payments of company compose 5.07% of expenses of the period or 105 thousand tenge. Innovalex LLP is not paying VAT, therefore this amount includes only income and social taxes.

	Index	2016	2017	2018		
№	1	2	3	4		
1	Total Revenue	2597	3 160	4 638		
2	Cost of goods sold	1100	1 360	1 325		
3	Share of cost of goods in Revenue (%)	42,4	43	28,6		
4	Total Income	1 497	1 800	3 313		
5	Marketing Cost	60	100	75		
6	Administrative expenses	984	1 055	1 995		
7	Expenses (2+5+6)	2 144	2 515	3 395		
8	Profit	453	645	1 243		
9	Operational Profitability (8/7*100%)	21,1	25,6	36,6		
10	Return on sales (8/1*100%)	17,4	20,4	26,8		
Not	Note: Complied by the author from the source [4]					

As we can see from table 2, the performance indicators of the enterprise: annual revenue in 2018 compared to 2017 increased by 1468 thousand tenge. This is due to a decrease in the cost of production due to the business links with direct suppliers.

The economic essence of profitability can only be revealed through the characterization of ratios system. Their general meaning is to determine the amount of profit gained by one tenge of invested capital, and since these are relative ratios, they are almost not affected by inflation.

Table 3 – Profitability ratio analysis of Innovalex LLP

	Ratios	2017	2018			
1	Return on sales	0,276	0,366			
2	Return on total assets	0,006	0,144			
3	Return on equity	0,18	0,53			
4	Operational profitability	25,6	36,6			
5	Share of expenses in cost of goods	0,43	0,28			
Not	Note: complied by the author from the source [4]					

Based on the table 3, it is clear that the company is at a profitable level, which indicates a fairly effective investment.

Changes in revenue for 3 years, and analysis are presented in table 4.

Table 4 - Revenue dynamics of Innovalex LLP in 2017–2018

Year	Revenue (thousand tenge)	Absolute	increase	Growth rate (basis)		Growth rate (basis) Growth rate		se Growth rate (basis) Growth rate (chain)		(chain)	Growth rate (%)	
	81,	Chain	Basis	Coefficient	%	Coefficient	%	Chain	Basis			
1	2	3	4	5	6	7	8	9	10			
2016	2 597	-	-	1	100	-	-	-	-			
2017	3 160	563	563	1,22	121,68	1,22	121,68	21,68	21,68			
2018	4 638	1478	2041	1,79	178,59	1,47	146,77	46,77	78,59			
No	Note: Complied by the author from the source [4]											

The average revenue for 3 years was 3,465 thousand tenge ((2,597 + 3,160 + 4,638) / 3), the average absolute increase was 1,020.5 thousand tenge ((563 + 1,478) / 2) the growth rate was 1.22 (121.68%),

1.79 (178.59%), 1.47 (146.77%). Here we observe stable development, since all indicators are more than 1, the average value of this indicator for 3 years is 1.35 ((1.22 + 1.47) / 2). By the growth rate, we see that revenue in 2017 compared to 2016 increased by 21.68%, in 2018 by 46.77%. Based on this analysis, it follows that in 2018 revenue increased sharply.

The next step is the evaluation of the performance of Innovalex LLP, which is presented in table 5.

№	Index	2016	2017	2018	Changes (+,-) 2018-2017	Growth rate (%) 2018/2017	
1	Net income, tenge	453 325	645 650	1 243 329	+790 004	274	
	Note: complied by the author from the source [4]						

Table 5 - Net income dynamics of Innovalex LLP in 2016–2018

The analysis of the Net income dynamics of Innovalex LLP in Table 5 showed that the income of the company is growing steadily, so in 2018, compared to 2017, the absolute changes amounted +790004 or 174%. This dynamics indicates a planned and cost-effective economic activity of the entrepreneur.

To summarize, the activities of Innovalex LLP are effective, this is supported by high rates of profitability, especially in 2018, the profitability of the main activity increased to 36.6, which is 15.5% more than in 2017, and return on sales reached 26.8%, which compared to 2017 increased by 9.4%.

In the first direction (supply). Table 5 shows the cost of sales in 2018 decreased by 35 thousand tenge, compared with 2017, this is due to a reduction in the acquisition of products from the markets, signing contracts with more reliable suppliers. Thus, the risk of purchasing low-quality products decreased, this leads to the reduction in additional costs, it also affects the image of Innovalex LLP. It is well known that the quality of the goods are affecting the clients' decisions on purchasing. Moreover, every day rating of goods is compiled in order to reduce inventory [5].

Further, it is necessary to analyze in more details the sharp changes in 2018 compared to the previous period. Note: Innovalex LLP as mentioned in the description, is engaged in trading (commercial) activities, so main functions including:

- goods and commodities procurement;
- procurement based on the forecasted level of profit;
- selection of assortment and sale of goods;
- organization of goods selling.

This can be represented in the form of a generalized model of indicators on which the final result of any trading enterprise depends. Active work in these areas shown in figure 6, in 2018 caused improvement in efficiency by almost 1.5 times compared to 2017, and by 1.7 compared to 2016.

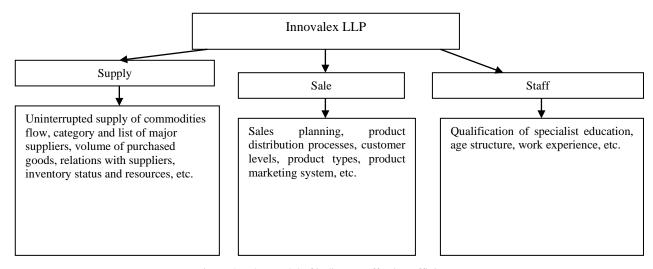


Figure 4 - The Model of indicators affecting efficiency

Note: Complied by the author from the source [4]

Second direction (sales). This direction needs to be improved since advertising costs have been reduced by 25%, they are part of sales costs, but this is offset by the fact that Innovalex LLP is not the first year on the market, and the information mainly distributed by customers.

The third direction is staff. In 2018, it was decided to improve the qualifications of employees in order to improve IT knowledge, the ability to work individually with each client, and put in the first place customer satisfaction. Training is included in administrative expenses, which in 2018 increased by 940 thousand tenge and 12.77% of this amount were spent for training in the amount of 120 thousand tenge.

So, having such a positive picture of the business, the next step is the consideration and development of the investment project. To reach this goal the Innovalex LLP's prospects for the development will be considered in the next section [6].

To conduct an econometric analysis in this study, we used the quarterly data of Innovalex LLP for the period from 2016 to 2018 (the sample size is 48 observations). Quarterly information more accurately displays the relationship between indicators in comparison with the annual.

At the initial research stage, a correlation analysis was performed. Information on the existence of a linear relationship of indicators served as the basis for the subsequent identification of the types and forms of existing relationships. The y – simple factor shows the relationship with the x – factor. The first correlation analysis explains that factor was multicollinear interference.

№	Period	Sales, tenge	Cost of Goods	Average price of	Labour	Average	Goods not
		y	sold, tenge	goods, thousand tenge	Performance	wages, tenge	sold, tenge
			X1	X2	X3	X4	X5
1	01.01.2016	4270000	430 000	105,5	1132000	75000	17900
2	01.04.2016	366000	370 000	125	1600000	77000	153000
3	01.07.2016	2440000	250 000	130	801000	80000	103000
4	01.10.2016	1830000	180 000	103	2010000	90000	76900
5	01.01.2017	5075000	526 000	155	150000	90000	132000
6	01.04.2017	4350000	460 000	165	225000	100000	107000
7	01.07.2017	2900000	3000 10	167	192000	110000	70000
8	01.10.2017	2175000	226 000	160	175000	110000	563000
9	01.01.2018	5600000	546 000	155	136000	120000	44000
10	01.04.2018	4800000	469 000	165	96000	120000	33000
11	01.07.2018	3200000	313 000	150	1230000	120000	46000
12	01.10.2018	2400000	235 000	155	4200000	120000	152000
13	Note: Cor	nplied by the au	thor from the sou	rce [4]			
	l						

Table 6 - Symbols for correlation analysis

At the initial research stage, a correlation analysis was conducted. Information on the existence of a linear relationship of indicators served as the basis for the subsequent identification of the types and forms of existing relationships. The y – simple factor shows the relationship with the x – factor. The first correlation analysis explains that multicollinear interference was a factor.

