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Towards the Issue of Kazakhstan Economy Decarbonization

Abstract

Object: To identify the features of building the decarbonized economy of Kazakhstan in the context of approaching countries with sustainable development.

Methods: A systematic approach, a retrospective and comparative assessment.

Results: The main approaches to the economy of Kazakhstan decarbonization in accordance with the international practice and the adopted long-term strategy for low-carbon development of the country were analyzed. The socio-economic and institutional conditions of low-carbon development impact on selecting the key instruments for transforming the economy was shown.

Conclusions: The analysis results demonstrate that implementing the institutional measures aimed at stimulating decarbonization in the medium and long term will accelerate the overcoming of barriers for industrial enterprises for transition to renewable energy and energy efficiency. Institutional transformations will deepen coordinated cooperation in the new energy era of the state, business and enterprise as equal partners.

Keywords: decarbonization of the economy, state regulation, Kazakhstan, investments, industry.

Introduction

Being a major energy country, Kazakhstan ratified the Paris Agreement and was the first in Central Asia to mark the transition to "green growth" at the national level by developing an organizational and legal basis for systemic transformations (Decree, 2019; Adilet, 2021; Law, 2004). In 2021, in the sustainable development ranking with participation of 165 countries, Kazakhstan rose from the 65th to the 59th place (Ritm Evrazii, 2021). In the context of the new model of globalization, the strengthening of Kazakhstan position is largely conditioned by the ongoing public administration reforms aimed at transiting from an economic model based mainly on carbon-intensive export goods and energy-intensive production processes to an inclusive, "human-centered" model (Decree, 2019). Achieving sustainable development of Kazakhstan, increasing transparency and predictability of the sphere of subsoil use is facilitated by the country's transition to CRIRSCO international standards, the annual report of city-forming enterprises on sustainable development in the format of the international set of standards GRI (Global Reporting Initiative).

However, despite the success achieved, the World Bank experts classify Kazakhstan as one of the countries least prepared for the scenario of accelerated decarbonization of the world economy (Vidyanova, 2021). In the ranking of countries in transition to new energy sources ETI 2021, Kazakhstan ranked the 83rd among 115 participants in 2021 (E^{2}nergy, 2021). In the climate ranking CCPI 2022, the country is ranked the last 64th in terms of the efficiency index in the field of climate change (Kapital.kz, 2021). In the ranking of countries in terms of the air quality, Kazakhstan ranked the 32nd in the world out of 106 countries with the worst air quality showing the average level of air pollution over the past two years of 21.9 μg/m^3 and 23.6 μg/m^3, respectively (IQAir, 2021).

Hypothesis

Kazakhstan's transition to a low-carbon and sustainable economy against the backdrop of deepening global competition and the growing importance of geopolitical risks can be accelerated through the coordina-

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tion of mutually beneficial relations between the state, business entities, business, and scientific and educational structures.

Literature Review

In view of this, Kazakhstan will intensify steps to fulfill its obligations in the climate policy agreements, mobilizing its own potential and using the experience of developing countries to minimize risks at the national level in moving towards sustainable development (Beauchamp et al., 2021;. UNFCCC, 2021; Chapagain et al., 2020; Jia et al., 2021; Garschagen et al., 2021).

By studying scenarios and ways of adapting different countries to climate change, taking into account characteristics of their economies (Leiter, 2021; O'Neill et al., 2017; Woodruff & Regan, 2019; Lesnikowski et al., 2016), Kazakhstan is trying to develop its own policy in the field of renewable energy sources (Byrnes et al., 2013), to select environmental policies in the manufacturing industry (Vedel & Kokshagina, 2021; Singh et al., 2021) and the energy sector (Krzykowski et al., 2021; Goldthau, 2014), while striving to achieve social-environmental trade-offs (Galafassi et al., 2017).

Being a country dependent on the export of fossil fuels, Kazakhstan is looking for new trends in climate control based on the country specifics, the desire to strengthen geostrategic positions in the international markets (Gupta & Mason, 2016; Weitz et al., 2018), considering global environmental assessments (Kowarsch & Jabbour, 2017) , the growing importance of foreign investment (Hussain, Bashir & Shahzad, (2021), government-business interactions in implementing renewable energy projects (Cedrick & Long, 2017). When selecting the trends for decarbonizing the economy, Kazakhstan takes into account the inevitable increase in the alternative costs into the fuel and energy sector and related industries, which will negatively affect its global competitive positions.

The above-said confirms the need to study possible ways of achieving structural decarbonization of the economy of Kazakhstan, the relevance of this problem, its comprehensive study.

Methods

During the study, the methodology of assessing the transition to a new world economic order based on the UN, OECD, WEF, and international financial institutions research was used. The regulatory legal acts relating to the energy transition of Kazakhstan, statistical data of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan were considered. The publications in scientific journals and industry sources that reveal various aspects of the economy decarbonization of the developed and developing countries were analyzed. The authors assume that despite the specifics of each country and the diversity of world practices, there are common methodological techniques that Kazakhstan can borrow to develop its own decarbonization policy.

Results

To decarbonize the economy in the country, the Doctrine of achieving carbon neutrality until 2060 and the Roadmap for 2022–2025 have been developed, the nationally determined contribution to reduce emissions has been updated, and the State Fund for Environmental Information has been organized.

Kazakhstan is one of the major emitters of greenhouse gases in Europe and Central Asia. By 2030, the country plans to reduce greenhouse gas emissions by 15 % from the 1990 level. To do this, a system of trading carbon credits for greenhouse gas emissions between enterprises within the country has been developed. It covers the key industries, 50 % of greenhouse gas emissions and enterprises whose annual emissions exceed 20 thousand tons of CO_2 equivalent (Adilet, 2021; Adilet, 2017).

In the energy balance of the country, 49.3 % of electricity production comes from coal, 24.8 % from oil, 24.5 % from gas, the share of renewable energy sources, whose producers are exempted from paying for the services of energy transmission enterprises for the transmission of electricity, is only 1.4 % (hydropower 1.2 %, biofuels 0.1 %, wind, solar, etc. energy 0.1 %) (KAZENERGY, 2021).

However, despite the fact that 124 renewable energy sources with the rated capacity of 1922 MW (31 wind plants, 48 solar power plants, 40 hydroelectric power plants and 5 bioelectric power plants) operate in the country aimed at reducing greenhouse gas emissions, there is an increase in the production of "green" energy, there is no formal reducing of greenhouse gas emissions from these plants (Tables 1 and 2). So far, no renewable energy plant has received a certificate for reducing greenhouse gas emissions. The steps taken by the state authorities to adapt the institutional framework of Kazakhstan to the EU standards, which involve optimization of greenhouse gas emissions control systems, have not yet led to significant results.

Table 1. Economic indicators of Kazakhstan

Indicator	2013	2014	2015	2016	2017	2018	2019	2020
The volume of electricity generated by renewable energy facilities, billion kWh	0.5	0.6	0.7	0.9	1.1	1.4	2.4	3.2
Share of RES in total electricity generation, %	0.6	0.6	0.8	1.0	1.1	1.3	2.3	3.0
Share of TPP (thermal power plants) in the total volume of electricity generated, %	84.4	83.9	81.6	79.4	80.5	81.3	81.1	80.3
Investments aimed at protecting the environment								
- total, billion tenge	77.5	78.7	62.5	32.2	32.5	80.2	117.4	157.1
- share in total investment, %	1.3	1.6	1.2	0.6	1.0	1.0	1.6	1.7
Compiled by the authors based on the Statistics Committee of the Republic of Kazakhstan. Tourism of the Republic of Kazakhstan.2016-2020(www.stat.gov.kz)								

Table 2. Electric power production in Kazakhstan y the energy sources, %

Indicator	2016	2017	2018	2019	2020
Non-renewable energy sources	88,0	89,0	90,0	90,0	89,0
Hydropower	12,0	11,0	10,0	9,0	9,0
Solar energy	-	-	-	-	1,0
Wind energy	-	-	-	1,0	1,0
Compiled by the authors based on the Bureau of national Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan					

Owing to transformational steps that improve the investment environment for mobilizing foreign investments and advanced technologies for the development of alternative energy, in 2014-2020 for the construction of renewable energy sources, the capacities of which have increased by more than 10 times, investments worth 1.5 billion dollars have been attracted. In accordance with the obligations under COP26 (the 26th session of the Conference of the Parties to the UN Framework Convention on Climate Change), 25 renewable energy sources with the capacity of 600 MW and investments of about $510 million were put into operation. 23 projects for 381 MW were planned for 2021: 13 WPPs (wind power plants), 5 HPPs (hydroelectric power plants) and 5 SPP (solar power plants). By 2025, more than 60 new renewable energy projects with a total capacity of 2,400 MW and investment investments exceeding $2.5 billion should be brought to their design capacity (EnergyProm.kz, (n.d.)).

Since 2016, the inclusion of renewable energy projects, in which the share of Kazakhstani content is still extremely low in the list of investment projects has opened the way to preferences (exemption from customs duties and VAT on imports, state in-kind grants) under the investment contracts. In 2020, the assignment of these projects to priority investment projects added tax preferences (exemption from property, land, corporate and income taxes, an increase in the term of the contract for the guaranteed purchase of electricity by the RES Operator up to 20 years).

In 2018, due to the introduction of the auction mechanism for the selection of RES projects, the transparency of the selection process increased, the tariffs for green energy decreased: the maximum reduction in tariffs for individual projects was 64 % for SPPs, 30 % for WPPs, and 19 % for HPPs. In 2018–2020, for renewable energy projects, auctions were held in electronic format with the total capacity of 1.5 GW with participation of 172 international companies. To encourage investors to reduce auction prices for new projects, since 2021 the period for concluding contracts with them at auction rates has been extended from 15 to 20 years. In the future, to reduce auction prices, it is necessary to improve the conditions for financing projects in the national currency (soft loans and reduced interest rates).

The development of renewable energy implies achieving the progress while eliminating the accumulated problems of the Unified Energy System: almost 50 % depreciation of generating equipment, isolation of the Western Energy Zone and the shortage of electricity in the Southern Zone. In addition, since 2014, six percent of regulatory losses of electricity have been maintained, the turnover of personnel in the electric power industry is growing from 4 % in 2015 to 15 % in 2020. One of the technical limitations for the development of the energy sector in general and RES in particular, is limited available balancing capacity, so the most important task of the industry is to develop a reserve capacity that stabilizes the system. The shortage of maneuverable capacities, which will require natural gas to build up (10.5 billion cubic meters till 2025, 13.2 billion cubic meters till 2030), exists despite the surplus of electric energy (2000 MW) (Law, 2004).

The brake for the promotion of the renewable energy industry is unpreparedness of the energy system infrastructure for its integration with thermal energy, the absence of free land plots for promising hydro generation facilities. There cannot be ignored investment risks (including currency risks) and the fact that the development of RES will lead to a significant increase in the cost of energy for the end user.

The heat and electric power industry receives state support: in 2020 it made 33.2 billion tenge, in 2021-2022 it made 20.7 billion tenge. However, with the existing tariffs, it is impossible to reduce the average level of depreciation of power networks, to keep the tariff for the end consumer, and to accelerate the transition of large power plants to environmentally friendly technologies by attracting investments in new assets and technologies. Low tariffs in the energy sector are currently the main barrier to carbon neutrality.

Thanks to the acting in 2009-2015 mechanism of "tariff in exchange for investment", there were attracted about 6.8 billion dollars for the technical equipment of power plants. Due to the fact that the introduction of the capacity market in 2018 to provide long-term guarantees for investors and evenly distribute the costs of developing new production capacities among all the electricity consumers was accompanied by price restrictions and non-transparent mechanisms of selecting projects for modernization of power plants, prices did not decrease. Moreover, the volume of investments in the development of electrical capacities sharply decreased (Table 3).

Table 3. Changing the investments in electric power plants as a result of introducing the power market, billion tenge

Indicator	Mechanism of limiting tariffs for electric power										Mechanism of the power market		
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Investments	65.4	109.7	135.0	185.0	197.1	158.8	137.0	88.9	67.8	60.1	9.3	22.5	20.5
Compiled by the authors based on the Bureau of national Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan													

In the medium term, the growth of electricity tariffs by 1-2 tenge per kWh with the maximum increase of 2.9 tenge per kWh will not cover increasing the cost of purchasing electricity from renewable energy sources. The new limiting power market tariff does not cover even half of the fixed costs of power plants. Considering that modernization of power plants at the expense of the power market does not include the costs of introducing the best available technologies (BAT), one of the tools for ensuring environmental safety, the issue of stimulating investments in the re-equipment of industry and transition to new environmental ones remains open (Skobeleva, 2019).

Since electricity and power markets are price capped, they cannot encourage long-term investments in the industry. Moreover, the introduction of RES with the existing support system increases the financial load of power plants and in 2025 will exceed 20 % of their income (Adilet, 2018).

The foregoing leads to the following conclusion. In order not to exceed the limits of renewable energy capacities for the operation of the Unified Energy System of Kazakhstan, when placing renewable energy facilities in the regions, the resource potential, the need for electricity, the readiness of infrastructure should be taken into account. Full-scale digital generation of facilities is needed to monitor their condition in real time. This will increase the ability of the energy system to integrate additional volumes of renewable energy through the launch of gas-fired power plants, and will accelerate the commissioning of new flexible generating capacities, which will make it possible to regulate the imbalance of the energy system during peak hours.

Achieving the goals of decarbonization of the economy of Kazakhstan largely depends on the diversification of the electric power industry fuel balance with decreasing the share of coal generation, which accounts for the bulk of greenhouse gas emissions. Almost 90 % of electricity in Kazakhstan is generated from thermal resources, especially natural gas and coal, which has the largest carbon footprint and is the main source of energy. Natural gas will play the key role due to its lower emissions as a fuel, as well as the potential for base load coverage and flexible generation. The development of gas and hydropower should reduce the dependence of the energy balance on coal combustion.

Reducing the share of coal-fired generation in the energy balance from 69 to 40.1 % and increasing the share of gas to 25 % by 2030 will be facilitated by the transfer of mining and smelting enterprises and thermal power plants to gas. To this end, it is planned to introduce a model contract for subsoil use in the field of oil and gas production that contains fiscal and regulatory preferences that stimulate investments in oil and gas production.

The transformation of the mining and metallurgical industry is hampered by depreciation of the equipment used, the high cost of the equipment being introduced, and the length of its depreciation periods. Risk situations will be developed by introducing a carbon tax in the EU, which in 2020 accounted for 39.1 % of all exports, with 73 % of all external supplies made up of mineral products and 15 % of metals and their products. Since the imposed tax will apply to these groups of goods, this will negatively affect the competitiveness of mining and metallurgical products.

Compliance with environmental requirements and reduction of carbon dioxide emissions will be facilitated by the transition of the country's mining enterprises since 2025 from the current environmental regulation "at the end of the pipe" to the integrated environmental permit in accordance with the principles of BAT, implementation of which will be carried out according to the "one" window principle. However, it should be taken into account that, while accelerating the innovative development of the industry, increasing the BAT costs will simultaneously increase the costs of energy-producing enterprises, and subsequently, due to the growth in electricity prices, will negatively affect other industries and public services.