Y X1 X2 ХЗ X4 X5 1 **X1** 0.996425217 1 X2 0,994222286 0,985994751 ХЗ 0,993394541 0,99378186 0,991289 0,993962685 X4 0,98317626 0.997022 0,990599156 1 X5 0,39093624 0,428078 0,481458337

Table 7 - The results of the correlation analysis

Note: Complied by the author

In table 7 we also construct the correlation equation and do not take into account the multicollenarity of factors. Multiple non-multidimensional factors (for example, a system of factors with a low factor should exceed 0.5, and the list of factors that should look at the positive right column should be greater than 0.7. From the number in column X1 you can get small numbers). Multicollerial low factors: X5 and X1, X2, X3, X4; That is, it depends on factors that depend on the relationship, and other factors are not taken into account. And these factors should be included in individual regression analysis, that is, factors that are relevant to the given values: X5X1 (model 1), X5X2 (model 2); X5X3 (model 3) X5X4 (model 4); figure 5 shows the trend equation, based on activity data, by the coefficient X1

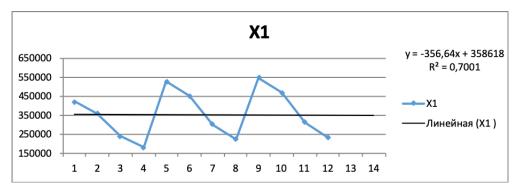


Figure 5 - Equation of the trend of factor X1

Note: Complied by the author

In the trend equation, R2 = 0.7001%, consequently, it can be predicted for the next year. Forecast for the 1 quarter of 2019 = -356.65\*E14+358318=353681.68

The next coefficient X2, R2 = 0.60%, can be predicted for the next year.

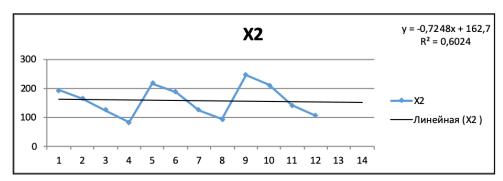


Figure 6 - Equation of the trend of factor X2

Note: Complied by the author

Forecast for the 1 quarter of 2019 = -0.7248 \* E14 + 162.7 = 162.296The next coefficient is X3 R2 = 0.60%, so we can see the forecast for the upcoming year too.

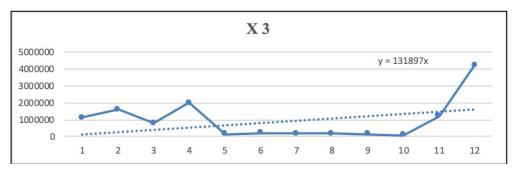


Figure-7 Equation of the trend of factor X3

Note: Complied by the author

Forecast for the 1 quarter of 2019 = -14352\*E14+3000000 = 1913567The next coefficient is X4, R2 = 0.60%, can be predicted in the next year.

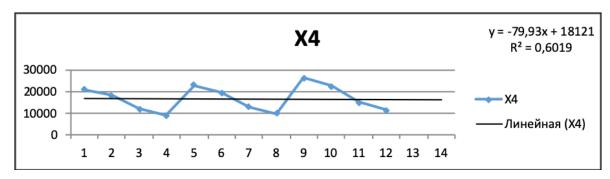


Figure 8 - Equation of the trend of factor X4

Note: Complied by the author

Forecast for the 1 quarter of  $2019 = -79.93 \times E14 + 18121 = 16322.91$ The next coefficient is X5, R2 = 0.77%, can be predicted in the next year.

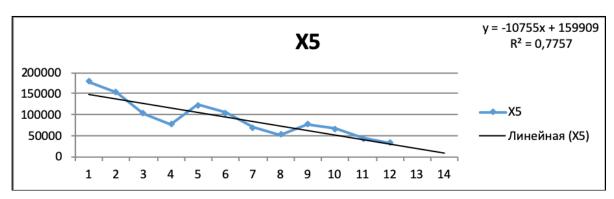


Figure- 9 Equation of the trend of factor X5

Note: Complied by the author

Forecast for the 1 quarter of  $2019 = -10855 \times E14 + 159809 = 56191$ 

Table 8 – Indexes forecasted on the base of analysis

Y 2019	(x1x5)	35434214,6
Forecast		
Y 2018	(x1x5)	35375035
Forecast		
Y 2019	(x2x5)	34980158
Forecast		
Y 2018	(x2x5)	34815008
Forecast		
Y 2019	(x3x5)	45213202
Forecast		
Y 2018	(x3x5)	44966977
Forecast		
Y 2019	(x4x5)	35160883,11
Forecast		
Y 2019	(x4x5)	35130527,31
Forecast		

Note: Complied by the author

The most important factor in the sales volume was the sales expense, which showed a positive effect. These are mainly: average prices for goods, labor performance, average wages, and production of unprocessed goods. We see that these factors are changing and developing. That is why, we see trends in operational data, so we can make a forecast for the future and thereby analyze a reliable industry set. Further development of the enterprise is possible if will be based on an assessment of the current situation and the implementation of its development goals, that is, identifying the strengths and weaknesses of activity [7].

Table 9 - Strength and Weakness of Innovalex LLP

Strength	Weakness
- The company has potential buyers of products - There is a professional staff for solving various issues - The profit of the enterprise is formed by the main business - The company has a close relationship with suppliers	<ul> <li>Lack of working capital</li> <li>Consumer insolvency</li> <li>Accumulated payables</li> <li>Economic instability in the market</li> </ul>
Note: complied by the author from the source [4]	

Analyzing the table of strengths and weaknesses, we can identify the following tasks that have arisen for the company at the moment:

- The need for the sharp development of economic activity;
- Use the services of a marketing professionals;
- The expansion of the market in purpose of increasing the profits of the enterprise, which will make it possible to use the services of marketing professionals [8].

**Conclusions.** As a result of the study, the following conclusions can be drawn:

- 1. Economic efficiency is a socio-economic category, which is characterized by such property as dynamics. It includes obtaining the maximum possible benefits of existing and available to the enterprise resources [9].
- 2. The main task of determining the efficiency of the enterprise is to find opportunities for the development and formation of the enterprise, which is determined by the results of the analysis of financial and economic functioning. Company that uses a system of various indicators and ratios, which can fully reflect the status and prospects of the enterprise [10].

The efficiency of the enterprise is determined by the profit. However, due to the specifics of the tasks carried out by trade to ensure the satisfaction of the consumer needs trade experts underline such indicators as the volume of trade as one of the main results of the business. Structure and dynamics allow us to assess the quality of trade performance of the main functions [11].

3. Analysis of the efficiency of Innovalex LLP activities showed that the annual revenue in 2018 compared to 2017 increased by 1468 thousand tenge. This is due to a decrease in the cost of production due to the direct connections with suppliers.

The activities of Innovalex LLP are effective, that is supported by high rates of profitability, especially in 2018, the profitability of the main activity reached 36.6%, which is 15.5% more than in 2017, and the profitability of sales of goods is 26.8%, which increased by 9.4% compared with 2017.

- 4. Initial assessment of the efficiency included next assumptions:
- Opening the store is planned on December 2019;
- Planning of project financing is carried out with an interest rate of discount equal to 16% per annum.

This project will be implemented using own and borrowed funds.

An economic assessment of company's development efficiency shows that the investment project to open a new store in Nur-Sultan provides sufficient investment attractiveness. Providing planned sales volume makes return on investment within 5 years.

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#### КӘСІПОРЫН ҚЫЗМЕТІНІҢ ТИІМДІЛІГІН БАҒАЛАУ ӘДІСТЕМЕСІ

**Аннотация.** Қазақстанның қазіргі даму кезеңінде компаниялардың бәсекеге қабілеттілігі мен қызметінің реттілігі болашақта, ең алдымен, олардың жұмысының тиімділігіне негізделеді.

Қызмет тиімділігі кәсіпорынның қаржы-шаруашылық жақтан жұмыс атқаруына сыртқы инвесторларды тартуда және ұйым иелері үшін қаржылық тартымдылық базасы болып саналады. Осындай өзара байланыс барысында компанияның барлық кезеңіне – қазіргі, бұрынғы және болашақтағы нәтижелілігіне баға беру жұмыстары өте маңызды.

Мақалада компания қызметінің тиімділігін бағалау әдістемесіне назар аударылған, сондай-ақ шаруашылық жүргізудің қазіргі жағдайында кәсіпорын қызметінің экономикалық тиімділігін бағалау бойынша әдістемелік ұсынымдар көрсетілген. Экономикалық санат ретінде кәсіпорын қызметінің тиімділік көрсеткіштерінің негізгі формаларын, мәнін зерттеу, зерттелетін мәселеге қазіргі заманғы тәсілдерді жинақтау әдістемесін зерттеу, кәсіпорынның экономикалық тиімділігін бағалау ерекшеліктерін ашу, компания қызметінің экономикалық тиімділігін арттыру бойынша ұсыныстар әзірлеу.

Экономиканың басты мәселесінің бірі – өндірістік-шаруашылық қызметтің тиімділігін арттыру болып саналады. Компания қызметінің экономикалық тиімділігі ресурстардың кез келген түрін және құрылымын оңтайлы қолдануға байланысты болады, бұл жағдай өндірістің түрлі факторларының іске қосылған ресурстарының теңгерімі арқылы негізделеді.

Әлеуметтік тиімділік жүйесінде экономикалық тиімділік түрі жалпы өндірістің экономикалық тиімділігі арқылы көрінеді, оны макро-микродеңгейде байқауға болады.

Макродеңгейде жалпы өндірістің тиімділігі тұтастай алғанда ұлттық экономиканың және оның жекелеген секторларының экономикалық тиімділігі негізінде көрсетілген. Шағын деңгейде кәсіпорындар мен бөлімшелерінің кәсіпкерлік қызметінің тиімділігі байқалады. Экономикалық тиімділікті бағалау нәтижелері объективті болуы үшін бағалау жүйелі болуы тиіс.

Экономикалық тиімділікті жүйелі бағалау бірқатар факторлардан тұрады. Әлеуметтік–экономикалық санат ретінде экономикалық тиімділікті бағалауда әлеуметтік саланың даму нәтижесін ескеру қажет. Барлық уақытта экономикалық ақталған өндіріс әлеуметтік тиімді болуы мүмкін емес.

Бұл қарама-қайшылық нашар дамыған нормативтік-құқықтық негіз жағдайында, қызметкерлердің мүдделерін қорғауда көрініс табуы мүмкін. Сонымен қатар, әлеуметтік және өндірістік аспектілер өзара тығыз байланысты және өзара аз әсер етпейтінін ескеру қажет.

**Түйін сөздер:** кәсіпорын тиімділігі, рентабельділік, табыстылық, инвестициялық жоба, инвестициялардың өтелімділігі, бәсекелестік, шығын, өндіріс, факторлар, шаруашылық қызмет, компания стратегиясы, жағымсыз әсер, даму нәтижесі, жүйелі бағалау, бірқатар факторлар.

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#### МЕТОЛИКА ОПЕНКИ ЭФФЕКТИВНОСТИ ЛЕЯТЕЛЬНОСТИ ПРЕЛПРИЯТИЯ

**Аннотация.** На современном этапе развития Казахстана конкурентоспособность компаний и уместность их деятельности в будущем основываются, прежде всего, на эффективности их работы.

Эффективность деятельности является базой финансовой привлекательности для привлечения внешних инвесторов к финансово-хозяйственному функционированию предприятия, а также для владельцев организации. В данной взаимосвязи, весьма немаловажно дать оценку результативность компании в абсолютно всех стадиях жизни, в настоящем, прошлом и будущем.

В статье уделено внимание на методике оценки эффективности деятельности компании, а так же предложены методические рекомендаций по оценке экономической эффективности деятельности предприятия в современных условиях хозяйствования. Исследование сущности, основные формы показателей эффективности деятельности предприятия как экономической категории, изучение методики обобщения современных подходов к исследуемой проблеме, раскрытие особенности оценки экономической эффектив-

ности предприятия, выработки предложения по повышению экономической эффективности деятельности компании

Одной из главных проблем экономики является – увеличение эффективности производственнохозяйственной деятельности. Экономическая эффективность деятельности компании находится в зависимости от оптимального применения любого типа ресурсов и их структуры, что обусловливается балансом задействованных ресурсов разных факторов производства.

В системе социальной эффективности, тип экономической эффективности проявляется посредством экономической эффективности общего производства, которую можно наблюдать на макро-микроуровнях.

Эффективность общего производства на макроуровне показана экономической эффективностью национальной экономики в целом и ее отдельных секторов. На микроуровне — эффективностью предпринимательской деятельности предприятий и их подразделений. Чтобы результаты оценки экономической эффективности являлись объективными, оценка должна быть системной.

Систематическая оценка экономической эффективности выражена рядом факторов. При оценке экономической эффективности, как социально-экономической категории, следует учитывать: результат развития социальной сферы. Не всегда экономически оправданное производство может быть социально эффективным.

Это противоречие может проявляться в условиях плохо развитой нормативно-правовой основы, по защите интересов работников. В то же время необходимо учитывать, что социальные и производственные аспекты тесно взаимосвязаны и имеют не малое взаимное влияние.

**Ключевые слова:** Эффективность предприятия, рентабельность, доходность, инвестиционный проект, окупаемость инвестиций, конкуренция, затраты, производства, факторы, хозяйственная деятельность, стратегия компании, негативное влияние, результат развития, систематическая оценка, ряд факторы.

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#### REFERENCES

- [1] Kuatova D.Ya. Enterprise economy. Textbook. Almaty, "Economics", 2015.
- [2] Seydakhmetov A.S., Yelshibekova K.Zh. Entrepreneurship. Textbook. Almaty, "Economics", 2010.
- [3] Karanina E.V., Kruglova N.V. The mechanism for assessing the efficiency of the financial and economic activities of the enterprise from the perspective of strategic management, 2015.
  - [4] Accounting reports of Innovalex LLP for 2015-2017.
- [5] Kushzhanov N.V., Makhalmadli Dashgin. Tsifrovaya povestka YEAES//Bulletin of the National Academy of Sciences of the Republic of Kazakhstan.-2019-No2-S. 55-61 https://doi.org/10.32014/2018.2518-1467.40
- [6] Myrzakhanova D.Zh., Smagulova R.U., Taspenova G.A., Utegulova B.S. MAIN DIRECTIONS OF OPTIMIZATION TAX SYSTEMS OF RK// REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN. 2019. №4, p.104-109. / https://doi.org/10.32014/2019.2518-1483.124
- [7] Karanina E. V., Kruglova N. V. Mechanism for evaluating the effectiveness of financial and economic activities of an enterprise from the position of strategic management. 2015, p. 375 c.
  - [8] Sheremet A.D. Methodology of financial analysis. M.:, Infra. M., 2012. p. 207.
- [9] Berdnikova T. B. Analysis and diagnostics of financial and economic activity of the enterprise: Uch. Posobie. M.: INFRA-M, 2012. 215 p.
  - [10] Law of the Republic of Kazakhstan "On private entrepreneurship" / Almaty, 2012.
  - [11] Financial statements of "Innovalex" LLP for 2015-2017.

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# MODERN RISK FORECASTING MODELS IN THE COMPANY

**Abstract.** Companies independently develop and form their financial relations, financial resources, determine the direction of their use and effectively organize financial management, consider ways to improve the company's competitiveness in the conditions of market globalization. Financial management of a company determines the coordination of all activities of an economic entity, since financial relations, financial resources and sources of financial resources that are its object determine not only current, but also stable competitiveness in a market economy.

In modern conditions, when companies with their own needs make financial decisions, its resource capabilities increase dramatically. This means optimizing financial relations and improving the efficiency of financial resource management. Indicators of financial condition reflect the profitability of economic activities, financial achievements and competitiveness. The information system satisfies the interest not only of the business entity to the owners and management personnel, but also to a wide range of its external users with the necessary information. Risk management in any company is defined separately depending on the volume of construction work and the amount of financial resources. The implementation of these measures will help to reduce the amount of unexpected losses from exposure to risks.

The actual performance of the functions of the enterprise's financial management system allows the company's management to control financial and economic activities in financial management and correct the directions of inefficiently performed activities. Because improving competitiveness is the result of effective financial management policies and functions. Thus, financial management will increase the role of the financial Manager in the effective management of the company's finances, regulation of financial relations and search for effective sources of financing, increasing the profitability of financial and economic activities, and cash flows.

**Keywords:** risk, forecast, budget, plan, insurance, profit, expenses, funds, management, financing, analysis, design.

The budget process in the company is carried out as follows. First, a budget Commission is created. The budget Commission is created by order of the Chairman of the company's Management Board. Members of the budget Commission:

- Chairman of the Budget Commission Member of the Management Board of the Company, Managing Director in charge of budgeting;
  - Deputy Chairman of the Budget Commission Head of Finance Chief Accountant;
  - Head of the Accounting Department (AD);
  - Head of Financial Analysis and Project Finance (FA & PF);
  - Head of Strategic Planning (SP);
  - Head of Monitoring Department;
  - Head of Business Services;
  - Head of the Legal Department.

The Secretary of the budget Commission is an employee of FA & PF. The Secretary of the budget Commission cannot be a member of the budget Commission and have the right to vote [1].

By order of the Chairman of the company's Management Board, other employees of the company may also be included in the budget Commission.