Based on the results of the technological audit of enterprises (82 enterprises that carry out 80 % of emissions underwent a mandatory on-site examination in 2020-2021; the remaining 47 enterprises are inspected in-house). By 2023 it is planned to develop 30 industry-specific BAT reference books in offline and online formats; in 2024 enterprises will prepare documents for obtaining an integrated environmental permit. From 2025, objects of the first category (oil refining, oil production, heat and power generation, mining and metallurgical industry, ferrous and non-ferrous metallurgy) will be able to receive it and, in accordance with the environmental efficiency program, implement BAT in the next decade. Enterprises that have transited to the principles of BAT will be completely exempted from payment for emissions otherwise, a progressive rate of fines will be applied: 2, 4, 8 times.

The first in Kazakhstan to start implementing BAT for environmental protection in accordance with the BAT Reference Documents of the European Union (BREF), and applied in the OECD (Organization for Economic Cooperation and Development) countries since 2022, will be the Ust-Kamenogorsk metallurgical complex "Kazzinc" specializing in extraction of minerals and metallurgy.

Since 2020, Kazakhstan has been advancing in the field of green finance using various sustainable development instruments designed to finance projects in the field of environmental protection (green bonds). Thus, for the first time, “green” bonds of the Damu fund with the participation of UNDP were issued on the AIX stock exchange. In 2018, the KASE Stock Exchange and the International Financial Corporation IFC updated the sectoral specifications taking into account the ESCG (Environmental, Social, and Corporate Governance) management criteria. The exchange of the Astana International Financial Center (AIFC) that has developed the national taxonomy of green projects using EU methods and promotes green finance instruments in the Eurasian region together with the EDB (Eurasian Development Bank), has adopted the rules for circulation of green bonds using the principles of the ICMA green bonds.

To achieve carbon neutrality, Kazakhstan needs large investments in updated low-carbon technologies, taking into account the high physical wear of equipment, new structural measures will be required to improve the investment environment to attract investments including private ones. According to experts, Kazakhstan, like other EAEU countries, will not be able to cover the investment needs for decarbonization until 2030 without international assistance.

At the moment, investors from 10 countries of the world including large international financial institutions, are engaged in the green energy sector, memorandums for $613 million have been signed. In 2021, the accumulated volume of investments in the country's renewable energy exceeded $1.8 billion; the international financial institutions invested more than one billion dollars. In 2018–2020, foreign investors financed 21 green projects for $1.2 billion. For 2021, there were planned 22 projects with the capacity of 450 MW with the investment of $445 million; for 2022–2025 there are planned 60 projects with the capacity of 2400 MW and investments of 2.5 billion dollars. As a result, by 2030, there should be implemented 180 projects with the capacity of 9 GW. The driver for stimulating green projects, for example, through increasing cross-border investment activity within the framework of the EAEU mobilizing the existing domestic investment potential, a mechanism for subsidies or involving state development institutions, is the state.

To achieve these goals, a lot of effort remains to be made, as the requirements for financing green projects are constantly tightened. For example, the ADB (Asian Development Bank), the EBRD (European Bank for Reconstruction and Development), International Finance Corporation, to ensure the safety of investments in the long term, do not finance green projects with unfavorable ESG characteristics.

In 2021–2060, Kazakhstan plans to invest $650 billion in low-carbon technologies (Gov.kz, 2021). The busiest years will be 2020–2024, when annual investments will amount to approximately 1.8 % of the country's GDP (gross domestic product). The growth of investments in modernization of the energy sector and the development of renewable energy sources, in particular construction of solar and wind power plants with the capacity of 4 GW in Kazakhstan, is associated with long-term cooperation between the Samruk-Kazyna JSC and the Abu Dhabi Developmental Holding Company (ADQ) fund.

Summing up, it should be noted that the low-carbon, and subsequently climate-neutral development of Kazakhstan involves the adoption of specific systemic measures in the energy industry affecting the reduction of energy intensity, the renewal of generating equipment, and the solution of issues of the balancing market for electric energy and microgeneration. For Kazakhstan, this is important from the standpoint of achieving the country indicators for renewable energy, attracting international financial institutions and private investors to the oil and gas and energy sectors by providing state guarantees to ensure the solvency of renewable energy producers.

Institutional measures are called upon to accelerate formation of the foundations for achieving the carbon neutrality goals: introducing an internal carbon tax, developing a Carbon Fund to accumulate funds received from the carbon tax for implementing climate projects to decarbonize the economy, tightening the emissions trading system, special government support mechanisms ("green" loans and green bonds) of the offset projects to reduce emissions.

Conclusions

Planned for 2026-2030 deep decarbonization of the economy of Kazakhstan and joining the 30 developed countries-exporters of clean energy depend largely on the effectiveness of institutional changes in 2021-2022, which make it possible to determine at the national level the contribution to reducing emissions and adapting to climate change. This requires solving the problems of high external debt in relation to GDP, the export structure, the quasi-public sector, the return on government programs that directly affect the economy diversification.

Further approach to the set goal will be determined by the adoption in 2023-2025 of the technological decarbonization measures based on the restructuring of investment policy in combination with technological modernization, introducing BAT and real state support with the involvement of business.

Within this period, Kazakhstan will face external factors of a geopolitical nature: the flow of capital from emerging markets to developed countries, the introduction of the EAEU Single Electricity Market since 2025 and the carbon footprint tax in the EU since 2023. Internal threats will be largely due to increasing the prices for fuel resources, which will have an extremely negative impact on the institutional measures of decarbonization and the energy security of the country, requiring additional efforts to maintain socio-political stability.

In general, despite mobilization of the institutional and technical potential, it is not possible to link the socio-economic and environmental goals of sustainable and low-carbon development with long-term sectoral plans by including in state, sectoral and regional programs the assessment of the contribution to reducing emissions and adapting to the effects of climate change (Decree, 2018). The economic model of Kazakhstan is still poorly adapted to international environmental standards.

The planned medium-term capacity growth will reduce the energy efficiency of the manufacturing industry, holding back international commitments to reduce greenhouse gas emissions. It is possible that selecting between decarbonization and socio-economic priorities will initially involve coal, oil and gas, which will inevitably increase greenhouse gas emissions. Therefore, the problems of improving the system of regulating greenhouse gas emissions, increasing the transparency of the system of monitoring and reporting emissions, supporting the use of renewable energy sources, and increasing the energy efficiency are more relevant than ever.

References

Adilet (2017). Ob utverzhdenii Natsional'nogo plana raspredeleniya kvot na vybrosy parnikovykh gazov na 2018 - 2020 gody. Postanovlenie Pravitel'stva Respubliki Kazakhstan ot 26 dekabrya 2017 goda № 873 [On approval of the National Plan for the allocation of quotas for greenhouse gas emissions for 2018 - 2020. Resolution of the Government of the Republic of Kazakhstan of December 26, 2017 N 873]. Retrieved from https://adilet.zan.kz/rus/docs/P1700000873 (Date of access 11/12/2021) [in Russian].

Adilet (2018). O vnesenii izmeneniya v prikaz Ministra energetiki Respubliki Kazakhstan ot 14 dekabrya 2018 goda № 514 «Ob utverzhdenii predel'nykh tarifov na elektricheskuyu energiyu». Prikaz Ministra energetiki Respubliki Kazakhstan ot 29 iyunya 2020 goda № 243 [On amendments to the order of the Minister of Energy of the Republic of Kazakhstan dated December 14, 2018 No. 514 "On approval of the maximum tariffs for electric energy." Order of the Minister of Energy of the Republic of Ka-

zakhstan dated June 29, 2020 No. 243]. Retrieved from https://adilet.zan.kz/rus/docs/V2000020905 (Date of access 03/05/2021) [in Russian].

Adilet (2021). Ekologicheskii Kodeks Respubliki Kazakhstan. Kodeks Respubliki Kazakhstan ot 2 yanvarya 2021 goda № 400-VI ZRK [Environmental Code of the Republic of Kazakhstan. Code of the Republic of Kazakhstan of January 2, 2021 No. 400-VI ЗРК]. Retrieved from http://adilet.zan.kz/rus/docs/K2100000400 (Date of access 04/13/2021) [in Russian].

Beauchamp, E., da Silva Bernardo, C., & Bueno, M. (2021). Progressing the Global Goal on Adaptation – key issues. London: International Institute for Environment and Development. https://pubs.iied.org/17773iied

Byrnes, L., Brown, C., Foster, J., & Wagner, L.D. (2013). Australian renewable energy policy: barriers and challenges. *Renew Energy,* 60, 711-721. https://doi.org/10.1016/j.renene.2013.06.024

Cedrick, B.Z.E., & Long, W. (2017). Investment Motivation in Renewable Energy: A PPP Approach. Energy Procedia, 115, 229-238. https://doi.org/10.1016/j.egypro.2017.05.021

Chapagain, D., Baarsch, F., Schaeffer, M., & D'haen, S. (2020). Climate change adaptation costs in developing countries: insights from existing estimates. Climate and Development, 12 (10), 934–942. https://doi.org/10.1080/17565529.2020.1711698

E²nergy (2021). V reitinge perekhoda k novym istochnikam energii Kazakhstan zanyal 83-e mesto iz 115 [In the ranking of the transition to new energy sources, Kazakhstan took 83rd place out of 115]. Retrieved from https://eenergy.media/2021/12/09/v-rejtinge-perehoda-k-novym-istochnikam-energii-kazahstan-zanyal-83-e-mesto-iz-115/ (Date of access 10.12. 2021) [in Russian].

EnergyProm.kz (n.d.). V 2020 godu dolya VIE v proizvodstve elektroenergii dostigla 3%, a po ustanovlennoi moshchnosti prevysila 7% [In 2020, the share of renewable energy sources in electricity production reached 3%, and in terms of installed capacity, it exceeded 7%]. Retrieved from https://online.zakon.kz/Document/?doc_id=32118278&pos=19;84#pos=19;84 (Date of access 24.11.2021) [in Russian].

Galafassi, D., Daw, T., Munyi, L., Brown, K., Barnaud, C., & Fazey, I. (2017). Learning about social-ecological trade-offs. Ecology and Society, 22(1):2. https://doi.org/10.5751/ES-08920-220102

Garschagen, M., Doshi, D., Moure, M., James, H., & Shekhar, H. (2021). The consideration of future risk trends in national adaptation planning: Conceptual gaps and empirical lessons. *Climate Risk Management,* 34, 100357. https://doi.org/10.1016/j.crm.2021.100357

Goldthau, A. (2014). Rethinking the governance of energy infrastructure: Scale, decentralization and polycentrism. *Energy Research and Social Science,* 1,134-140. https://doi.org/10.1016/j.erss.2014.02.009

Gov.kz (2021). K 2060 godu Kazakhstan dostignet balansa nulevykh vybrosov v masshtabakh vsei ekonomiki [By 2060, Kazakhstan will achieve a zero-emission balance for the entire economy]. Retrieved from https://www.gov.kz/memleket/entities/ecogeo/press/news/details/275605?lang=ru (Date of access 11/14/2021) [in Russian].

Gupta, A., & Mason, M. (2016). Disclosing or obscuring? The politics of transparency in global climate governance. Current Opinion in Environmental Sustainability, 18, 82-90. https://doi.org/10.1016/j.cosust.2015.11.004

Hussain, M., Bashir, M.F., & Shahzad, U. (2021). Do foreign direct investments help to bolster economic growth? New insights from Asian and Middle East economies. World Journal of Entrepreneurship, Management and Sustainable Development, 17, No.1. 62-84. https://doi.org/10.1108/WJEMSD-10-2019-0085

IQAir (2021). Samye zagryaznennye strany i regiony mira (istoriya dannykh za 2018-2021 gg.) [The world's most polluted countries and regions (data history 2018-2021)]. Retrieved from https://www.iqair.com/ru/world-most-polluted-countries (Date of access 11/22/2021) [in Russian].

Jia, F., Li, G., Lu, X., & Xie, S. (2021). CEO given names and corporate green investment. Emerging Markets Review. 48(2):100808. https://doi.org/10.1016/j.ememar.2021.100808

Kapital.kz (2021). V klimaticheskom reitinge CCPI Kazakhstan na poslednem meste [Kazakhstan is in the last place in the climatic rating of CCPI]. Retrieved from https://news.mail.ru/society/48847412/ (Date of access 11/22/2021) [in Russian].

KAZENERGY (2021). Natsional'nyi energeticheskii doklad KAZENERGY 2021 [National energy report KAZENERGY 2021]. Retrieved from https://kazenergy.com/upload/document/energy-report/NationalReport21_ru_2.pdf (Date of access 11/22/2021) [in Russian].

Kowarsch, M., & Jabbour, J. (2017). Solution-oriented global environmental assessments: opportunities and challenges. Environmental Science & Policy, 77, 187-192. https://doi.org/10.1016/j.envsci.2017.08.013

Krzykowski, M., Mariański, M., & Zięty, J. (2021). Principle of reasonable and legitimate expectations in international law as a premise for investments in the energy sector. *International Environmental Agreements: Politics, Law and Economics*, 21, 75-91. https://doi.org/10.1007/s10784-020-09471-x

Leiter, T. (2021). Do governments track the implementation of national climate change adaptation plans? An evidence-based global stocktake of monitoring and evaluation systems. Environmental Science & Policy. 125, 179-188. https://doi.org/10.1016/j.envsci.2021.08.017

Lesnikowski, A., Ford, J., Biesbroek, R., Berrang-Ford, L., & Heymann, S.J. (2016). National-level progress on adaptation. *Nature Clim Change,* 6, 261-264. https://doi.org/10.1038/nclimate2863

O'Neill, B.C., Kriegler, E., Ebi, K.L., Kepm-Benedict, E., Riahi, K., Rothman, D.S., van Ruijiven, B.J., van Vuuren, D.P., Birkmann, J., Kok, K., Levy, M., & Solecki, W. (2017). The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. *Global Environmental Change,* 42, 169-180. https://doi.org/10.1016/j.gloenvcha.2015.01.004

Ritm Evrazii (2021). Kazakhstan podnyalsya v reitinge po ustoichivomu razvitiyu [Kazakhstan has risen in the ranking for sustainable development]. Retrieved from https://www.ritmeurasia.org/news--2021-09-21--kazahstan-podnjalsja-v-rejtinge-po-ustojchivomu-razvitiu-56530 (Date of access 12.11.2021) [in Russian].

Singh, C., Singh, D., & Khamba, J.S. (2021). In quest of green practices in manufacturing industries through literature review. World Journal of Entrepreneurship, *Management and Sustainable Development,* 17. No. 1, 30-50. https://doi.org/10.1108/WJEMSD-02-2019-0014

Skobeleva, D.O. (Eds.). (2019). Nailuchshie dostupnye tekhnologii. Predotvrashchenie i kontrol' promyshlennogo zagryazneniya. Etap 3: Otsenka deistvennosti politik v sfere NDT [Best available technology. Prevention and control of industrial pollution.

Stage 3: Assessment of the effectiveness of BAT policies]. Environment, Health and Safety Directorate of the OECD Environment Directorate. Moscow [in Russian].

Ukaz Prezidenta Respubliki Kazakhstan «O Kontseptsii po perekhodu Respubliki Kazakhstan k «zelenoi ekonomike» (s izmeneniyami ot 10.09.2019 g.) [Decree of the President of the Republic of Kazakhstan "On the Concept for the transition of the Republic of Kazakhstan to a" green economy "(as amended on 09/10/2019)] (2019). Retrieved from https://online.zakon.kz/Document/?doc_id=31399596 (Date of access 11/30/2020) [in Russian].