Decisions of the budget Commission are made by a majority vote at a meeting of members of the budget Commission (or persons who replace them). When making a decision, members of the budget Committee have the right to an equal vote. If the result of voting is equal, the final decision is made by the Chairman of the budget Commission. The term of the meeting of the budget Commission is determined by the Chairman of the budget Commission. The results of the meeting of the budget Commission are drawn up by the Secretary of the budget Commission with the relevant protocols indicating the final decision. The minutes are approved by the members of the budget Commission. The original minutes are signed by the Chairman and Secretary of the budget Commission.

The original signed Protocol and a set of documents on issues considered at the meeting of the Budget Commission remain with the Secretary of the budget Commission. Copies are sent to members of the budget Commission and interested structural divisions.

Before March 1 of the year preceding the planned financial year, the Finance Department (FD) shall provide forecast indicators in accordance with the established procedure. No later than September 1 of the planned fiscal year, FA & PF will develop an order of the Chairman of the Management Board on administrative programs and supervised programs for the planned financial year. A copy of the order of the Chairman of the Management Board, which determines the administrator of the programs, is sent to the chairman, deputy chairman and other members of the Budget Committee, program administrators, as well as other departments. No later than September 15 of the year preceding the planned fiscal year, their administrators submit applications to the HSE for the planned fiscal year.

Program administrators form requests for programs for the planned financial year with the planned amounts, justifications and explanations of cash receipts (expenditures), capital investments, income, expenses. The draft annual budget of the Company, developed by the HSE, will be submitted to the Budget Commission for approval by November 5 of the year preceding the planned financial year. The draft annual budget of the Company, approved by the Budget Commission, shall be submitted to the Management Board of the Company for approval before November 15 of the year preceding the planned financial year.

The order of approval of the annual budget of BBB LLP is specified in the order of adjustment of the budget by individual classes and items. In case of production necessity, the Management Board of the Company has the right to adjust individual classes and items within the sum of the approved planned indicators of items, except for labor costs within the amount of not more than 20% of the approved planned indicators for classes and items. Within 5 working days from the date of the decision to amend individual classes and articles, the Company shall send a copy of the decision to the Chairman of the Board of Directors [2-4].

For these purposes:

- 1) program administrators make proposals for changes in the amount of supervised programs, in addition to the costs associated with the payment of wages and salaries. Requests from Program Administrators will not be accepted without detailed justification, explanatory notes, and approval of the Program Administrator of the program being adjusted;
- 2) according to the proposals of the budget Commission, program administrators make decisions on cost adjustments. The decision of the budget Commission is made in the Protocol;
- 3) applications approved by the budget Commission to change the amounts of supervised programs are sent for approval before the company's management Board. Program administrators, if necessary, make proposals to change the company's public procurement plan based on decisions of the company's management Board.

If necessary, you can increase the amount by category (current expenses, capital investments, investments) by adjusting the company's annual budget, which is approved by the company's Board of Directors in accordance with the established procedure. Let's consider the procedure for monitoring the implementation of the company's annual budget.

In BBB LLP, the budget is formed using the "bottom-up" method. Each financial Manager develops a budget for their projects for the next year, and the budget for each project will be combined into a group of projects that will form the company's budget as a whole. This process can be seen schematically in figure 1.

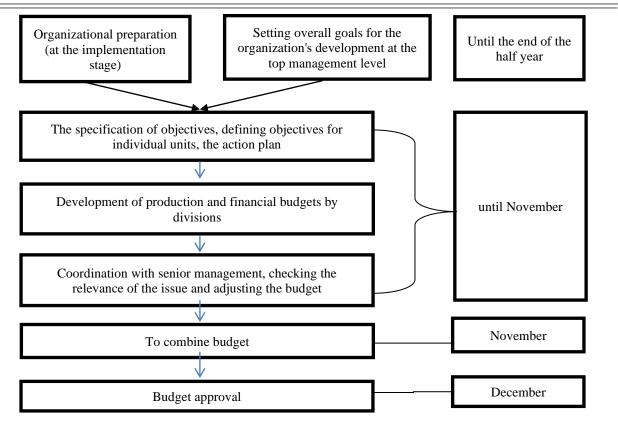


Figure 1 - Approval of the budget of BBB LLP

Note - compiled by the author

The value of the "bottom-up" budgeting system is the participation of managers and low-level specialists in the budgeting process, which gives a positive stimulating effect.

At the same time, the participation of managers in the planning process in the workplace, who have limited competence and responsibility, may lead to ignoring the interests of the organization as a whole. In addition, the disadvantage of the "bottom-up" budgeting system is the long-term coordination of the budgets of various structural units of the organization.

When determining financial risks in construction companies, it is important to determine whether the business activity is subject to various risks. All existing companies that are engaged in construction and installation work, there are such issues as increasing the cost of production, reducing the availability of material resources, the lack of equipment, and delays in the completion of work. In addition, risk management of construction companies there were problems with the shortcomings of design work, mistakes in risk management, return on invested deposits, and an increase in the payback period [5-8].

Issues of cost reduction in a construction company are related to the following factors::

- changing the culture of work organization;
- difficulty in reducing direct labor costs;
- incomplete automation of processes that lead to additional labor costs;
- uncertainty of the cost level.

Areas that characterize the potential for improving efficiency:

- risk management;
- training of employees, improving their skills and professional development;
- financial risk management;
- compliance with established standards.

Construction and installation works, so when carrying out can be classified into the following disadvantages:

- delays in the delivery of construction materials;
- conducting an erroneous assessment in the design of construction;

- errors in the risk assessment process;
- error in the evaluation of the effectiveness;
- project management changes;
- low level of management and financial management.

Reasons for errors during design work in a construction company:

- lack of resources;
- violation of the risk assessment process;
- design error;
- changes in the management of projects;
- low communication with partners and clients.

When considering the risks that are typical for any company, from the point of view of lending to commercial banks, we can generalize the following figure 2.

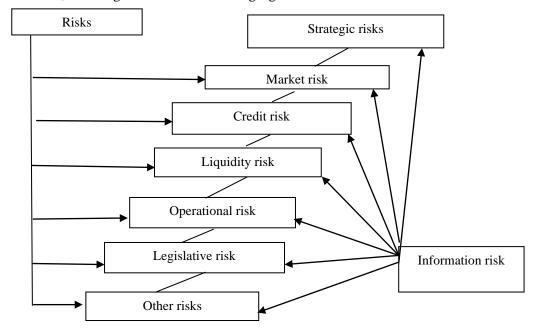


Figure 2 - Set of types of risk that occur in the company

Note - compiled by the author [9,10].

Figure 3 also shows the relationship of financial risks with all strategic and information risks. Enterprise risks: market, credit, liquidity, operational, legal risks and other risks.

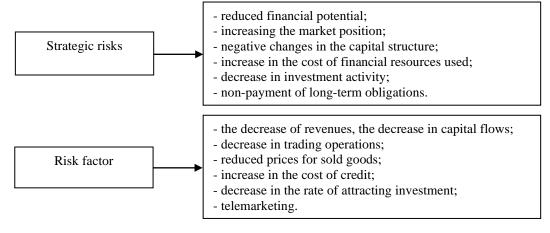


Figure 3 - Strategic risk factors

Note - compiled by the author [9,10].

Unforeseen circumstances at the enterprise and the occurrence of a crisis also arise due to the likelihood of such risks. With a generalization of strategic risks on the part of the financial Manager of the anti-crisis management. The implementation of measures aimed at preventing these financial risks should be controlled by financial managers, only then can the effectiveness of financial management at the enterprise be achieved [11-12].

Analyzing the financial and economic activities of the investigated BBB LLP, the issues of solving the following risks inherent in its activities were identified. The reasons for this risk problem and risk prevention measures can be seen in the following table 1.

Causes of risks	Risk prevention measures	
Distrust of suppliers, transport	The choice of reliable carriers inventory	
accidents		
Low qualification of designers and	Timely and comprehensive verification of	
estimators	design and estimate documentation	
Improper use of construction equipment	Periodic repair work on construction	
	equipment, timely inspection of technical	
	condition	
Low qualification of builders, untimely	Strengthening control over construction	
control of managers	work, improving the skills of employees	
	and employees	
Non-compliance with safety and labor	Strengthening control over safety and labor	
protection measures during construction	protection measures during construction	
works	works	
	Low qualification of designers and estimators Improper use of construction equipment Low qualification of builders, untimely control of managers  Non-compliance with safety and labor protection measures during construction	

Table 1 - Risks, causes and prevention measures of BBB LLP

According to professional experts in the construction industry, all the risks were divided into important ones. We evaluated the probability of emerging risks in points (from 10 to 100 points), and expressed the probability of risks in units (from 0.1 to 1 unit). When calculating risks, it is calculated by multiplying the risk assessment by the probability of such a risk. It is important to calculate the risk of construction and installation works, which are shown in table 2 below.

The risks of construction work	Risk of risk (from 10 to	Risk weight (from 0.1 to 1 The risk va	
	100 points)	point)	
Errors in contract documents	60	0,3	18
Errors in estimated documents	40	0,7	28
Technical errors in project documents	80	0,4	32
Non-compliance of construction works with	20	0,4	8
construction standards			
Poor quality of construction work	40	0,5	20
Low qualification of construction workers	30	0,5	15
Non-compliance with labor protection	70	0,8	56
requirements at construction sites			
Note - compiled by the author			

Table 2 - Calculation of the significance of risks for construction works

In table 2, the risk values for construction work were non-compliance with labor safety (56 points) and technical errors in the design documentation (32 points). These risks show the highest risk for construction companies. Therefore, it is obvious that risk insurance is necessary to prevent unexpected expenses. Insurance of these risks with insurance companies is possible by entering into transactions. When insuring risks, it is necessary to attach importance to the specific weight of insurance costs as part of all losses. For example, insurance in construction can be divided into the following shares:

- health insurance of construction company employees 48%;
- insurance of guarantees in construction 31%;
- civil liability and construction risk insurance 20%;
- business travel insurance 1%.

It is necessary to develop possible measures to improve the risk management of the construction company. It was formed by transferring 2% of the profit for the company's risk management costs, as can be seen from table 3 below. The set of measures listed in table 3 on construction business is of practical significance.

Risk management measures	Specific gravity,%	
Guarantee insurance in construction	3	
Civil rights insurance	40	
Systematic quality control of construction works	30	
Carrying out measures on labor protection, safety and fire safety	10	
Insurance of construction equipment and mechanisms	5	
Insurance of other construction risks	5	
Strengthening control over the quality of execution of design and estimate documentation	2	
Professional development of construction managers and workers	2	
Monitoring and analysis of contracts by business partners	1	
Total	100	
Note - created by the author		

Table 3 - Allocation of funds for the costs of risk management activities of BBB LLP

To sum up, risk Management in any company is determined separately depending on the volume of construction work and the amount of financial resources. The implementation of the above measures will reduce the amount of unexpected losses from exposure to risks.

The actual performance of the functions of the enterprise's financial management system allows the company's management to control financial and economic activities in financial management and correct the directions of inefficiently performed activities. Because improving competitiveness is the result of effective financial management policies and functions. Thus, financial management will increase the role of the financial Manager in the effective management of the company's finances, regulation of financial relations and search for effective sources of financing, increasing the profitability of financial and economic activities, and cash flows.

We see that the share of variable costs in the company. Since deviations are observed in the performance of subcontracting work. Partners in financial relations were large accounts payable of 10 large companies for receiving construction materials and paying for services received. It was established that in accordance with the contract for receivables, a large number of advance payments for construction and installation works and advance payments for the release of land plots were established [13-16].

The financial condition of BBB LLP is assessed both short-term and long-term. Short-term evaluation criteria are liquidity and solvency. The long-term assessment of the company is determined by the structure of sources of funds for the future, the level of dependence on accounts payable.

In a market economy, the financial position of an enterprise is complex, reflecting the effectiveness of its activities. This is the only way to maintain the financial stability of the company by applying methods of analysis and forecasting the financial condition of the enterprise.

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#### КОМПАНИЯДА ТӘУЕКЕЛДЕРДІ БОЛЖАУДЫҢ ЗАМАНАУИ ҮЛГІЛЕРІ

Аннотация. Компаниялар өзінің қаржылық қатынасын, қаржылық ресурсын дербес құруда және қалыптастыруда, оларды пайдаланудың бағыттарын анықтап әрі қаржылық менеджментті тиімді ұйымдастырып, компанияның нарықтық жаһандану жағдайында бәсекеге қабілеттілігін арттыру жолдарын қарастыруда. Компания қаржысын басқару — шаруашылық субъектісінің барлық қызметін үйлестіруді айқындайды, себебі оның нысаны болып саналатын қаржылық қатынастар, қаржылық ресурстар және қаржылық ресурс көзін табу нарықтық экономика жағдайында, тек ағымдық қана емес, сонымен қатар болашақта да тұрақты бәсекеге қабілеттілікті анықтайды.

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Компания қаржысын басқару – оның активтері мен пассивтерін басқаруды, қаржылық дамудың ағымдық және стратегиялық жоспарларын қалыптастыруды, ақша ағынын, қаржылық тәуекелдерді басқаруды және қысқартуды қарастырады. Компанияның қаржысын басқаруда әмбебап құрал ретінде қаржылық менеджментті қарастыру қажет. Қаржылық менеджмент немесе қаржылық қатынастар мен ресурстарды басқару шаруашылық жүргізуші субъектінің бәсекеге қабілеттілігін арттыру мақсатында қаржы саласында нарықтық механизмді қадағалау нысандарының, әдістері мен қағидаттарының жүйесін қамтиды.

Заманауи жағдайда компаниялар қажеттілігіне қарай қаржы бойынша шешім қабылдағанда оның ресурстық қабілеті бірден өсе бастайды. Бұл қаржылық қатынастарды оңтайландыруды және қаржылық ресурстарды басқару тиімділігін арттыруды білдіреді. Қаржылық жағдай көрсеткіштері шаруашылық қызмет табысын, қаржылық жетістікті және бәсекеге қабілеттілікті көрсетеді. Ақпарат жүйесі шаруашылық жүргізуші субъектінің меншік иелері мен басқару персоналының мүдделерін қажетті ақпаратпен қатар оның сыртқы қолданушыларының кең ауқымында да қанағаттандырады. Кез келген компанияда тәуекелдерді басқару құрылыс жұмыстарының көлеміне, қаржылық ресурстар сомасына байланысты жеке анықталады. Осы шараларды енгізу тәуекелдердің ықпалынан пайда болатын шығындардың және күтпеген залалдардың шамасын азайтуға мүмкіндік береді.

Кәсіпорынның қаржылық менеджмент жүйесі қызметтерінің нақты орындалуы, қаржыны басқарудағы компания басшылығына қаржылық-экономикалық қызметін бақылап, тиімсіз орындалған қызмет бағыттарын түзетуге мүмкіндік береді. Себебі бәсекеге қабілеттілікті арттыру – дұрыс жасалған және тиімді қаржылық менеджмент функциялары мен саясатының нәтижесі. Осылайша, қаржылық менеджмент кәсіпорын қаржысын тиімді басқару, қаржылық қатынастарды реттеу мен тиімді қаржыландыру көздерін іздеу, қаржылық-шаруашылық қызмет табысын, ақша ағынының түсімін көбейту – қаржылық менеджер қызметінің рөлін арттыра түседі.

**Түйін сөздер:** тәуекел, болжам, бюджет, жоспар, сақтандыру, табыс, шығын, қаражат, басқару, қаржыландыру, талдау, жобалау.

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#### СОВРЕМЕННЫЕ МОДЕЛИ ПРОГНОЗИРОВАНИЯ РИСКОВ В КОМПАНИИ

**Аннотация.** Компании самостоятельно разрабатывают и формируют свои финансовые отношения, финансовые ресурсы, определяют направления их использования и эффективно организуют финансовый менеджмент, рассматривают пути повышения конкурентоспособности компании в условиях глобализации рынка. Управление финансами компании определяет координацию всей деятельности хозяйствующего субъекта, так как являющиеся его объектом финансовые отношения, финансовые ресурсы и поиск источников финансовых ресурсов в условиях рыночной экономики определяют не только текущую, но также и устойчивую в будущем конкурентоспособность.

Управление финансами компании предусматривает управление ее активами и пассивами, формирование текущих и стратегических планов финансового развития, управление денежными потоками, финансовыми рисками и их сокращение. В качестве универсального инструмента управления финансами компании необходимо рассмотреть финансовый менеджмент. Финансовый менеджмент или управление финансовыми отношениями и ресурсами в целях повышения конкурентоспособности хозяйствующего субъекта включает систему форм, методов и принципов надзора за рыночным механизмом в финансовой сфере.

В современных условиях, когда компании со своими потребностями принимают финансовые решения, её ресурсные возможности резко возрастают. Это оптимизация финансовых отношений и повышение эффективности управления финансовыми ресурсами. Показатели финансового состояния отражают доходность хозяйственной деятельности, финансовые достижения и конкурентоспособность. Система информации удовлетворяет интересы не только собственников и управленческого персонала хозяйствующего субъекта в необходимой информации, но также и широкого круга его внешних пользователей. В любой компании управление рисками определяется отдельно в зависимости от объема строительных работ, суммы финансовых ресурсов. Внедрение данных мер позволит снизить величину затрат и непредвиденных убытков, возникающих под влиянием рисков.