Ukaz Prezidenta Respubliki Kazakhstan ot 15 fevralya 2018 goda № 636. «Ob utverzhdenii Natsional'nogo plana razvitiya Respubliki Kazakhstan do 2025 goda i priznanii utrativshimi silu nekotorykh ukazov Prezidenta Respubliki Kazakhstan (s izmeneniyami po sostoyaniyu na 26.02.2021 g.)» [Decree of the President of the Republic of Kazakhstan of February 15, 2018 No. 636. "On the approval of the National Development Plan of the Republic of Kazakhstan until 2025 and the invalidation of some decrees of the President of the Republic of Kazakhstan (with amendments as of February 26, 2021)"] (2018). Retrieved from https://online.zakon.kz/Document/?doc_id=38490966 (Date of access 03.06.2021) [in Russian].

United Nations Framework Convention on Climate Change (2021). Co-chairs' summary of the Presidencies' consultations on adaptation 23-24 February 2021. https://unfccc.int/sites/default/files/resource/Cochairs_summary_adaptation_consultations_Final.pdf.

Vedel, J. & Kokshagina, O. (2021). How firms undertake organizational changes to shift to more-exploratory strategies: A process perspective. Research Policy, 50. Iss.1. 104118 https://doi.org/10.1016/j.respol.2020.104118

Vidyanova, A. (2021). S&P: VVP Kazakhstana v 2020 godu vyrastet na 3,6 % [S&P: Kazakhstan's GDP will grow by 3.6% in 2022]. *Freedom Broker*. Retrieved from https://kapital.kz/economic/99616/s-p-vvp-kazakhstana-v-2022-godu-vyrastet-na-3-6.html (Date of access 11/16/2021) [in Russian].

Weitz, N., Carlsen, H., Nilsson, M., & Skånberg, K. (2018). Towards systemic and contextual priority setting for implementing the 2030 Agenda. Sustainability Science, 13, 531-548. https://doi.org/10.1007/s11625-017-0470-0.

Woodruff, S.C., & Regan, P. (2019). Quality of national adaptation plans and opportunities for improvement. Mitigation and Adaptation Strategies for Global Change, 24, 53-71. https://doi.org/10.1007/s11027-018-9794-z

Zakon Respubliki Kazakhstan ot 9 iyulya 2004 goda № 588-II Ob elektroenergetike (s izmeneniyami i dopolneniyami po sostoyaniyu na 01.07.2021 g.) [Law of the Republic of Kazakhstan dated July 9, 2004 No. 588-II On the electric power industry (with amendments and additions of 07/01/2021)] (2004). Retrieved from https://online.zakon.kz/Document/?doc_id=1049314 (Date of access 09/15/2021) [in Russian].

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Қазақстан экономикасын декарбонизациялау мәселесіне

Аңдатпа

Мақсаты: Тұрақты дамуы бар елдерге жақындау контексінде Қазақстанның декарбонизацияланған экономикасын құру ерекшеліктерін анықтау.

Әдісі: Талдамалық зерттеу әдістемесі Қазақстанның энергетикалық ауысуын бағалауды болжайтын жүйелі тәсілге негізделген. Қазақстан өнеркәсібіп энергия сыйымдылығы аз өндірістер жағына қарай эртараптандыруды ретроспективті және салыстырмалы бағалау, жалпыға белгілі тұжырымдамалар мен ұғымдар қолданылды.

Нәтижелері: Халықаралық практикаға және елдің төменкөміртекті дамуының қабылданған ұзақ мерзімді стратегиясына сәйкес Қазақстан экономикасын декарбонизациялаудың негізгі тәсілдері талданды. Төменкөміртекті дамудың әлеуметтік-экономикалық және институционалдық жағдайларының экономиканы түрлендірудің негізгі құралдарын таңдауға әсері көрсетілген.

Қорытындылар: Талдау нәтижелері орта және ұзақ мерзімді кезеңде декарбонизацияны ынталандыруға бағытталған институционалдық шараларды іске асыру, өнеркәсіптік кәсіпорындардың жаңартылатын энергетикаға көшу және энергия тиімділігін арттыру кедергілерін еңсеруін жеделдететінін көрсетті. Институционалдық қайта құрулар тең құқықты әріптестер ретінде мемлекеттің, бизнес пен кәсіпорынның энергетикасының жаңа дәуіріндегі үйлестірілген ынтымақтастықты тереңдетеді

Кілт сөздер: экономиканы декарбонизациялау, мемлекеттік реттеу, Қазақстан, инвестициялар, өнеркәсіп.

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К вопросу декарбонизации экономики Казахстана

Аннотация

Цель: Выявить особенности построения декарбонизированной экономики Казахстана в контексте приближения к странам с устойчивым развитием.

Методы: Методология аналитического исследования базируется на системном подходе, предполагающем оценку энергетического перехода Казахстана. Применены общеизвестные концепции и понятия, ретроспективная и сравнительная оценка диверсификации промышленности Казахстана в сторону менее энергоемких производств.

Результаты: Проанализированы основные подходы к декарбонизации экономики Казахстана в соответствии с международной практикой и принятой долгосрочной стратегией низкоуглеродного развития страны.

Показано влияние на выбор ключевых инструментов трансформации экономики социально-экономических и институциональных условий низкоуглеродного развития.

Выводы: Результаты анализа показали, что реализация институциональных мер, направленных на стимулирование декарбонизации в средне-и долгосрочном периодах, ускорит преодоление промышленными предприятиями препятствий перехода к возобновляемой энергетике и повышению энергоэффективности. Институциональные преобразования углубят координированное сотрудничество в новой эпохе энергетики государства, бизнеса и предприятия как равноправных партнеров.

Ключевые слова: декарбонизация экономики, государственное регулирование, Казахстан, инвестиции, промышленность.

References

Указ Президента Республики Казахстан «О Концепции по переходу Республики Казахстан к «зеленой» экономике (с изм. от 10.09.2019 г.). [Электронный ресурс]. Режим доступа: https://online.zakon.kz/Document/?doc_id=31399596. (Дата обращения 30.11.2020).

Экологический Кодекс Республики Казахстан. Кодекс Республики Казахстан от 2 января 2021 г. № 400–VI ЗРК. [Электронный ресурс]. Режим доступа: http://adilet.zan.kz/rus/docs/K2100000400 (дата обращения 13.04.2021).

Закон Республики Казахстан от 9 июля 2004 г. № 588–II Об электроэнергетике (с изм. и доп. по состоянию на 01.07.2021 г.). [Электронный ресурс]. Режим доступа: https://online.zakon.kz/Document/?doc_id=1049314 (дата обращения 15.09.2021).

Казахстан поднялся в рейтинге по устойчивому развитию [Электронный ресурс]. Режим доступа: https://www.ritmeurasia.org/news--2021-09-21--kazahstan-podnjalsja-v-rejtinge-po-ustojchivomu-razvitiu-56530 (дата обращения 12.11.2021)

Указ Президента Республики Казахстан от 15 февраля 2018 года № 636. «Об утверждении Национального плана развития Республики Казахстан до 2025 года и признании утратившими силу некоторых Указов Президента Республики Казахстан (с изм. по состоянию на 26.02.2021 г.)». [Электронный ресурс]. Режим доступа: https://online.zakon.kz/Document/?doc_id=38490966 (дата обращения 03.06.2021).

Видянова А. S&P: ВВП Казахстана в 2022 году вырастет на 3,6%. [Электронный ресурс] / Freedom Broker. Режим доступа: https://kapital.kz/economic/99616/s-p-vvp-kazakhstana-v-2022-godu-vyrastet-na-3-6.html (дата обращения 16.11.2021).

В рейтинге перехода к новым источникам энергии Казахстан занял 83-е место из 115. [Электронный ресурс]. Режим доступа: https://eenergy.media/2021/12/09/v-rejtinge-perehoda-k-novym-istochnikam-energii-kazahstan-zanyal-83-e-mesto-iz-115/ (дата обращения 10.12.2021).

В климатическом рейтинге CCPI Казахстан на последнем месте. [Электронный ресурс]. Режим доступа: https://news.mail.ru/society/48847412/ (дата обращения 22.11.2021).

Самые загрязненные страны мира в 2020 г. (PM2.5). [Электронный ресурс]. Режим доступа: https://www.iqair.com/ru/world-most-polluted-countries (дата обращения 22.11.2021).

Beauchamp, E., da Silva Bernardo, C., & Bueno, M. (2021). Progressing the Global Goal on Adaptation – key issues. London: International Institute for Environment and Development. https://pubs.iied.org/17773iied

United Nations Framework Convention on Climate Change (2021). Co-chairs' summary of the Presidencies' consultations on adaptation 23-24 February 2021. https://unfccc.int/sites/default/files/resource/Co-chairs_summary_adaptation_consultations_Final.pdf.

Chapagain, D., Baarsch, F., Schaeffer, M., & D'haen, S. (2020). Climate change adaptation costs in developing countries: insights from existing estimates. Climate and Development, 12 (10), 934–942. https://doi.org/10.1080/17565529.2020.1711698

Jia F., Li G., Lu X., Xie S. CEO given names and corporate green investment// Emerging Markets Review. 2021. 48(C). DOI: 10.1016/j.ememar.2021.100808

Garschagen, M., Doshi, D., Moure, M., James, H., & Shekhar, H. (2021). The consideration of future risk trends in national adaptation planning: Conceptual gaps and empirical lessons. *Climate Risk Management,* 34, 100357. https://doi.org/10.1016/j.crm.2021.100357

Leiter, T. (2021). Do governments track the implementation of national climate change adaptation plans? An evidence-based global stocktake of monitoring and evaluation systems. Environmental Science & Policy. 125, 179-188. https://doi.org/10.1016/j.envsci.2021.08.017

O'Neill, B.C., Kriegler, E., Ebi, K.L., Kepm-Benedict, E., Riahi, K., Rothman, D.S., van Ruijiven, B.J., van Vuuren, D.P., Birkmann, J., Kok, K., Levy, M., & Solecki, W. (2017). The roads ahead: Narratives for shared socioeconomic pathways describing world futures in the 21st century. *Global Environmental Change,* 42, 169-180. https://doi.org/10.1016/j.gloenvcha.2015.01.004

Woodruff, S.C., & Regan, P. (2019). Quality of national adaptation plans and opportunities for improvement. Mitigation and Adaptation Strategies for Global Change, 24, 53-71. https://doi.org/10.1007/s11027-018-9794-z

Lesnikowski, A., Ford, J., Biesbroek, R., Berrang-Ford, L., & Heymann, S.J. (2016). National-level progress on adaptation. *Nature Clim Change,* 6, 261-264. https://doi.org/10.1038/nclimate2863

Byrnes, L., Brown, C., Foster, J., & Wagner, L.D. (2013). Australian renewable energy policy: barriers and challenges. *Renew Energy,* 60, 711-721. https://doi.org/10.1016/j.renene.2013.06.024.

Vedel, J. & Kokshagina, O. (2021). How firms undertake organizational changes to shift to more-exploratory strategies: A process perspective. Research Policy, 50. Iss.1. 104118 https://doi.org/10.1016/j.respol.2020.104118

Singh, C., Singh, D., & Khamba, J.S. (2021). In quest of green practices in manufacturing industries through literature review. World Journal of Entrepreneurship, *Management and Sustainable Development,* 17. No. 1, 30-50. https://doi.org/10.1108/WJEMSD-02-2019-0014

Krzykowski, M., Mariański, M., & Zięty, J. (2021). Principle of reasonable and legitimate expectations in international law as a premise for investments in the energy sector. *International Environmental Agreements: Politics, Law and Economics*, 21, 75-91. https://doi.org/10.1007/s10784-020-09471-x

Goldthau, A. (2014). Rethinking the governance of energy infrastructure: Scale, decentralization and polycentrism. *Energy Research and Social Science,* 1,134-140. https://doi.org/10.1016/j.erss.2014.02.009

Galafassi, D., Daw, T., Munyi, L., Brown, K., Barnaud, C., & Fazey, I. (2017). Learning about social-ecological trade-offs. Ecology and Society, 22(1):2. https://doi.org/10.5751/ES-08920-220102

Gupta, A., & Mason, M. (2016). Disclosing or obscuring? The politics of transparency in global climate governance. Current Opinion in Environmental Sustainability, 18, 82-90. https://doi.org/10.1016/j.cosust.2015.11.004

Weitz, N., Carlsen, H., Nilsson, M., & Skånberg, K. (2018). Towards systemic and contextual priority setting for implementing the 2030 Agenda. Sustainability Science, 13, 531-548. https://doi.org/10.1007/s11625-017-0470-0.

Kowarsch, M., & Jabbour, J. (2017). Solution-oriented global environmental assessments: opportunities and challenges. Environmental Science & Policy, 77, 187-192. https://doi.org/10.1016/j.envsci.2017.08.013

Hussain, M., Bashir, M.F., & Shahzad, U. (2021). Do foreign direct investments help to bolster economic growth? New insights from Asian and Middle East economies. World Journal of Entrepreneurship, Management and Sustainable Development, 17, No.1. 62-84. https://doi.org/10.1108/WJEMSD-10-2019-0085

Cedrick, B.Z.E., & Long, W. (2017). Investment Motivation in Renewable Energy: A PPP Approach. Energy Procedia, 115, 229-238. https://doi.org/10.1016/j.egypro.2017.05.021

Об утверждении Плана мероприятий по реализации Концепции по переходу Республики Казахстан к «зеленой экономике» на 2021 – 2030 годы Постановление Правительства Республики Казахстан от 29 июля 2020 года № 479. [Электронный ресурс]. Режим доступа: http://adilet.zan.kz/rus/docs/P2000000479 (дата обращения 12.11.2020).

Национальный энергетический доклад KAZENERGY 2021. [Электронный ресурс]. Режим доступа https://kazenergy.com/upload/document/energy-report/NationalReport21_ru_2.pdf (дата обращения 22.11.2021).

В 2020 году доля ВИЭ в производстве электроэнергии достигла 3%, а по установленной мощности превысила 7%. [Электронный ресурс]. Режим доступа: https://online.zakon.kz/Document/?doc_id=32118278&pos=19;84#pos=19;84 (дата обращения 24.11.2021).

Наилучшие доступные технологии. Предотвращение и контроль промышленного загрязнения. Этап 3: Оценка действенности политик в сфере НДТ. / Управление по окружающей среде, здоровью и безопасности Дирекции по окружающей среде ОЭСР. Пер. с англ. - Москва, 2019. - 164 с.

О внесении изменения в приказ Министра энергетики Республики Казахстан от 14 декабря 2018 года № 514 «Об утверждении предельных тарифов на электрическую энергию». Приказ Министра энергетики Республики Казахстан от 29 июня 2020 года № 243. [Электронный ресурс]. Режим доступа: https://adilet.zan.kz/rus/docs/V2000020905 (дата обращения 05.03.2021).

К 2060 году Казахстан достигнет баланса нулевых выбросов в масштабах всей экономики. [Электронный ресурс]. Режим доступа: https://www.gov.kz/memleket/entities/ecogeo/press/news/details/275605?lang=ru (дата обращения 14.11.2021).

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Analysis and evaluation of indicators of the development of the food industry of Kazakhstan

Abstract

Object: For any state, the development of the food and processing industry is a strategically important task, since this industry is responsible for ensuring food security. The study of the development of the food industry is relevant today due to the fact that there is an uneven development of the territory due to the geographical location of the regions, the level of technological development and innovation potential. The results of the functioning of food industry enterprises in conditions of fierce competition are largely determined by the pace of introduction of scientific and technological progress into production, which makes it possible to produce products in demand, reduce their cost, increase profits and profitability. For the normal functioning of food industry enterprises and ensuring food security, it is necessary to increase the level of use of innovative technologies and more productive equipment.

Methods: A historical, statistical, systematic and comparative, regression analyses, graphical methods of displaying the study results.

Results: This paper analyzes the main indicators of the food industry, the use of fixed assets and investments. In the industry, due to the fact that some of the fixed assets used in the industry are worn out, an analysis of the impact of investments on the production volumes of the food industry is considered.

Conclusions: The paper analyzes the influence of factors on the volume of production. According to the study results when investing in the next three years, the option of an increase in manufacturing output by 16.5% is possible.

Keywords: food industry, agri-food policy, agriculture, food production, drinks production, investments, forecast, indicators.

Introduction

The development of the food industry in any country is one of the strategically important sectors of the economy and the largest consumer of agricultural products. Therefore, today, the Government aims to increase the competitiveness of the agriculture and food industry to ensure their development. For this purpose, state programs are being developed and implemented aimed at supporting producers through subsidies, assistance in the acquisition of fixed assets, etc. The pandemic coronavirus infection has shown how important the development of the food industry is, providing the population with food. The study of the development of the food industry is relevant, and the purpose of this work is to identify the impact of investments on the development of the industry. Accordingly, the following tasks are set: a literary review and study of theoretical aspects of the development of the food industry; analysis of the main indicators of the industry; identification of the impact of investments on the indicators of the development of the food industry using regression analysis. The hypothesis of the study is that there is a relationship between investment and the development of the food industry.

Literature Review

Today, in a period of rapidly changing economic conditions, it is necessary to pay special attention to the development of investment and improvement of the material and technical base of the food industry as a priority industry. Improving the mechanism for managing fixed assets and investing in fixed

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assets is an urgent scientific problem. Effective use of fixed assets creates prerequisites for the growth of almost all economic indicators of the industry. The food industry is closely connected with agriculture, respectively, the contribution of investments in the food industry will lead to the improvement of agriculture. Industrially developed and socially oriented states see the basis for a cardinal improvement in the quality of life of the population in improving the efficiency of the food industry and the agro-industrial complex as a whole.

Being a part of the agro-industrial complex, the food industry is one of the industries that most urgently needs to attract the optimal amount of investment resources (Nagovitsyna, 2014).

The food industry has been used to transform agricultural products into edible, safe, healthy, and nutritious foods, as well as to preserve food. Food processing is not only an important tool in providing nutrition to the population, but also, affects the global problem of food security and sustainability (Knorr & Augustin, 2021).

Considering the process of development of the food industry, it can be seen that initially, during the transition to market relations, for a number of reasons, there was a decline in investment activity, which led to the difficulty of adapting enterprises to these conditions.

A simplified idea was made that market mechanisms are able to independently cope with the organization of the functioning of the socio-economic complex. It must be admitted that the absence of the apparatus and mechanisms of state regulation at that time gave rise to uncertainty about the economic situation in the country, had a negative impact on the development of all spheres of the economy, including investment activity. The redistribution of property has not formed a layer of effective private owners. This is one of the reasons for the sharp decline in investments in fixed assets, both private and public.

The volume of investments attracted in the process of privatization was insufficient for industrial, technological, and social development. The sharp decline in production undermined the financial stability of enterprises, limited the possibilities of investment financing at the expense of their main own sources – profit and depreciation. Revaluation of fixed assets lagged behind the rate of inflation. Most enterprises did not have their own funds to invest in not only expanded but also simple reproduction (Kaishev, 2005).

In his work, A.M. Kopylov identifies the following problems of food producers (Gurkov, 2007): the possibilities of updating fixed assets at the expense of external sources have narrowed, gaps in legislation in practice have led to numerous raider seizures of agricultural land, investment programs at all stages of food production have been curtailed (stopping the opening of new production facilities, the inability to expand retail space, braking innovation processes, etc.).

Marco V. Sánchez, Martín Cicowiez, Araceli Ortega note the need to allocate public investment in production infrastructure. They believe that "not only investments should be a priority in these sectors, but the government should also finance them through external borrowing in order to accelerate recovery and prevent short-term macroeconomic compromises with domestic financing" (Sánchez, Cicowiez, & Ortega, 2022).

In the study conducted by Wawrzyniec Czubak, Krzysztof Piotr Pawłowski, Arkadiusz Sadowski, two analytical measurements were used "to determine groups of farms in accordance with the use of public funds for co-financing investment expenditures in agriculture and the scale (complexity) of investments made" (Czubak, Pawłowski, & Sadowski, 2021). According to the research results, it was revealed that in those farms where complex investment was carried out, they were able to increase their technical efficiency during the study period.

Earlier in the literature, it was said that investments do not affect the state of technology in the economy in any way (Solow, 1957; Salter, 1960), but most scientists study the impact of investment in fixed assets, on productivity and, accordingly, on the economic performance of an enterprise or industry. At the same time, the authors take into account feedback, that is, an increase in labor productivity can lead to a decrease in investment in fixed assets. However, the condition of equipment in the food industry is assessed by a high degree of deterioration, so it is necessary to pay great attention to this since the efficiency of enterprises depends directly on the state of fixed assets.

Some authors note that the fragmented nature of agricultural production systems and supply chains, the lack of a reliable database of scientific data and well-developed tools for using knowledge in investment decision-making processes constrain the inflow of investments into the food and agricultural sector (Negra et al., 2020).

Within the framework of improving the efficiency of the functioning of the food industry, it will be useful to apply the approaches proposed by Brouwer et al., showing in practice anti-crisis measures for managing food systems (Brouwer, McDermott, & Ruben, 2020). The development of the food industry should take

place in a close relationship with agriculture, reflect the priorities of agri-food policy, while it is possible to apply comprehensive actions and measurements related to food safety and nutrition offered by (Nordhagen et al., 2022).

Methods

During the study, the following research methods were used: historical, statistical, comparative, regression analysis, and graphical methods of displaying the results were also used.

When discussing the results of the functioning of the food industry, the following methods were used: analysis, synthesis, clarification, generalization.

The experimental basis of the study was the main indicators of the development of the food industry, as well as data from enterprises operating in the industry. An assessment of the impact of investments in fixed assets on production volumes was carried out and a forecast for 3 years was calculated. The results of the study were summarized and systematized, prospects for the development of the food industry were outlined.

Results

To consider the production volumes of food industry products we examine three productions of the food industry provided in the general classifier of economic activities of the Republic of Kazakhstan. Table 1 demonstrates the dynamics over 5 years for the production of food, beverages, and tobacco products.

Table 1. Dynamics of production volumes of the food industry, million tenge.

Name of indicators	2016	2017	2018	2019	2020	growth	
						+/-	%
Manufacturing industry	8046845	9400848	10403854	11573350	13232696	5185851,00	64,45
Food industry	1808616	1943736	1995101	2218996	2612259	803643,00	44,43
Food production	1448386	1525814	1527687	1708013	1957241	508855,00	35,13
Production of drinks	254294	311675	343794	398492	443428	189134,00	74,38
Production of tobacco products	105936	106247	123620	112491	211590	105654,00	99,73
Note – Compiled by the authors on the basis of data from the National Bureau of Statistics							

It can be seen from Table 1 that the volume of production of food industry products is increasing annually; the increase in production compared to the baseline indicator amounted to 5185,851 million tenge or 64.45%. Basically, the increase is observed in the production of food and this is natural since there is an increase in the population and an increase in demand for products of domestic producers. For a more complete picture and development of recommendations, consider the main indicators of the food industry.

The number of food production enterprises over the past year decreased by 6 enterprises compared to the previous year, 17 enterprises for the production of beverages increased, and tobacco production enterprises remain at the same level as before. Compared with the indicators of 2016, the number of food production enterprises decreased by 63. A sharp decline in enterprises was observed in 2017 and this is due to the fact that many enterprises were unable to withstand competition, as well as due to a lack of experience in farming.

Let us look at the number of enterprises in the context of economic activity for 2020 in Figure 1. According to the figure, it can be seen that the largest number of enterprises are engaged in the production of bakery, pasta and confectionery products – 420 units. 395 enterprises are engaged in the processing and preservation of meat and the production of meat products.

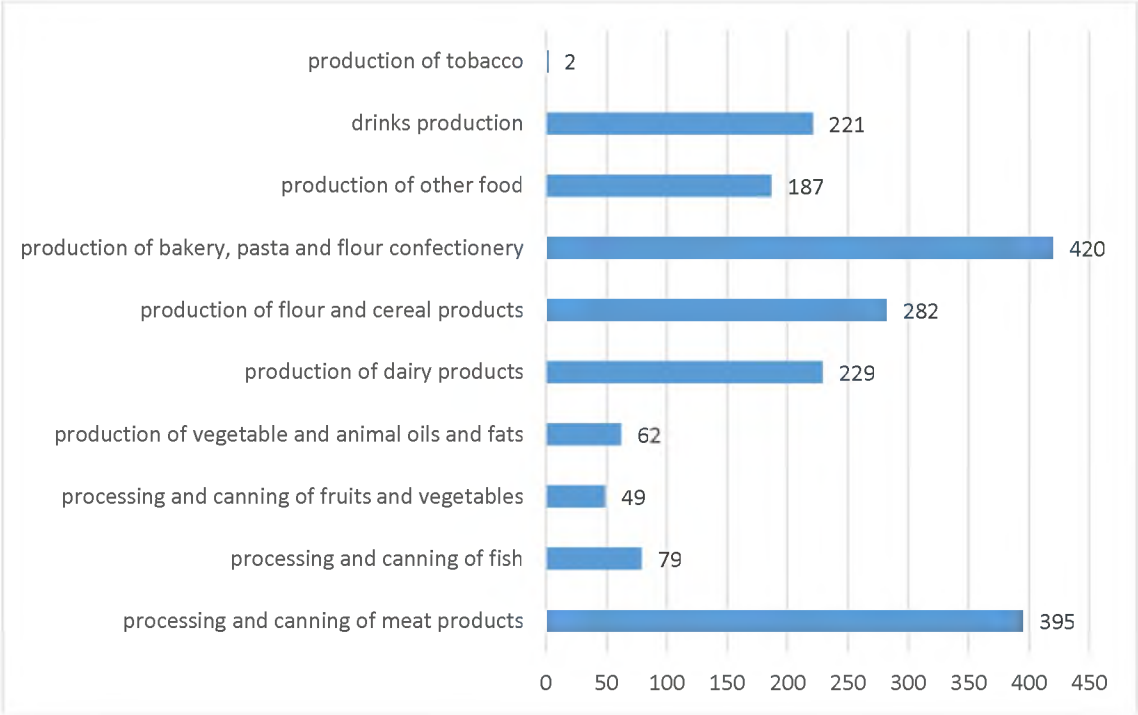

Figure 1. Number of enterprises and industries by type of economic activity for 2020

Note – Compiled by the authors on the basis of data from the Bureau of National statistics

The structure also shows that the largest volume of production is occupied by food production – 75%, beverage production – 17%, and tobacco production – 8%.

Let us now consider food production in the context of types of products according to Figure 2.

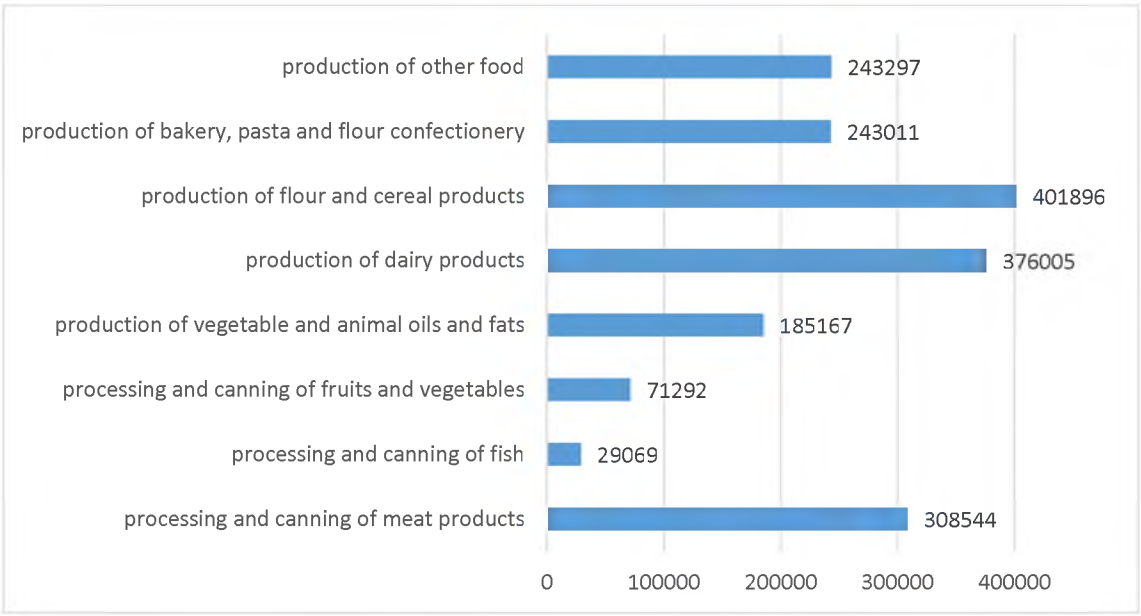

Figure 2. Food production for 2020, million tenge

Note – Compiled by the authors on the basis of data from the Bureau of National statistics

Thus, Figure 2 shows that the largest volume of food production falls on the production of flour and cereals, starches and starch products and amounted to 401,896 million tenge. The smallest amount falls on the processing and preservation of fish, crustaceans, shellfish.

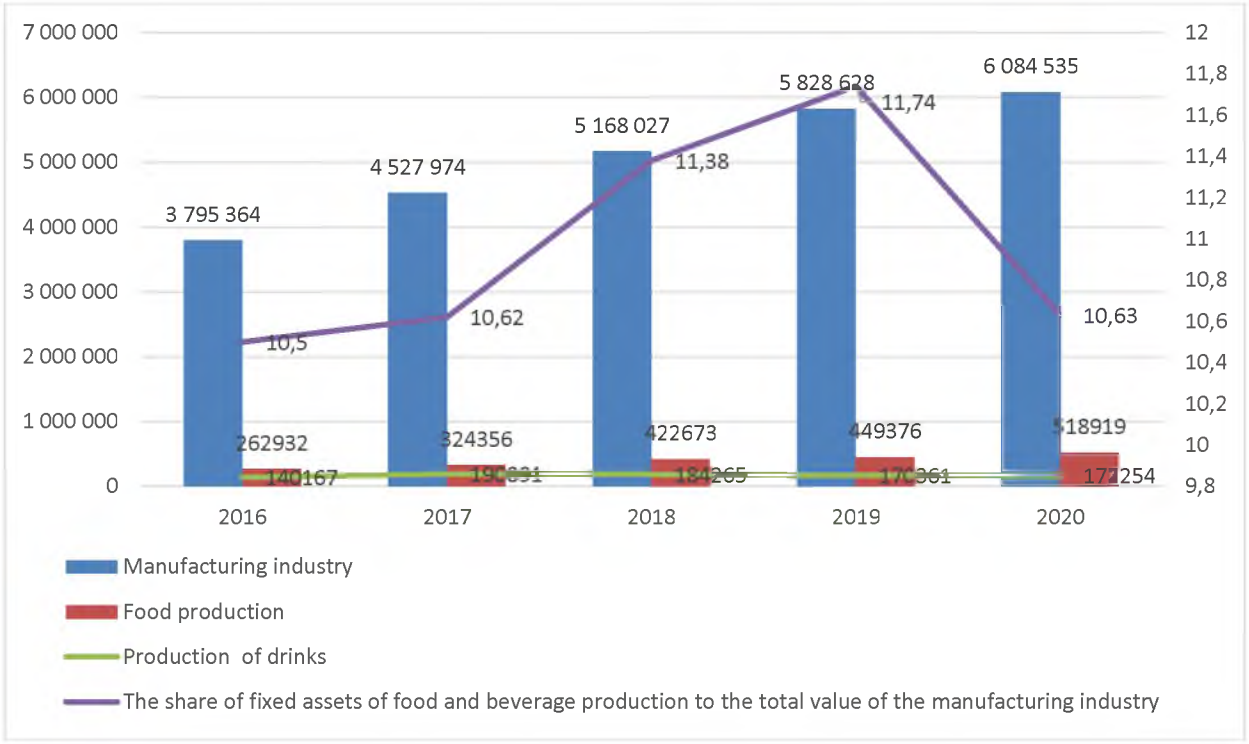

Figure 3. Dynamics of the availability of fixed assets on the balance sheet (net of depreciation) cost, million tenge

Note – Compiled by the authors on the basis of data from the Bureau of National statistics

Figure 3 illustrates the dynamics of fixed assets by book value and their share in the value of fixed assets of the manufacturing industry. According to these data, it can be seen that the share of fixed assets is 11%. The cost of fixed assets for food production increases annually, and for the production of beverages, the cost has increased over the past year by more than 2000 million tenge.