Фактическое выполнение функций системы финансового менеджмента предприятия позволяет руководству компании при управлении финансами контролировать финансово-экономическую деятельность и корректировать направления неэффективно выполненной деятельности. Так повышение конкурентоспо-

собности — результат политики и функций правильно организованного и эффективного финансового менеджмента. Таким образом, финансовый менеджмент повысит роль деятельности финансового менеджера в эффективном управлении финансами предприятия, регулировании финансовых отношений и поиска эффективных источников финансирования, повышении доходности финансово — хозяйственной деятельности, поступлений денежных потоков.

**Ключевые слова:** риск, прогноз, бюджет, план, страхование, прибыль, расходы, средства, управление, финансирование, анализ, проектирование.

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#### REFERENCES

- [1] Economics of organization (enterprise, firm): The Textbook/Under. editorship of Professor Chernyshov B.N., Professor Garfinkel V.Ya. M.: high school textbook, 2012. 535 p.
  - [2] Financial management: / Under.ed. Stoyanova E. S.-M. Perspektiva, 2008, 96 p.
- [3] Naimanov M. B. Financial analysis in the activities of enterprises in modern conditions // Economy and law of Kazakhstan. 2012. no. 15. P. 42-46.
- [4] Duysenbayev K.V., Tulegenov E.T., Zhumagaliev G.G. Analysis of the financial state of the enterprise / textbook / Almaty: Economics, 2001. 329 p.
- [5] Kydyrova Zh., Satymbekova K., Kerimbek G., Urazbayeva G., Shadieva A. "Increase of competitiveness of the enterprise (example of the oil product market)". Reports of the national academy of sciences of the republic of kazakhstan. Volume 6, Number 328 (2019), 187-193. https://doi.org/10.32014/2019.2518-1483.187
- [6] Kerimov V.E. Cost accounting, calculation and budgeting in certain industries of the production sphere: Textbook. 4th edition-Moscow: Publishing and trading Corporation "Dashkov and K", 2008. 480 p.
- [7] Financial Management (enterprise Finance): Textbook / ed. by Volodin A.A. Moscow: INFRA-M, 2006. 504 p. (Higher education).
  - [8] Nurumov A.A., Bulakbay G. M. Financial management: textbook / KazEU BPO, 2013, 253 p.
  - [9] Kovalev V.V. "Financial management: theory and practice". Textbook. m. Prospect, 2014, 402 p.
- [10] Levchaev P.A. Methodology of financial resources management as a science of their effective management / / Finance and credit. 2012. №13. P. 36-41.
- [11] Imanbayeva Z., Taskarina B., Demeuova G., Baishukurova Zh., Tleubergenova M. "Main directions of the company's balancing structure observation decisions". News of the national academy of sciences of the republic of kazakhstan Series of social and human sciences. Volume 6, Number 328 (2019), 167-173. https://doi.org/10.32014/2019.2224-5294.226
  - [12] Chaynikova L.N., Chaynikov V.N. Competitiveness of the enterprise: textbook. stipend. Tambov, 2007.
  - [13] Friedman A.M. Finance of the organization (enterprise): Textbook / 2nd ed. Moscow: Higher school, 2013. 488 p.
- [14] M. Karimbergenova, A. Nurgaliyeva, G.Kerimbek, S. Bespalyy, L.Moldashbayeva: "The development of regional export potential" / Reports of the national academy of sciences of the republic of Kazakhstan. / Volume 3, Number 325 (2019), 160-167. https://doi.org/10.32014/2019.2518-1483.87
- [15] Magomedovsky S.M. On the methodology for calculating profitability // Economics and statistics, 2011, no. 5, P. 28-35.
  - [16] Nurpeisova N.S. Textbook "intra-firm planning" / Almaty: Aknur publishing House, 2017. 234 p.

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# INTEGRITY IN THE ASSESSMENT OF MANAGEMENT PERSONNEL OF THE ORGANIZATION

Abstract. The paper considers the complex factors in the assessment of the managerial staff of the organization. The main components of the mechanism for improving the forms and methods of stimulating the work of managerial personnel through the development of an effective methodology for evaluating their work are disclosed. The assessment of the work of management personnel must be approached, first of all, from the perspective of complexity, which means the fact that the factors that have a final impact on work efficiency must be structured in the form of an algorithm that can clearly and efficiently give assessment criteria that are understandable to all respondents. The developed algorithm for evaluating managerial personnel is based on two components: the formation of criteria according to the requirements of the industry specifics and the compliance with these requirements of the manager's professional qualities. The development of assessment criteria is based on three main areas: personal data, professional skills and needs of the industry.

**Keywords:** management, personnel, factors, assessment, formation, organization, complexity, efficiency, managerial personnel, criteria, algorithm.

**Introduction.** The specifics of the current stage of development of the Kazakhstani economy is determined by the presence of factors that have a complex effect on the level of transformations in matters of evaluating the performance of management personnel. Such factors include sharp fluctuations in the global economy, changes in the business environment, the complexity of managerial tasks growing annually in geometric progression, as well as the conditions of the competitive environment. In these conditions, the efficiency and quality of managerial decisions taken comes to the fore, ahead in terms of importance of indicators such as effectiveness, efficiency and adaptability. The level of flexibility in making managerial decisions in many cases allows the organization to effectively adapt to dynamically changing external conditions, while remaining a competitive organization in the market.

**Methods.** The scientific and methodological basis of the study was general scientific methods and principles. These include a systematic approach, a structural analysis of the state and development of the innovative infrastructure of the region, synthesis methods, as well as graphic and abstract-logical methods.

Mainpart. More and more business owners are becoming aware of the importance of raising the level of qualification not so much of workers and specialists as of top management, since the future of the whole organization depends on the choice of the correct future development path. In this regard, the business owners face a dilemma: to grow and train a highly effective manager from among the reserves available at the enterprise, or to attract a ready-made specialist in the field of management [1]. Each of these areas has its own characteristic positive and negative sides. Attracting a ready-made specialist at first glance seems to be most effective due to the simplicity of its implementation. There are no training costs, there is no need to wait for the finished results, the specialist is already coming to the organization with his own knowledge and experience. However, it only seems so at first glance. Further analysis of this area reveals a number of significant shortcomings that can completely level the entire positive effect of

attracting a ready-made manager to the organization. Thus, ready-made solutions that give good results in one organization may not necessarily be able to repeat their positive effect within the framework of another enterprise. There is a need to adjust the available management methods to the realities of an individual organization, which does not always positively affect the final result. Also, the lack of training costs for top managers leads to the latter being disinterested in the results of work, as well as the possibility of the specialist leaving for a new job, capable of providing not only a stable present, but also a stable future position in the progressive movement along the career ladder. In this regard, competent business owners are increasingly choosing the second way to improve the efficiency of management personnel. Namely, significant funds are allocated, the purpose of which is the formation of a reserve of managerial personnel capable of taking the organization to the development of new heights in business at a high-quality level. Also, a huge advantage of growing your staff is the fact that the growth process itself occurs from the bottom to the top level, under which the specialist can study the work of the enterprise from the inside, which subsequently makes it possible, based on the acquired knowledge, to see the whole picture of the ongoing transformations within the organization. in order to target these changes to the end result. Also, the human factor that has a positive impact on the effectiveness of the organization cannot be discounted. A specialist is more attached to the organization if he was trained at this enterprise than a third-party manager worker who is confident in the level of demand for his knowledge in the market. This confidence can negatively affect the results of the final work [2,3].

Therefore, in the conditions of choice, business owners are increasingly using the second way of developing top management of the organization in practice. Awareness is gradually being formed of the need for advanced training not only of workers, but also of management personnel. The development of management skills among top managers through advanced training has a positive effect on the overall competitiveness of the company in the market. Moreover, this training should be comprehensive, and not be a one-time promotion. Conducting such one-time training events is too costly and inefficient for the organization.

The priority tasks include raising the level of qualification of managerial personnel due to the fact that our country is changing its development guidelines, moving on to an innovative path. The priorities of national projects make it clear that the "Education" section is becoming one of the main ones that require increased attention to its problems among leaders at various levels. From these positions, it is necessary to distinguish two approaches that are complementary:

- 1. there is a need to identify "growth points" that can have a significant impact on the further development of this area;
- 2. The need to develop new methods in education inevitably leads to the introduction of innovative mechanisms in the management system.