The following figure shows the indicators of the use of fixed assets for food production, since this direction occupies a large share in the food industry.

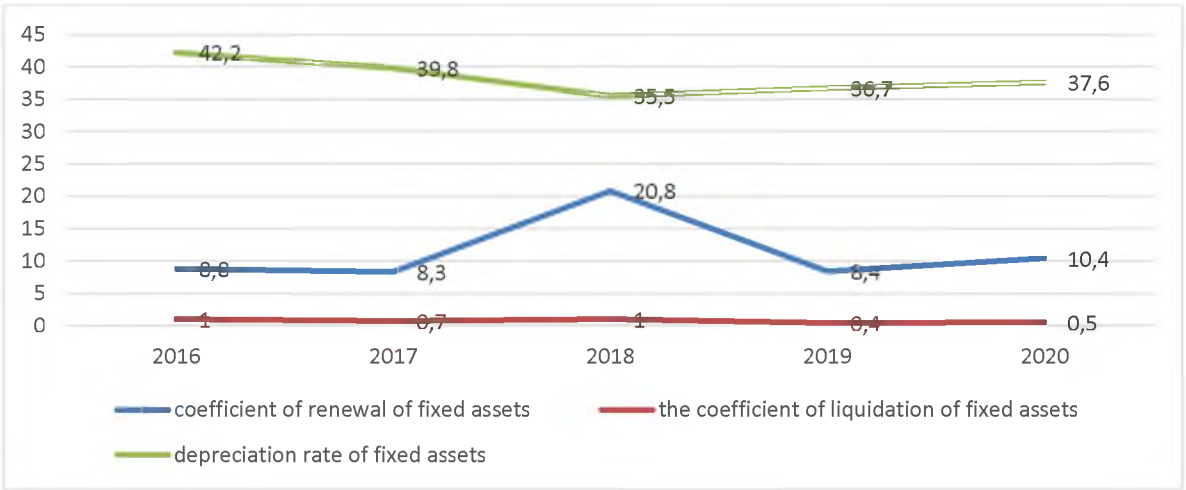

Figure 4. Dynamics of indicators of the use of fixed assets of food production

Note – Compiled by the authors on the basis of data from the Bureau of National statistics

As can be seen from Figure 4, more than 37% of fixed assets are worn out, and over the past year this indicator has increased by 0.9% compared to the previous year. During the period under review, the maximum renewal of fixed assets was observed in 2018 and amounted to 20.8%, and in 2020 the percentage of renewal was 10.4.

To consider the main indicators of the financial performance of food industry enterprises, we designate the dynamics of profit and profitability in Figure 5.

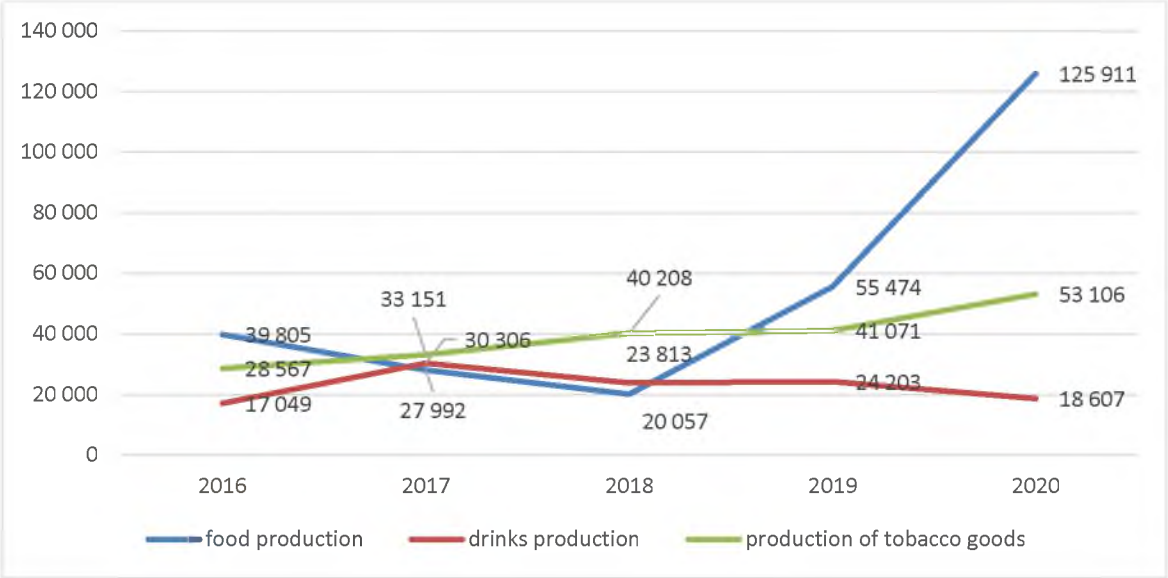

Figure 5. Profit (loss) before taxation, million tenge

Note – Compiled by the authors on the basis of data from the Bureau of National statistics

Profit on food production in 2020 compared to the indicator of 2019 increased by 70437 million tenge or 2.26 times. The profit on the production of tobacco products increased by 12035 million tenge. While the profit from the production of beverages decreased by 5596 million tenge due to quarantine measures during the pandemic and the suspension of the activities of public catering facilities.

The profitability of the production of products in recent years has been heterogeneous. We see an increase in profitability in 2019 and 2020, which is due both to an increase in production volumes and also to an increase in productivity in the industry.

Further, one of the indicators that affect the efficiency of any industry is investment in fixed assets. Figure 6 shows the dynamics of investments by types of food industry production.

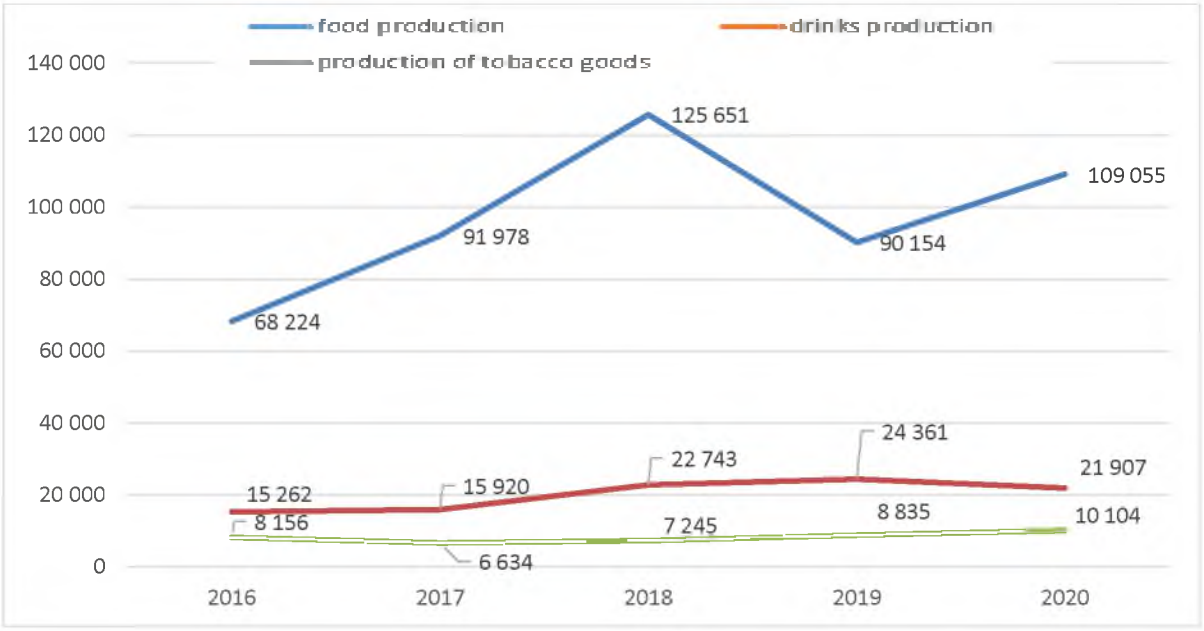

Figure 6. Dynamics of investments in fixed assets, million tenge

Note – Compiled by the authors on the basis of data from the Bureau of National statistics

In 2020, the volume of investments in the production of food and tobacco products increased and amounted to 18901 and 1269 million tenge, respectively. Investments in the production of beverages decreased by 2454 million tenge. In general, according to the results of the year, the geographically developed regions in terms of investment activity in food production enterprises are the Almaty and Akmola regions, while for these years, investments directed to food production enterprises occupy the largest share in the structure of investments in fixed assets.

Summing up the results of the analysis of indicators of the food industry, the following conclusions can be drawn: the number of operating enterprises operating in the food industry has increased, the production of food, beverages and tobacco products has increased, investments in fixed assets of food industry enterprises have increased, loans sent by second-tier banks to the food industry have increased.

Discussions

Regression analysis is a set of statistical methods for evaluating relationships between variables. It can be used to assess the degree of relationship between variables and to model future dependence. Linear regression is a simple but powerful tool that can significantly facilitate the work of an analyst when studying factors affecting certain indicators. In our example, we took the volume of production of the food industry as a dependent variable, and investments in fixed assets, the number of food industry enterprises and the book value of fixed assets of food industry enterprises as independent variables (Mylnikov & Kulikova, 2013). The initial data for the calculation of the regression analysis is given in Table 5.

Table 5. Initial data for regression analysis

Years	Production of food industry products, million tenge	Investments in fixed assets, million tenge	Number of food industry enterprises, units	Book value of fixed assets, million tenge
2016	1808616	91642	2041	403099
2017	1943736	114532	2101	515247
2018	1995101	155639	1951	606938
2019	2218996	123350	1990	619737
2020	2612259	141066	2001	691173

Tables 6–9 show the results of the calculation carried out using MS Excel.

Table 6. Output of results

Regression statistics	
Multiple R	0,947018
R-square	0,896843
Normalized R-square	0,58737
Standard error	202027,2

Table 7. Monitoring

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	3,55E+11	1,18E+11	2,897973	0,401797
Remains	1	4,08E+10	4,08E+10		
Total	4	3,96E+11			

Table 8. Analysis of variance

	Coeffi-cients	Standard error	*t*- statistics	*P*- Value	Lower *95%*	Upper *95%*	Upper *95,0%*	Lower *95,0%*
Y- intersection	995119	5525294	0,180102	0,886559	-6,9E+07	71200636,	-6,9E+07	71200637
Variable X_1	-8,80949	8,629858	-1,02082	0,493443	-118,462	100,843	-118,462	100,8433
Variable X_2	-45,3735	2480,755	-0,01829	0,988357	-31566,4	31475,610	-31566,4	31475,61
Variable X_3	4,082026	1,660335	2,458555	0,24593	-17,0145	25,178582	-17,0145	25,17858

Table 9. Output of the remainder

Monitoring	*Predicted Y*	*Remains*	*Standard balances*
1	1740653	67963,03	0,672811
2	1994072	-50336,4	-0,49831
3	2013032	-17930,8	-0,17751
4	2347958	-128962	-1,27668
5	2482993	129265,8	1,279687

According to the analysis results, it can be seen that the multiple correlation coefficient and the R-square are equal to 0.94 and 0.89, which confirms the quality of the constructed model.

The coefficient of -8.81 shows that investments within this model affect the production volumes of the food industry with a weight of -8.81. The "-" sign indicates a negative impact: the less investment, the smaller the production volumes of the food industry.

The coefficients 45.37 show that the smaller the number of food industry enterprises, the smaller the production volumes. Finally, if we increase the cost of fixed capital, that is, upgrade fixed assets, then the volume of production of the food industry will increase by 4.08 million tenge.

This model can be used to detect trends and make forecasts. Figure 7 presents a forecast for the next three years.

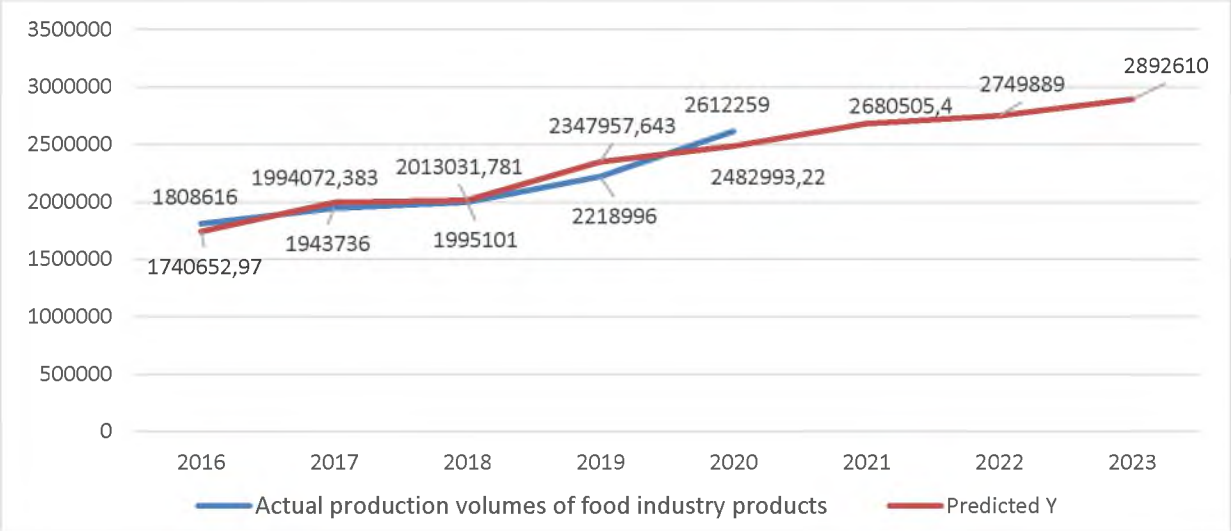

Figure 7. Calculation of forecast values of the volume of production of food industry products

Note – Compiled by the author

Conclusions

Analysis results show that the volume of production of food products is growing annually, the largest share (75%) in it is occupied by food production. For fixed assets, although we see that the cost is growing, however, there is also a large deterioration of equipment. According to statistics, investment in fixed assets is growing annually, but there is still 43.7% deterioration in equipment and machines. Financial indicators in recent years show positive dynamics, only a decrease is observed in the production of beverages, this is due to a decrease in the number of enterprises. Based on the calculation data, it can be seen that investments and the use of fixed assets directly affect the production of food products. Thus, it is necessary to pay attention to the issues of increasing the indicators of the use of fixed assets, namely the shelf life. The improvement of these indicators will lead to an increase in the number of products produced by the food industry.

References

Brouwer, I.D., McDermott, J., & Ruben, R. (2020). Food systems everywhere: improving relevance in practice *Glob. Food Sec., 26.* https://doi.org/10.1016/j.gfs.2020.100398

Bureau of National statistics (2021a). Investitsii Kazakhstana. 2021: Statisticheskii sbornik [Investment in Kazakhstan. 2021: Statistical collection]. *Agentstvo po strategicheskomu planirovaniyu i reformam Respubliki Kazakhstan. Departament statistiki proizvodstva i okruzhayushchei sredy – Agency for Strategic planning and reforms of the Republic of Kazakhstan. Department of Production and Environmental Statistics.* Nur-Sultan, 105 [in Russian].

Bureau of National statistics (2021b). Osnovnye fondy Kazakhstana 2016–2020. 2021: Statisticheskii sbornik [Fixed Assets in Kazakhstan 2016-2020. 2021: Statistical Collection]. *Agentstvo po strategicheskomu planirovaniyu i reformam Respubliki Kazakhstan. Departament statistiki proizvodstva i okruzhayushchei sredy – Agency for Strategic planning and reforms of the Republic of Kazakhstan. Department of Production and Environmental Statistics.* Nur-Sultan, 201 [in Russian].

Bureau of National statistics (2021c). Promyshlennost Respubliki Kazakhstan. 2021: Statisticheskii sbornik [Industry of the Republic of Kazakhstan. 2021: Statistical collection]. *Agentstvo po strategicheskomu planirovaniyu i reformam*

Respubliki Kazakhstan. Departament statistiki proizvodstva i okruzhayushchei sredy – Agency for Strategic planning and reforms of the Republic of Kazakhstan. Department of Production and Environmental Statistics. Nur-Sultan, 49 [in Russian].

Czubak, W., Pawłowski, K.P., & Sadowski, A. (2021). Outcomes of farm investment in Central and Eastern Europe: The role of financial public support and investment scale. *Land Use Policy*, 108. https://doi.org/10.1016/j.landusepol.2021.105655

Gurkov, I.B. (2007). Strategicheskii menedzhment organizatsii [Strategic management of organization]. Moscow: TEIS, 325 [in Russian].

Kaishev, V.G. (2005). Investitsii v osnovnoi kapital pishchevoi industrii: usloviya, faktory, tendentsii [Investments in the main capital of food industry: conditions, factors, tendencies]. *Ekonomika i upravlenie. Pishchevaia promyshlennost – Economy and management. Food Industry,* 6, 28–32 [in Russian].

Knorr, D., & Augustin, M.A. (2021). Food processing needs, advantages and misconceptions (Review). *Trends in Food Science and Technology*, 108, 103–110. https://doi.org/10.1016/j.tifs.2020.11.026

Mylnikov, M.M., & Kulikova, O.V. (2013). Korrelyatsionnyi i regressionnyi analiz kolichestvennykh pokazatelei vypolneniya uchebnykh zanyatii [Correlation and regression analysis of quantitative measures of learning assignments]. *Sovremennye naukoemkie tekhnologii – Modern high technologies*, 6, 61,62 [in Russian].

Nagovitsyna, E.V. (2014). Problemy investitsionnoi privlekatelnosti APK [Problems of investment attractiveness of agrarian and industrial complex]. *Vestnik Nizhegorodskogo gosudarstvennogo inzhenerno-ekonomicheskogo institute – Bulletin of the Nizhny Novgorod State Institute of Engineering and Economics,* 5, 121–125 [in Russian].

Negra, C., Remans, R., Attwood, S., Jones, S., Werneck, F., & Smith, S. (2020). Sustainable agri-food investments require multi-sector co-development of decision tools. *Ecological Indicators, 110,* 105851. https://doi.org/10.1016/j.ecolind.2019.105851

Nordhagen, S., Lambertini, E., DeWaal, C.S., McClafferty, B., & Neufeld, L.M. (2022). Integrating nutrition and food safety in food systems policy and programming. *Global Food Security*, 32, 100593. https://doi.org/j.gfs.2021.100593

Salter, W.E.G. (1960). Productivity and technical change. *Cambridge University Press, 43, 1, 160–163.*

Sànchez, M.V., Cicowiez, M., & Ortega, A. (2022). Prioritizing public investment in agriculture for post-COVID-19 recovery: A sectoral ranking for Mexico. *Food Policy Volume 109*. https://doi.org/0.1016/j.foodpol.2022.102251

Solow, R.M. (1957). Technical change and the aggregate production function. *Review of Economics and Statistics, 39,* 312–320.

Р. Байжолова, Г. Шмарловская, Д. Саржанов, Ж. Амангельдиева

Қазақстанның тамақ өнеркәсібінің даму көрсеткіштерін талдау және бағалау

Аңдатпа

Мақсаты. Кез келген мемлекет үшін азық-түлік және қайта өңдеу өнеркәсібін дамыту стратегиялық маңызды міндет болып табылады, өйткені бұл сала азық-түлік қауіпсіздігін қамтамасыз етуге жауап береді. Тамақ өнеркәсібінің дамуын зерттеу бүгінгі таңда өңірлердің географиялық орналасуына, технологиялық даму деңгейіне және инновациялық әлеуетке сәйкес аумақтық біркелкі дамымауына байланысты өзекті. Қатаң бәсекелестік жағдайында тамақ өнеркәсібі кәсіпорындарының жұмыс істеу нәтижелері көбінесе сұранысқа ие өнімдер шығаруға, оның өзіндік құнын төмендетуге, пайда мен рентабельділікті арттыруға мүмкіндік беретін өндіріске ғылыми-техникалық прогресті енгізу қарқынымен анықталады. Тамақ өнеркәсібі кәсіпорындарының қалыпты жұмыс істеуі және азық-түлік қауіпсіздігін қамтамасыз ету үшін инновациялық технологиялар мен анағұрлым өнімді техниканы пайдалану деңгейін арттыру қажет.

Әдістері. Мақалада зерттеудің мына әдістері қолданылған: тарихи, статистикалық, жүйелік және салыстырмалы талдау.

Нәтижелері. Жалпы, техникалық әлеует негізгі қорлармен тікелей байланысты, сондықтан осы мақалада тамақ өнеркәсібінің негізгі көрсеткіштеріне, негізгі қорлар мен инвестицияларды пайдалануға талдау жасалған. Салада пайдаланылатын негізгі қорлардың бір бөлігі тозғандықтан, инвестициялардың тамақ өнеркәсібі өндірісінің көлеміне әсерін талдау қаралды.

Тұжырымдар: Жұмыста өнім өндірісінің көлеміне факторлардың әсерін талдау жүргізілді және есептік деректер бойынша алдағы үш жылға инвестициялау кезінде өңдеу өнеркәсібі өнімінің 16,5% -ға өсу мүмкіндігі болуы мүмкін.

Кілт сөздер: тамақ өнеркәсібі, аграрлық азық-түлік саясаты, ауыл шаруашылығы, тамақ өндірісі, сусындар өндірісі, инвестициялар, болжам, көрсеткіштер.

Р. Байжолова, Г. Шмарловская, Д. Саржанов, Ж. Амангельдиева

Анализ и оценка показателей развития пищевой промышленности Казахстана

Аннотация

Цель. Для любого государства развитие пищевой и перерабатывающей промышленности является стратегически важной задачей, так как данная отрасль отвечает за обеспечение продовольственной безопасности. Изучение развития пищевой промышленности на сегодня актуально в связи с тем, что наблюдается неравномерное развитие территории из-за географического расположения регионов, уровня технологического развития и инновационного потенциала. Результаты функционирования предприятий пищевой промышленности в условиях жесткой конкуренции в значительной степени определяются темпами внедрения в производство научно-технического прогресса, позволяющего выпускать продукцию, пользующуюся спросом, снижать ее себестоимость, повышать прибыль и рентабельность. Для нормального функционирования предприятий пищевой промышленности и обеспечения продовольственной безопасности необходимо повышение уровня использования инновационных технологий и более производительной техники.

Методы исследования. В работе использованы следующие методы исследования: исторический, статистический, системный и сравнительного анализа.

Результаты. В целом, технический потенциал непосредственно связан с основными фондами, поэтому в статье проведен анализ основных показателей пищевой промышленности, использования основных фондов и инвестиций. В отрасли, в силу того, что часть основных фондов, используемых в отрасли, изношена, рассмотрен анализ влияния инвестиций на объемы производства пищевой промышленности.

Выводы: В работе проведен анализ влияния факторов на объемы производства продукции и по расчетным данным при инвестировании в последующие три года возможен вариант прироста продукции обрабатывающей промышленности на 16,5 %.

Ключевые слова: пищевая промышленность, агропродовольственная политика, сельское хозяйство, производство продуктов питания, производство напитков, инвестиции, прогноз, показатели.

References

Brouwer, J. McDermott, R. Ruben Food systems everywhere: improving relevance in practice //Glob. Food Sec., 2020, No.26, p. 100398 DOI: 10.1016/j.gfs.2020.100398.

Sánchez M.V., Cicowiez M, Ortega A. Prioritizing public investment in agriculture for post-COVID-19 recovery: A sectoral ranking for Mexico // Food Policy. 2022. No. 109, DOI: 10.1016/j.foodpol.2022.102251.

Salter W. E. G. Productivity and technical change //Cambridge University Press. 1960. No.43, issue 1, 160–163.

Solow R. M. Technical change and the aggregate production function // Review of Economics and Statistics, 1957, 39, 312–320.

Christine Negra, Roseline Remans, Simon Attwood, Sarah Jones, Fred Werneck, Allison Smith Sustainable agri-food investments require multi-sector co-development of decision tools // Ecological Indicators. March 2020, No. 110, 105851 DOI: 10.1016/j.ecolind.2019.105851.

Czubak W., Pawłowski K. P., Sadowski A. Outcomes of farm investment in Central and Eastern Europe: The role of financial public support and investment scale // Land Use Policy.2021. No. 108 DOI: 10.1016/j.landusepol.2021.105655

Knorr D., Augustin M.A. Food processing needs, advantages and misconceptions (Review) // Trends in Food Science and Technology. February 2021, No. 108, Pages 103–110 DOI: 10.1016/j.tifs.2020.11.026

Stella Nordhagen, Elisabetta Lambertini, Caroline Smith DeWaal, Bonnie McClafferty, Lynnette M. Neufeld Integrating nutrition and food safety in food systems policy and programming // Global Food Securityю 2022. No. 32, 100593 DOI: 10.1016/j.gfs.2021.100593

Гурков И.Б. Стратегический менеджмент организации / И.Б. Гурков. — М.: ТЕИС, 2007. — 325 с.

Инвестиции Казахстана. 2021: Статистический сборник / Агентство по стратегическому планированию и реформам Республики Казахстан. Бюро национальной статистики Департамент статистики производства и окружающей среды. — Нур-Султан, 2021. — 105 с.

Кайшев В.Г. Инвестиции в основной капитал пищевой индустрии: условия, факторы, тенденции / В.Г. Кайшев // Экономика и управление. Пищевая промышленность. — 2005. — № 6. — С. 28–32.

Мыльников М.М. Корреляционный и регрессионный анализ количественных показателей выполнения учебных занятий / М.М. Мыльников, О.В. Куликова // Современные наукоемкие технологии. — 2013. — № 6. — С. 61, 62.

Наговицына Э.В. Проблемы инвестиционной привлекательности АПК / Э.В. Наговицына // Вестник НГИЭИ. — 2014. — № 5. — С. 121–125.

Основные фонды Казахстана 2016–2020. 2021: Статистический сборник / Агентство по стратегическому планированию и реформам Республики Казахстан. Бюро национальной статистики Департамент статистики производства и окружающей среды. — Нур-Султан, 2021. — 201 с.

Промышленность Республики Казахстан. 2021: Статистический сборник / Агентство по стратегическому планированию и реформам Республики Казахстан. Бюро национальной статистики Департамент статистики производства и окружающей среды. — Нур-Султан, 2021. — 49 с.

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Green banking practices worldwide: prospects for Kazakhstan

Abstract

Object: The article aims to explore the concept of "green banks" and review current worldwide developments in green banking with the emphasis on the Republic of Kazakhstan.

Methods: Qualitative research methods: content analysis, abstraction, comparison, and generalization.

Results: The paper explores definitions of "green banking" and categorization of green banking practices. Some of the popular internal and external green banking activities are discussed. The authors found out that currently there is a global trend towards greening the banking sector. However, the scope of available green banking practices varies considerably across different countries and banks. The proposed greenness scale can be used to estimate banks' activities from "slightly green" to "fully green banks".

Conclusions: While green bonds and green loans are widely discussed in the literature, the topic of green banking is mostly ignored. Since the Republic of Kazakhstan has stepped towards Green Economy, the prospects of green banking should not be neglected. To conform with sustainable development, commercial banks should engage in internal and external green banking practices. Government and responsible agencies (i.e., AIFC) should work closely with the commercial banks in the greening process.

Keywords: green economy, green finance, green banking, sustainable banking, green bonds, green credit, Kazakhstan Green economy.

Introduction

As a continuation of Millennium goals in 2015, the members of the United Nations announced 17 Sustainable Development Goals, which pose special attention to "green" economic growth, i.e. the long-term GDP growth that benefits the environment and population. As a member of this organization, The Republic of Kazakhstan has been following the overall trend toward a Greener Economy with sustainable economic development. In 2013, the government of Kazakhstan with the approval of the first president announced "the concept of transition of the Republic of Kazakhstan to Green Economy", which defines the goals and provides a roadmap to move to a Green Economy by 2050.

Building a Green economy is impossible without the proper development of Green finance. Although there is no all-encompassing definition of "green finance", usually the term refers to all private and public financial flows into environmentally responsible projects and initiatives (from government, banks, microcredit, insurance, international organisations, private investors, etc.). Since banks are the largest players in the financial system, their contribution towards a Green economy should not be neglected: banks should adjust their profit-maximising behavior to conform with ESG principles.

As noted by Green Bank Network (Green Bank Network, 2018), "Green banks are the critical actor missing from the landscape of financial institutions". Researchers and bankers use such interrelated terms as "green banks", "sustainable banks" or "ethical banks", which characterize the banks that place special attention to their impact on the environment, society and governance (i.e. ESG principles).

Researchers (Nath et al., 2014) point out that although banks do not directly affect the environment, their indirect impact throug customers is considerable. Thus, it is essential for banks to contribute to the global sustainability movement. Moreover, there are direct benefits to banks themselves from adopting green practices. Bolton (2013) found that there is a positive relationship between a bank's Corporate Social Responsibility and its financial performance. Another research by Ibe-enwo et al. (2019) found that green banking practices improve banks' green image, bank trust and loyalty.

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Specifically, there are two ways banks may become green: first, by adjusting their internal business activities as environmentally friendly (e.g. reducing direct carbon footprint, using more efficient energy, less paper, etc.) and second, by offering specialized "green" financial products to their customers (e.g. green cards, loans, deposits, mortgages, etc.).

However, the scale of banking sector greenness varies across countries with the West (The USA, Europe) and some Asian economies (China, India) being ahead and establishing full green banks, while Kazakhstan and other post-Soviet countries are only stepping towards this path and offering limited green banking practices.