From these positions, managers of various levels of management have a need for continuous improvement of management skills, which inevitably necessitates a systematic increase in the level of qualification. The existing baggage of knowledge and skills is already insufficient in modern conditions for managerial managers. There is a need not only to develop their skills, but also to actively apply them in practice, which can have a significant impact on the organization's ability to maintain its market position. Managing personnel, with their unwillingness to develop their knowledge and skills, can cause significant damage to the company by inhibiting all management processes and mechanisms at the local level. The inept application of control action leads to additional costs when the organization is forced to spend significant funds where competent management is able to solve the problem with minimal cost of funds and energy [4]. From these positions, the issues of improving the personnel management system of an enterprise based on the development of management skills at various management levels are of particular relevance.

Special attention deserves consideration of the problem of improving the mechanism of managerial skills of top management of an organization. Currently, the development of management skills of top managers means only advanced training in various courses, retraining and training. At the same time, they forget about more important mechanisms for improving managerial skills, which include carrying out a comprehensive analysis of the needs of the leader, which can identify areas of development for the entire organization [5]. This assumption is based on real statistics that reveal the relationship between the level of development of managerial skills of managers and the results of the enterprise. The regularities are

revealed, consisting in the fact that a high level of competence of managers inevitably leads to an increase in the efficiency of the entire organization, and therefore to an increase in the volume and money terms of the results of the organization. In modern business, the most demanded in the labor market is the "developing and developing leader", i.e. manager aimed at constantly updating professional knowledge. In these conditions, the growth of labor productivity of the entire organization directly depends on the correct choice of the mechanism for the development of managerial personnel [6,7].

The assessment of the work of management personnel must be approached, first of all, from the perspective of complexity, which means the fact that the factors that have a final impact on work efficiency must be structured in the form of an algorithm that can clearly and efficiently give assessment criteria that are understandable to all respondents.

The algorithm for the formation of a comprehensive assessment of the results of labor of managerial personnel seems possible, to more clearly reflect the existing relationships, to show schematically in the form of the relationship of the constituent elements in the form of Figure 1.

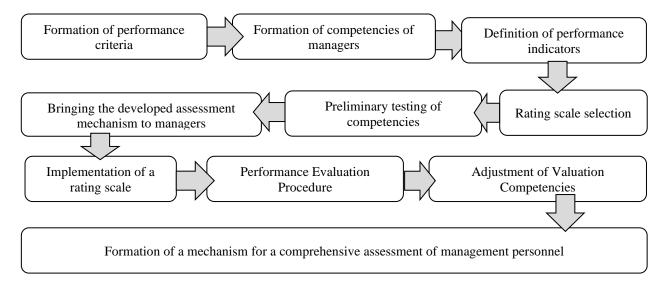


Figure 1 - Algorithm for the formation of a comprehensive assessment of the results of labor of management personnel

This process traditionally begins with the stage of forming performance criteria. Subsequently, the selected criteria, passing through the subsequent stages, transform competencies and performance indicators of management personnel. Through the procedure for introducing the developed criteria into the practice of evaluating the performance of a manager, the developed evaluation mechanism is applied in practice. Subsequently, there comes a period of testing the mechanism, making adjustments based on the requirements of the enterprise, and the subsequent formation of a mechanism for a comprehensive assessment of managerial personnel [8].

The developed algorithm for evaluating managerial personnel is based on two components: the formation of criteria according to the requirements of the industry specifics and the compliance with these requirements of the manager's professional qualities. The development of assessment criteria is based on three main areas: personal data, professional skills and needs of the industry. The first group includes such parameters as age, education, work experience. The second group is determined on the basis of the assessment of professional competencies by testing and questioning. And the third includes the specific needs of the industry and, based on them, requirements for leadership style. So, for example, in the textile sector there is a certain set of leadership, different from other industries. The manager is presented with such requirements as the ability to work in conditions of fierce competition from Chinese manufacturers, the constant search for new markets, and the systematic monitoring of the latest innovations in the market.

Determining whether the requirements of a manager's professional qualities meet the assessment criteria is carried out by independent experts on the basis of both the manager's personal qualities and his work efficiency, as well as satisfaction and comfort of the management style for subordinates. The assessment is carried out according to the developed methodology, as well as the data obtained on the

evaluation of criteria in three areas. The involved experts fill out an expert opinion on the form. This conclusion is attached to the leader's grading table. Further, specialists of the personnel department, under the guidance of the director of the company, carry out calculations, fill out evaluation forms, and form recommendations aimed at adjusting the work of the head according to the estimates received. If the average estimated indicators are above the average, the management style is recognized as effective and recommendations are made on adjusting management methods. When the indicators are below average, the company management decides to either part with the manager or adjust his working methods. Such a decision is made on the basis of the complex results of the situational approach. At the same time, first of all, the interests of the industry or textile enterprises are put forward.

Conclusion. The main objective of the formation of a methodology for assessing the performance of management personnel is to determine the criteria, the application of which in practice will improve the quality of work of management. Creating an effective system of managerial potential is the basis for further development, as well as the achievement of goals. Evaluation of managers of both middle and senior management should be based on assessment procedures, certain technologies and methods. The methodology for evaluating the effectiveness of managerial personnel proposed in the article is based on a combination of various methods, taking into account the specifics of the industry, as well as modern requirements for the management team. A significant difference between the proposed methodology is that it accumulated the most effective assessment methods, which can easily be integrated into the personnel service system, as well as increase the efficiency of managerial personnel by accurately quantifying the results obtained.

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### ҰЙЫМНЫҢ БАСҚАРУШЫЛЫҚ ПЕРСОНАЛДЫ БАҒАЛАУДАҒЫ КЕШЕНДІЛІК

Аннотация. Жұмыста ұйымның басқарушы құрамын бағалаудағы күрделі факторлар қарастырылған. Олардың жұмысын бағалаудың тиімді әдістемесін жасау арқылы басқарушы персоналдың жұмысын ынталандыру нысандары мен әдістерін жетілдіру тетіктерінің негізгі компоненттері ашылды. Басқарушы персоналдың жұмысын бағалауға, ең алдымен, күрделілік тұрғысынан қарау керек, яғни жұмыс тиімділігіне түпкілікті әсер ететін факторлар барлық респонденттерге түсінікті болатын бағалау критерийлерін нақты және дәл бере алатын алгоритм түрінде құрылуы қажет дегенді білдіреді. Басқарушы персоналды бағалаудың әзірленген алгоритмі екі құрамдас бөлікке негізделген: салалық ерекшеліктерге сәйкес критерийлерді қалыптастыру және олардың менеджердің кәсіби сапасының талаптарына сәйкестігі. Бағалау критерийлерін әзірлеу үш негізгі бағытқа негізделеді: жеке мәліметтер, кәсіптік дағдылар және саланың қажеттіліктері.

Қазақстан экономикасының қазіргі даму кезеңінің ерекшелігі басқару персоналының жұмысын бағалау мәселелерінде өзгерістер деңгейіне кешенді әсер ететін факторлардың болуы негізінде анықталады. Мұндай факторларға әлемдік экономикадағы күрт ауытқулар, бизнес-ортадағы өзгерістер, жыл сайын геометриялық прогрессияда өсетін басқару міндеттерінің күрделілігі, сондай-ақ бәсекелестік орта жағдайы жатады. Бұл жағдайда қабылданған басқарушылық шешімдердің тиімділігі мен сапасы тиімділік, тиімділік және бейімділік сияқты көрсеткіштердің маңыздылығы жағынан алдыңғы орынға шығады. Басқарушылық шешімдерді қабылдаудағы икемділік деңгейі көптеген жағдайларда ұйымға нарықта бәсекеге қабілетті ұйым бола отырып, қарқынды өзгеретін сыртқы жағдайларға тиімді бейімделуге мүмкіндік береді.

Басқарушы персоналды бағалаудың әзірленген алгоритмі екі құрамдас бөлікке негізделген: салалық ерекшеліктерге сәйкес критерийлерді қалыптастыру және олардың менеджердің кәсіби сапасының талаптарына сәйкестігі. Бағалау критерийлерін әзірлеу үш негізгі бағытқа негізделеді: жеке мәліметтер, кәсіптік дағдылар және сала қажеттіліктері. Бірінші топқа жас, білім, жұмыс тәжірибесі сияқты параметрлер кіреді. Екінші топ тестілеу және сұрақ қою арқылы кәсіби құзіреттілікті бағалау негізінде анықталады. Үшіншісі – саланың нақты қажеттіліктері және соның негізінде көшбасшылық стильге қойылатын талаптар. Мәселен, тоқыма саласында басқа салалардан ерекшеленетін белгілі бір көшбасшылық жиынтығы бар. Менеджерге қытайлық өндірушілердің қатал бәсекелестік жағдайында жұмыс істеу қабілеті, жаңа нарықты үнемі іздеу және нарықтағы соңғы жаңалықтарды жүйелі түрде бақылау сияқты талаптар қойылады.