Considering the recent governmental initiatives, the Republic of Kazakhstan strives to become a regional hub for green finance. For example, in 2020 AIFC Green Finance Center in cooperation with ADB and DAMU fund launched the issue of the first green bonds. In 2021, "The Taxonomy for green projects" was prepared by AIFC. The present document defines major terms and currently proposes two financing options, which are green bonds and green loans.

The research question is how the banking sector can be incorporated into green growth. We study how banks, being the largest players in the financial systems, can contribute to green development by adjusting their behavior. The article aims to revise the current state of Green banking in the world practice and propose the course of development for Kazakhstan. The banking sector of Kazakhstan seems to lag behind this "greening" pattern. Currently, only limited products offered by Kazakhstani banks may qualify as green. Local researchers on green economy and finance have focused mostly on capital markets, neglecting green banking. Thus, the authors contribute by applying green banking to the context of Kazakhstan.

The authors hypothesize that the evolving green banking sector can be a significant contributor to sustainable development. Furthermore, the scale of green banking is a useful tool to estimate the greenness of banks worldwide. The results show that due to the limited availability of green banking practices, the Republic of Kazakhstan lags behind the worldwide trends in the greening of the banking sector.

Literature review

Before turning to the discussion of green banking, let us review such concepts as green economy and green finance to understand their relevance to the Kazakhstani economy. The United Nations environment program defines a Green economy as "low carbon, resource efficient and socially inclusive" (https://www.unenvironment.org/). Thus, the concept is rather broad, encompassing not only environmentally conscious production and consumption but also the social aspects of economic activities. The Green Economy is one, which promotes employment, efficiency and sustainability.

As stated by the European Commission (European Commission, 2011), the term Green Economy is more than working in a green sector/project, rather it helps to build a more just and equal society. Moreover, the move to Green Economy not only contributes to the improvement in environmental and social issues but also brings positive economic impact on the countries. According to Mukhtarova (Mukhtarova et al., 2015), for Kazakhstan, the projected additional growth of GDP due to the development of a green economy will be around 3% by 2030.

According to the World Bank Group (World Bank Group, 2018), there are several reasons for the relevance of transition to a Green Economy in Kazakhstan:

1. Low diversification (i.e. high dependency on exports of oil and gas)
2. Low water quality and agriculture (e.g. The Aral sea problem).
3. Low human capital (e.g. poverty and low education level, especially in rural areas).

Therefore, to ensure long-term economic growth, it is essential for Kazakhstan's economy to move toward sustainable development. Also, it is possible for Kazakhstan to become green due to the abundance of renewable energy resources. As such, it is estimated that its wind energy potential by 2030 will exceed the country's needs by 10 times (World Bank Group, 2018).

However, this transition is impossible without developing a system of Green finance, i.e. a set of financial instruments and products characterized by their positive environmental impact (AIFC, 2018). In general, the term Green finance may be applied to green banking, green capital markets, green insurance, etc.

In Kazakhstan, the banking sector is more mature compared to other financial markets. As of 2020 total assets of Kazakhstani banks exceeded 26 000 billion KZT, with constituted 40% of the country's GDP (Finreg, 2020). The authors believe that the banking sector has great potential to contribute towards sustainable development, thus the state and prospects of green banking will be discussed further.

By now there have been some successful attempts by the Kazakhstani government in terms of institutional and legal changes to accommodate the transition to a Green Economy. Created in 2015 the Astana International Financial Center aims to become "a regional hub of green finance promoting the development and management of green financial instruments in the Central Asian and Eastern European region" (AIFC, 2018).

Currently, there is a separate body called AIFC Green Finance Center (i.e. GFC), which operates in order to increase the awareness of and promote various Green Finance Initiatives. One such prominent action of GFC was the debut issue of green bonds in August 2020 (total value – 200 million KZT, maturity – 36 months, coupon rate – 11.75%) on the Astana International Exchange in cooperation with Damu Entrepreneurship Fund and EBRD (AIX, 2021). The funds raised are to be placed with second-tier banks for investment into green projects, so the readiness of the banking sector for green practices is essential to achieve end goals.

Methods

This article is prepared mainly using a qualitative approach to primary and secondary data sources. The authors reviewed the body of literature related to Green banking both in the world and specifically in the Republic of Kazakhstan. Thus, we provided a comparative analysis using the recent reports by international organizations, such as the International Development Bank, the World Bank, the Asian Development Bank, etc., and publications of Kazakhstani and foreign researchers. Moreover, we reviewed the steps by the government of Kazakhstan in terms of preparation of the legislative framework, such as "the concept of transition of the Republic of Kazakhstan to Green Economy until 2050" (approved in 2013), and current developments under Astana International Finance Center's Green Finance Division. Such methods as abstraction, comparison, and generalization were applied to draw our conclusions.

Results

Currently there is no all-encompassing definition for "green banking", which may pose difficulties in classifying a bank as green. The literature uses such terms as "green bank", "sustainable bank" or "ethical bank" to refer to the banking institution which somehow considers the environmental impact of their activities. This could be evident in their business model, strategy, ESG reports, etc.

Table 1 provides some of the definitions of green banking proposed by researchers. It can be noted that the authors stress the positive environmental impact from green banking activities. Overall, definitions can be grouped into two categories, which we define as: 1) general and 2) function-specific. General definitions of green banking (Biswas, 2011; Ahmed, 2012; Lalon, 2015) do not point out which activities of banks should bring environmental benefits. Whereas function-specific definitions (Zhelyazkova et al., 2015; Park et al., 2020) highlight the importance of transforming core banking activities into green financing. As such, green banks are the ones which usual financing operations (deposits and loans) support green projects and initiatives.

Table 1. Green banking definitions.

Definition	Authors
"any form of banking from which the country and nation gets *environmental benefits*"	(Lalon, 2015)
"an effort by the banks to make the industries grow *green* and in the process restore the *natural environment*"	(Biswas, 2011)
"provision of loans, deposits and other banking products (mutual funds and other investment products, custodian services etc.) that would have *positive impact* on the environment"	(Zhelyazkova et al., 2015)
"financing activities by banking and non-banking financial institutions with an aim to *reduce* greenhouse gas emissions and increase the resilience of the society to negative climate change impacts while considering other *sustainable development goals*"	(Park et al., 2020)
"Green banking and green financial products stress on *environmental aspects*"	(Ahmed, 2012)

Note – Compiled by authors

According to researchers from Rocky Mountain Institute (Whitney et al., 2020), currently there are approximately 30 banks worldwide, which can be considered as full green finance institutions. The majority of green banks are either publicly owned or quasi-public, with only two private green banks. Commercial bank-

ing worldwide has also been following the global trend towards environmental consciousness. Banks establish separate green branches, open green windows, develop special policies, and create various green alternatives to their customary products.

Table 2. Popular green banking practices

Green banking practices	Description
Online banking (mobile, e-banking)	• reduce paper usage • decrease client visits to banks • paperless statements
Waste management	• recycle waste in offices
Green cards	• donate small percent from transactions to green funds • return cash bank on eco-friendly purchases
Green car loans	• offer lower interest rates, fees, or longer credit period on energy efficient transportation
Green mortgages	• offer lower interest rates, fees, increased loan amount, or longer credit period on green housing purchase/renovation
Green deposits	• used to invest in environmentally beneficial projects
Green project loans	• loans used exclusively to finance green projects

Note – Compiled by authors

Table 2 summarizes some prevalent green banking practices worldwide. Generally, green banking across different banks can be divided into two main categories: 1. Internal activities and 2. External activities.

1. Internal activities (also called "in-house" activities) can be defined as actions and initiatives promoting environmental consciousness within an organization;

2. External activities are the ones facilitating the use of green financial products and services by bank clients;

Internal activities refer to adjusting internal business processes in banks to reduce their negative impact on the environment and climate change. As banks are large-scale businesses with many branches and thousands of people employed, their everyday operations can have a significant carbon footprint. Thus, the environmental consciousness of the banking sector is a crucial step in the green transition process.

The scope of internal green banking activities can be extensive. Banks can start by reducing paper usage and moving to electronic format (e.g. online and mobile banking). Energy-efficient bulbs and waste recycling options can be installed in their office spaces. Mass transportation can be provided to their employers to CO2 emissions from personal cars.

However, we consider these as initial steps towards greening a bank. Many financial intermediaries abroad and in Kazakhstan have already established such kinds of green practices. At the next stage, banks should attempt to integrate green thinking into all of its business processes. Using green buildings as certified by LEED, contracting with environmentally responsible suppliers and donating to special Green funds are some examples of decisive actions qualifying as a green bank.

External green banking activities refer to offering and promoting specialized green financial products and services to their customers. Rakic et al. divide green banking into four categories (Rakic et al., 2012):

(i) Green retail banking
(ii) Green corporate banking
(iii) Green asset management
(iv) Green insurance

In retail banking, such financial products as green mortgages, green car loans, credit cards, are provided by green banks to their private customers. Bank clients can increase energy efficiency in housing, install solar panels, or switch to electric cars, thereby contributing to the climate change fight.

Regarding corporate banking, banks could engage by checking clients for environmental impact and financing green projects, offering green securitization and technology leasing. Eco funds and eco ETFs are examples of green asset management practiced by some foreign banks. Some banks also offer Green insurance for commercial buildings or automobiles for environment-friendly businesses.

Shaumya et al. (2016) propose another classification for green banking practices based on Freeman's stakeholder theory. According to their model of green banking, banks' "environmental consciousness" can be estimated on four dimensions, which are i) Employer-related; ii) Customer-related; iii) Daily Operations-related; or iv) Banks' policy-related practices (ibid.). Employer-related practices include promoting environmental education among bank workers or providing rewards for green behavior. Banks with customer-related green practices may offer green loans or green credit evaluations. Reducing paper usage, going online are examples of daily green operations. Banks' policy-related practices refer to incorporating green into their strategies and partnerships (ibid.). Comparing this framework with the internal/external division, we believe that green practices related to employers and daily operations can be regarded as internal activities, while customer and policy-related practices as external activities.

As green banking practices vary considerably, banks can be put on a scale of greenness to assess their involvement in the green transition. Below we propose a scale of green banking practices varying from "slightly green" to "fully green" labeling of banks (Figure 1). The bank could be considered as "slightly green" bank if it mainly engages in internal green banking activities, such as online/mobile banking, less paper usage, energy efficiency, etc. Given this limited scope of practices, the bank is at its early stage of green transformation. The bank is considered "more green" if its activities extend to contracting with green suppliers, exploiting green buildings, etc. This is usually the next stage of green development, when the bank incorporates green agenda in its business relations. However, for a bank to be identified as "fully green", it is essential that its financial products and services are compatible with sustainable growth: the bank offers such alternatives as green cards, green deposits or green loans to their customers. Thus, only at this stage of development the bank should be qualified as a green financial institution, when its major products reflect this green thinking.

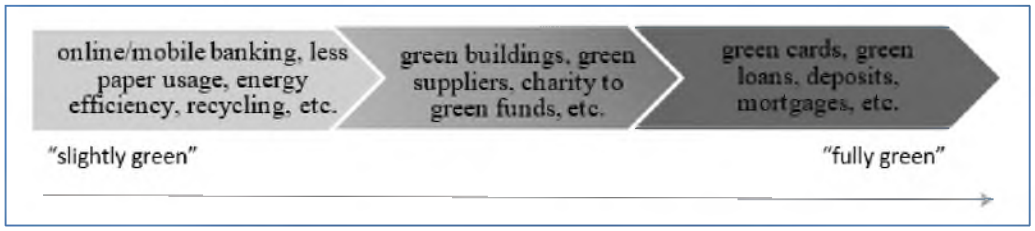

Figure 1. Scale of Green banking practices

Note – Compiled by authors

Discussions

Considering the worldwide developments, the United States of America can be regarded as one of the best practices in green banking. According to the 2021 U.S. Green bank Annual Industry Report, there were 21 green banks in the USA, which funded 7 billion USD of sustainable investment in 10 years (American Green bank consortium, 2021). The USA established separate green banks, such as Connecticut Green Bank (CT) and New York Green Bank (NY), which demonstrated significant achievements in climate change. The activities of CT Green bank allowed its customers to switch to solar energy sources, which would not have been approved by traditional banks due to income insufficiency and poor creditworthiness. As such, in 2018 CT bank also invested 2.8 million USD for NGOs as a part of the "Solar for all" program. NY green bank's investments in green infrastructure exceeded 110 million USD in the same year. (Green bank network, 2018).

Regarding green finance in Asian countries (e.g. Japan, Korea, China), we can see that the green bonds market is rapidly developing. For example, in 2013 the Export-import bank of Korea issued the first green bonds and collected half a billion USD (Volz, 2018). This was followed by the successful issuance of green securities in India, Singapore, and other countries in the region.

India, as one of the global leaders in renewable energy, has decided to launch "green windows" in traditional banks, which would provide funds for clean energy projects (Green bank network, 2018). Sharma et al. (2021) also note that most Indian banks engage with green product development, green corporate social responsibility, and green internal processes.

Green lending by banks in Asia is also increasing, compared to Kazakhstan. For instance, in 2016, Chinese Banks provided green credits for a total amount of 1.14 trillion USD, which constitutes 3.2% of total banking assets (Volz, 2018).

China (People's Bank) has been a role model in setting up necessary standards and regulations for the development of a green financial system. These include Green Credit Policy, Guidelines for Green Credits, Green Bond Issuance Guidelines, etc. Some of the measures offered by Green Policy Guidelines include flexible interest rates (lower rates for green and high rates for polluting projects) and restrictions on loans to polluting industries (Weber et al., 2016). As a part of climate change initiatives, Chinese commercial banks are attracted to increase investments in green projects, by mitigating risks and raising public confidence in green financial products.

Considering Kazakhstan, multilateral development banks are the major source of green finance in the region. Large international institutions such as the Eurasian Bank of Reconstruction and Development (EBRD) and the Asian Development Bank (ADB) are key players in facilitating green financial flows. EBRD is the largest investor with a total of 7.3 billion USD in investment in green projects. Through the program known as the "Green Economy Financing Facility", EBRD supports local green investments by providing lines to credit to financial institutions (Wright et al., 2018). Some of the well-known green beneficiaries are Kazakhstan's largest solar project – Burnoye Solar Plant and Yereymentau Wind Farm (World Bank Group, 2018). The Asian Development Bank (ADB, 2019) with the aim to assist Kazakhstan's climate change policy provides technical assistance and financing to the city of Nur-Sultan in water management and low-carbon projects.

Similar to other regions, green bonds are considered the main instrument of green finance in Kazakhstan (Kozlova et al., 2020). In the green bonds market, development banks are also playing a vital role. To date, three out of four successful green bond issuances were made by Asian Development Bank and Eurasian Development Bank. The funds raised by ADB and EDB constituted more than 90% of the total value of green bonds issued in Kazakhstan (AIFC, 2021).

AIFC Green Finance center pointed out that the banking sector has played a limited role in the green economic development of Kazakhstan (AIFC, 2018). There are two explanations: 1) shallowness of banking sector and 2) residual effects of financial crises. Nevertheless, the authors note that the appetite for green investment projects is increasing among local banks.

One example of the increasing involvement of second-tier banks in green finance is the implementation of ESG principles. As such, the largest Kazakhstani bank Halyk Bank was the first to start a publishing non-financial report on sustainable development. Furthermore, in 2021 the bank provided the first "green loan" fully compliant with principles of green lending. The green project for constructing of bio-electric power plant received a loan of 7.9 billion KZT (AIFC, 2021).