Менеджердің кәсіби сапасының талаптарын бағалау критерийлеріне сәйкестігін анықтауды тәуелсіз сарапшылар менеджердің жеке қасиеттері мен жұмыс тиімділігі, сонымен қатар бағыныштылар үшін басқару стилінің қанағаттануы мен ыңғайлылығы негізінде жүзеге асырады. Басқарушы персоналдың жұмысын бағалау әдістемесін қалыптастырудың негізгі мақсаты тәжірибеде қолдану менеджмент жұмысының сапасын жақсартатын өлшемдерді анықтау болып саналады. Басқарушылық әлеуеттің тиімді жүйесін құру әрі қарай дамуға, сонымен бірге алға қойылған мақсаттарға қол жеткізуге негіз болады. Орта және аға менеджерлерді бағалау бағалау процедураларына, белгілі технологиялар мен әдістерге негізделуі керек. Мақалада ұсынылған басқарушы персоналдың тиімділігін бағалау әдістемесі саланың ерекшелігін, сондай-ақ басқарушы топтың қазіргі заманғы талаптарын ескере отырып, әртүрлі әдістердің жиынтығына негізделген. Ұсынылған әдістеменің айтарлықтай айырмашылығы, ол бағалаудың тиімді әдістерін жинақтап, оны кадрлар жүйесіне оңай қоса алады, сонымен қатар алынған нәтижелерді дәл санай отырып, басқарушы персоналдың тиімділігін арттырады.

**Түйін сөздер:** басқару, персонал, факторлар, бағалау, қалыптастыру, ұйымдастыру, күрделілік, тиімділік, басқару персоналы, критерийлер, алгоритм.

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#### КОМПЛЕКСНОСТЬ В ОЦЕНКЕ УПРАВЛЕНЧЕСКОГО ПЕРСОНАЛА ОРГАНИЗАЦИИ

Аннотация. В работе рассмотрены комплексные факторы в оценке управленческого персонала организации. Раскрыты основные составляющие механизма совершенствования форм и методов стимулирования работы управленческих кадров посредством разработки эффективной методики оценки их труда. К оценке труда управленческого персонала необходимо подходить, прежде всего, с позиции комплексности, означающий тот факт, что факторы, оказывающие конечное воздействие на эффективность работы, необходимо структурировать в виде алгоритма, способного четко и качественно дать критерии оценки, понятные для всех респондентов. Разработанный алгоритм оценки управленческого персонала основан на двух составляющих: формирование критериев, согласно требованиям специфики отрасли, и соответствие этим требования профессиональных качеств руководителя. В основу выработки критериев оценки положены три основных направления: личные данные, профессиональные навыки и потребности отрасли.

Специфика современного этапа развития казахстанской экономики определяется наличием факторов, оказывающих комплексное воздействие на уровень трансформаций в вопросах оценки эффективности работы управленческого персонала. К таким факторам можно отнести резкие колебания мировой экономики, изменения в деловой среде, нарастающая ежегодно в геометрической прогрессии сложность управленческих задач, а также условия конкурентной среды. В данных условиях оперативность и качество принимаемых управленческих решений выходит на первый план, опережая по значимости такие показатели, как результативность, эффективность и адаптируемость. Уровень гибкости в принятии управленческих решений во многих случаях позволяет организации эффективно приспособиться к динамично меняющимся внешним условиям, оставаясь конкурентоспособной организацией на рынке.

Разработанный алгоритм оценки управленческого персонала основан на двух составляющих: формирование критериев, согласно требованиям специфики отрасли, и соответствие этим требования профессиональных качеств руководителя. В основу выработки критериев оценки положены три основных направления: личные данные, профессиональные навыки и потребности отрасли. В первую группу включены такие параметры, как возраст, образование, стаж работы. Вторая группа определяется на основе оценки профессиональных компетенций тестированием и анкетированием. И третья включает специфические потребности отрасли и, исходя из них, требования к стилю руководства. Так, например, в текстильной сфере существует определенный набор к руководителю, отличающийся от других отраслей. К управленцу предъявляют такие требования, как возможность работы в условиях жесткой конкуренции со стороны китайских производителей, постоянный поиск новых рынков сбыта, систематическое отслеживание последних инноваций на рынке.

Определение соответствия требования профессиональных качеств руководителя критериям оценки проводится независимыми экспертами на основе как личностных качеств руководителя, так и эффективности его работы, а также удовлетворенности и комфортности стиля руководства для подчиненных. Основная цель формирования методики оценки эффективности работы управленческого персонала заключается в определении критериев, применение которых на практике позволит повысить качество работы руководства. Создание эффективной системы управленческого потенциала является основой для дальнейшего развития, а также достижения поставленных целей. Оценка руководителей как среднего, так и высшего звена должна строиться на оценочных процедурах, определенных технологиях и методах. Предложенная в статье методика оценки эффективности управленческого персонала основана на сочетании различных методик с учетом специфики отрасли, а также современных требований к руководящему составу. Существенным отличием предложенной методики является то, что она аккумулировала наиболее действенные методы оценки, способные легко встраиваться в систему кадровой службы, а также повысить эффективность управленческого персонала за счет точного количественного измерения полученных результатов.

**Ключевые слова:** управление, персонал, факторы, оценка, формирование, организация, сложность, эффективность, управленческий персонал, критерии, алгоритм.

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#### REFERENCES

- [1] Fletcher K. Evaluation and Feedback. (Practical aspects of a performance review): Per. from English M.: HIPPO PUBLISHING LTD, 2006. 277 p.
- [2] On some issues of evaluating the effectiveness of personnel management / Order of the Minister of Civil Service of the Republic of Kazakhstan dated December 31, 2015 No. 26. Registered with the Ministry of Justice of the Republic of Kazakhstan on December 31, 2015 No. 12693. Repealed by order of the Chairman of the Agency of the Republic of Kazakhstan for State Affairs Service and anti-corruption of May 23, 2017 No. 109 (shall be enforced from the date of its first official publication)
- [3] Kibanov A.Ya. Personnel management of the organization: current technology recruitment, adaptation and certification: textbook. allowance. 2nd ed., Erased. Moscow: KNORUS, 2012. 358 p.
- [4] Vuchkovich-Stadnik A.A. Personnel assessment: a clear algorithm of actions and high-quality practical solutions / A.A. Vuchkovich-Stadnik M.: Eksmo, 2008. 192 p.
  - [5] Borisova E.A. Assessment and certification of personnel. St. Petersburg: Peter, 2013. 288 p.
  - [6] Vdovin K.V. Personnel: how to manage the organization. M.: Deka, 1993. 94 p.
- [7] Makhmudova I.N. An integrated approach to the formation of personnel assessment / I.N. Makhmudova. Samara: Publishing House of SamRC RAS, 2010. 390 p.
  - [8] Asaliev A.M., Mirzabalaev F.I., Alieva P.R. Development of labor potential. Infra. M, 2016. 281 p.

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# Уважаемые авторы научных журналов НАН РК!

Президиумом НАН РК принято решение, в целях повышения международного рейтинга академических изданий, объединить следующие 3 журнала, начиная с № 5 (сентябрь-октябрь), 2020 г., с высокорейтинговыми журналами НАН РК, входящими в международные базы Scopus, WoS и др.:

- 1. «Известия НАН РК. Серия биологических и медицинских наук» объединить с журналом «Доклады НАН РК»;
  - 2. «Известия НАН РК. Серия аграрных наук» «Доклады НАН РК»;
- 3. «Известия НАН РК. Серия общественных и гуманитарных наук» с журналом «Вестник НАН РК».

Статьи, которые публиковались в журналах «Известия НАН РК. Серия биологических и медицинских наук» и «Известия НАН РК. Серия аграрных наук», впредь будут публиковаться в журнале «Доклады НАН РК», а статьи, публикуемые в журнале «Известия НАН РК. Серия общественных и гуманитарных наук», – в журнале «Вестник НАН РК».

При подаче статей просим указывать название журнала и отрасль науки, согласно представленного перечня (см. ниже) в данном журнале:

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- 3. Общая биология и биотехнология в медицине.
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Кроме того, в журналах «Известия НАН РК. Серия физикоматематическая», «Известия НАН РК. Серия химии и технологий» и «Известия НАН РК. Серия геологии и технических наук» также указаны отрасли науки, по которым будут приниматься научные статьи для экспертизы и дальнейшего опубликования:

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- 5. Механика.
- 6. Механика машин и роботов.
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IV. Научный журнал «Известия НАН РК. Серия химии и технологий» посвящен исследованиям в области химии и технологий новых материалов.

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- 5. Технология новых материалов.
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