Summarizing the above discussion on worldwide green banking activities and putting on the proposed scale of greenness, fully green banks could be the ones situated in the United States of America and South-East Asian countries (China, Japan, India). In the CIS region and Kazakhstan in particular successful examples of fully green banks cannot be currently found.

Still the scale of green financial products and services offered by Kazakhstani banks remains inadequate. Apart from several examples of green bonds and loans discussed above, we do not see green mortgages, green insurance, green credit cards, green car loans offered to a wider public. Thus, Kazakhstani banks should more actively engage in transition to Green economy by improving its external green banking activities.

However, the success of greening the banking sector requires active government support. Bodies like AIFC GFC should be the leaders in the transformation of Kazakhstan's banks into green institutions. Zhagyparova et al. (2019) call for the need to create a green financial system with AIFC having a key role in mobilizing green funds. Setting up necessary legislation, showing the world's best practices, and educating bank staff are some examples of governments' active involvement.

Conclusions

The topic of green finance has gained interest from researchers worldwide. While green bonds and green loans are widely discussed in the literature, the greening of banking sector seems to be under-valued. Thus, the present article adds to existing literature on green banking.

Given the prominence of banking sector, the transition to Green economy requires active involvement of second-tier banks in green finance. Researchers point out that there has been increasing demand for green banking due to rising environmental awareness, consciousness, media coverage, and regulations (Rakic, n.d).

The authors present categorization of "green banking" based on definition and type of activities. Furthermore, we propose the scale of "bank greenness" as a useful tool to access the green bank transformation.

Thus, banks should transform their internal and external activities to be compliant with sustainable growth and be considered as full green institutions.

The present article discusses some available green banking practices worldwide and proposes to Kazakhstan to follow the global trends by extending the range of available green financial products and services (green loans, green mortgages, green cards, etc.). However, the government support in green transformation of the banking sector is essential.

References

American Green Bank Consortium (2021). Green Banks in the United States: 2021 U.S. Green Bank Annual Industry Report. Retrieved from: https://dcgreenbank.com/press/green-banks-in-the-united-states-2021-u-s-green-bank-industry-report/

Ahmed, S. U. (2012). *Green banking: Advancement and opportunities [Conference session].* KEIEI TO KEIZAI. https://ssrn.com/abstract=2342563

Agency for Regulation and Development of the Financial Market of the Republic of Kazakhstan (2020). CURRENT STATE OF THE BANKING SECTOR OF KAZAKHSTAN. Retrieved from https://finreg.kz/cont/%D0 %A2 %D0 %B5 %D0 %BA%D1 %83 %D1 %89 %D0 %B5 %D0

AIFC Green Finance Center About GFC. Gfc.aifc.kz. (2021). Retrieved from https://gfc.aifc.kz/about-gfc/.

AIX (2021). Retrieved from https://www.aix.kz/

Bolton, B. (2013). Corporate Social Responsibility and Bank Performance. *SSRN.* Retrieved from: https://papers.ssrn.com/sol3/papers.cfm? abstract_id=2277912

Biswas, N. (2011). Sustainable green banking approach: The Need of the hour. *Business Spectrum,* 1(1).

European Commission (2011). Global Green Economy. Special Issue. Science for Environment Policy. Retrieved from: https://ec.europa.eu/environment/integration/research/newsalert/pdf/25si_en.pdf.

Green Bank Network (2018). Green Banks Around the World: 2018 Year in Review. Retrieved from: https://greenbanknetwork.org/portfolio/2018-year-in-review/

Ibe-enwo, G., Igbudu, N., Garanti, Z., & Popoola, T. (2019). Assessing the Relevance of Green banking practice on Bank loyalty: the Mediating effect of Green Image and Bank Trust. *Sustainability*, 11(4651).

Kozlova, M., & Varavin, Y. (2020). Applicability of «Green» financing instruments in Kazakhstan while forming «green» clusters at the regional level. *54th International Scientific Conference on Economic and Social Development.* https://zbw.eu/econis-archiv/bitstream/11159/4504/1/Book_of_Proceedings_esdNovosibirsk2020_Online.pdf#page=359

Lalon, R. (2015). Green banking: Going green. *International Journal of Economics, Finance and Management Sciences,* 3(1), 34. https://doi.org/10.11648/j.ijefm.20150301.15

Mukhtarova, K., & Zhidebekkyzy, A. (2015). Development of Green Economy via Commercialization of Green Technologies: Experience of Kazakhstan. *The Journal Of Asian Finance, Economics And Business*, 2(4), 21–29. https://doi.org/10.13106/jafeb.2015.vol2.no4.21.

Nath, V., Nayak, N., & Goel, A. (2014). Green banking practices — a Review. *IMPACT: International Journal of Research in Business Management*, 2(4). https://ssrn.com/abstract=2425108

Park, H., & Kim, J. D. (2020). Transition towards green banking: Role of financial regulators and financial institutions. *Asian Journal of Sustainability and Social Responsibility,* 5(1). https://doi.org/10.1186/s41180–020–00034–3

Rakic, S., & Mitic, P. (2012). Green Banking -Green Financial Products with Special Emphasis on Retail Banking Products (2012). *Conference: CCEDEP — 2nd Climate Change, Economic Development, Enviromental and People Conference.*

Sharma, M., & Choubey, A. (2021). Green banking initiatives: a qualitative study on Indian banking sector. *Environment, Development and Sustainability,* (24), 293–319. https://doi.org/10.1007/s10668–021–01426–9

Shaumya, K., & Arulrajah, A. (2016). Measuring Green Banking Practices: Evidence from Sri Lanka. *13th International Conference on Business Management (ICBM),* https://ssrn.com/abstract=2909735

Volz, U. (2018). Fostering green finance for sustainable development in Asia. *Routledge Handbook of Banking and Finance in Asia,* 488–504. https://doi.org/10.4324/9781315543222–27

Weber, O., C.Hurst and Company (2016). The impact of green banking guidelines on the sustainability performance of banks: the Chinese case. CIGI Policy Brief, 79. *Open JSTOR Collection.* http://www.jstor.com/stable/resrep16160

Whitney, A., Grbusic, T., Meisel, J., Becerra Cid, A., Sims D., & Bodnar, P. (2020). State of Green Banks 2020. *Rocky Mountain Institute.*

Wright, H., Hawkins, J., Orozco, D., & Mabey, N. (2018). Banking on Reform: Aligning Development Banks with the Paris Agreement. E3G report. *Open JSTOR Collection.* Retrieved from https://www.jstor.org/stable/resrep17705.2

UN Environment program (n.d.). Retrieved from https://www.unep.org/

Zhagyparova, A., Sembiyeva, L., Takhanova, M., & Karpickaya, M. (2019). AIFC in the development of mechanisms of green financing for the modernization of the Kazakhstan economy. *Bulletin of National Academy of Sciences of the Republic of Kazakhstan*, 5(381), 191–198.

Zhelyazkova, V., & Kitanov, Y. (2015). Green banking — definition, scope and proposed business model. *Journal of International Scientific Publications. Ecology & Safety*, 9.

А.Б. Біржанова, А.М. Нұрғалиева

Әлемдегі жасыл банкинг тәжірибесі: Қазақстанның болашағы

Аңдатпа

Мақсаты: Мақала «жасыл банктер» тұжырымдамасын зерделеуге және Қазақстан Республикасына баса назар аудара отырып, жасыл банкинг саласындағы қазіргі әлемдік тәжірибелерге шолу жасауға бағытталған.

Әдісі: Мақалада сапалық зерттеу, яғни контент-талдама, абстрактілеу, салыстыру және жалпылау сияқты сапалық зерттеу әдістері қолданылған.

Қорытынды: Мақалада «жасыл банкинг» анықтамалары және жасыл банктік тәжірибелердің санаттары зерттелген. Сонымен қатар танымал ішкі және сыртқы жасыл банктік қызметтердің кейбірі талқыланған. Авторлар қазіргі уақытта банк секторын жасылдандырудың жаһандық үрдісі бар екенін анықтады. Дегенмен, қолжетімді жасыл банктік тәжірибелердің ауқымы әртүрлі елдер мен банктерде айтарлықтай өзгереді. Ұсынылған жасылдық шкаласы банктердің қызметін «аздап жасылдан» «толық жасыл банктерге» дейін бағалау үшін пайдаланылуы мүмкін.

Тұжырымдама: Жасыл облигациялар мен жасыл несиелер әдебиетте кеңінен талқыланғанымен, жасыл банкинг тақырыбы негізінен еленбейді. Қазақстан Республикасы жасыл экономикаға қадам басқандықтан, жасыл банкингтің келешегі де назардан тыс қалмауы керек. Тұрақты дамуға сәйкес болу үшін коммерциялық банктер ішкі және сыртқы жасыл банктік тәжірибеге қатысуы қажет. Мемлекеттік және жауапты ұйымдар (мысалы, АХҚО) жасылдандыру процесінде коммерциялық банктермен тығыз жұмыс істеуі керек.

Кілт сөздер: жасыл экономика, жасыл қаржыландыру, жасыл банкинг, тұрақты банк қызметі, жасыл облигациялар, жасыл несие, Қазақстан.

А.Б. Биржанова, А.М. Нургалиева

Мировые практики «зеленого» банкинга: перспективы для Казахстана

Аннотация:

Цель: Статья направлена на изучение концепции «зеленых» банков и обзор текущих мировых практик в области «зеленого» банкинга с акцентом на Республику Казахстан.

Методы: В статье использованы такие методы качественного исследования, как контент-анализ, абстрагирование, сравнение и обобщение.

Результаты: В статье исследованы определения «зеленого» банкинга и классификации практик «зеленого» банкинга. Обсуждены некоторые из популярных внутренних и внешних практик «зеленого» банкинга. Авторы выяснили, что в настоящее время наблюдается глобальная тенденция экологизации банковского сектора. Однако объем доступных практик «зеленого» банкинга значительно различается в разных странах. Авторы предлагают использование шкалы «степени озеленения» для оценки деятельности банков от «слегка зеленых» до «полностью зеленых» банков.

Выводы: В то время как «зеленые» облигации и «зеленые» кредиты широко обсуждаются в литературе, тема «зеленого» банкинга, в основном, игнорируется. Поскольку Республика Казахстан сделала шаг в сторону «зеленой» экономики, перспективами «зеленого» банкинга нельзя пренебрегать. Для соответствия принципам устойчивого развития, коммерческие банки должны использовать внутренние и внешние методы озеленения банка. Правительство вместе с ответственными организациями (например: МФЦА) должны тесно сотрудничать с коммерческими банками в процессе экологизации.

Ключевые слова: «зеленая» экономика, «зеленые» финансы, «зеленый» банкинг, устойчивое банковское дело, «зеленые» облигации, «зеленый» кредит, Казахстан.

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Opportunities and prospects of public-private partnership for technological development of mining and metallurgical complex enterprises of Kazakhstan

Abstract

Object: To determine the directions for the development of PPP tools in the field of financing innovative projects aimed at improving the manufacturability of MMC enterprises.

Methods: Statistical data processing, system, logical, analogies and modeling methods.

Results: It is possible to summarize a number of problematic issues in the development of public-private partnership (PPPs): insufficient growth rates in the dynamics of the number of PPP projects, their imbalances by industry branch, lack of effective projects in the real sector of the economy, non-effective selection mechanism, which negatively affects budgetary efficiency, fragmentation and ambiguity of the regulatory framework of the PPP mechanism and a number of others.

Conclusions: To increase the level of digitalization of the Mining and Metallurgical Complex of Kazakhstan, the institutional model of PPP was demonstrated by creating a single operator for the development and promotion of technologies Industry 4.0. It is necessary to expand the functionality of Zerde National Infocommunication Holding, the Alatau Information Technology Park special economic zone, and the Astana Hub International Technopark of IT startups. The state partner solves the problems of developing digital technologies through the development of cooperation among domestic and foreign IT companies, an important criterion for this task is the high competitiveness and commercialization of projects, as well as unification for implementation in the activities of MMC enterprises. At the stage of distribution of digital solutions, more emphasis should be placed on supporting industry associations: the mining and metallurgical complex, the IT sector. Increasing the institutional responsibility of these structures will reduce the risks of state participation, as well as increase the level of trust on the part of private business.

Keywords: PPP, concession, public investment, innovations, technological development of the MMC, digital technologies, PPP models, IT sector.

Introduction

Negative effects and consequences of COVID-19 formed an understanding of the need to strengthen the partnership between the state and business. Attracting investments in domestic metallurgy is considered as the most important source for creating a domestic competitive technical base for metallurgical production. In the period of exacerbation of financial and economic problems in the world metallurgy, an active search is being made for solutions that would allow business to continue the development of long-term projects. The state is forced to concentrate its efforts on finding new effective approaches to support the national producer. One of the possible options for the innovative development of MMC enterprises is the involvement of PPP mechanisms. In developed countries, PPP mechanisms have been actively used over the past years to create innovations in the field of technologies Industry 4.0, artificial intelligence, robotics, in areas requiring significant and long-term investments.

We suppose that to increase the level of digitalization of the MMC of Kazakhstan, a multi-level PPP model should be developed by creating a single operator for the development and promotion of Industry 4.0 technolo-

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gies. At the first level, an institutional infrastructure for the digitalization of Industry 4.0 technologies will be created. One of the criteria for competitiveness should be cooperation among domestic and foreign IT companies.

At the stage of implementation and diffusion of Industry 4.0 technologies, special attention should be paid to the technological features of production. The criterion of competitiveness can be the unification of digital products.

Literature Review

The issues of functioning and development of public-private partnership instruments are being studied by a number of foreign scientists (Casady et al., 2018, Villani et al., 2017, Hodge et al., 2011, Badasyan, & Riemann, 2020).

The apparition of this tool was preceded by a change in the policy of managing state property in the UK. In 1992, the government developed a private financial initiative (Private Finance Initiative). According to the PFI concept, the private investor bears the main risks, which ensures more efficient use of public resources (Volkov, 2018). Later on such mechanisms were developed not only in infrastructure projects, but in all areas where private initiatives are more effective than state ones, but, at the same time, a certain public goal was achieved (Tkachenko et al., 2014).

G. Hodge and C. Greve note that PPP is a legally executed agreement between the participants, which is a state institution, on the one hand, and a private enterprise, on the other. As a result of this agreement, the resources of both parties are effectively used to create the final product or service of social importance. In addition to the common use of resources, each party to the contract is jointly and severally liable for risks and returns (Hodge et al., 2011).

The publications of the influential rating agency Standard and Poor's PPP describe an agreement of medium or long duration between an economic entity and the state, which is characterized not only by the joint use of common resources, the division of income, but also by collective responsibility for all obligations, risks arising in the process of joint - local activities. The research of the American professor P. Rosenau is based on the fact that PPP formed as a symbiosis of the market and the state, capable of mitigating the weaknesses of one and the other side, and enhancing the advantages of each side, allowing the most efficient use of available resources and obtaining a synergistic positive effect (Rosenau, 2000).

The main advantage of using PPP is effective mutually beneficial cooperation between the state and economic entities in those sectors where the dominance of only private capital is impossible and the presence of the state is necessary here because of the social component, but the state cannot fully meet its obligations due to limited budget resources. Particularly relevant are projects in socially oriented areas, such as healthcare, education, energy, road infrastructure, housing and communal services, etc. A number of works are dedicated to these areas (Taubayev et al., 2018). These works establish a number of functions that a private investor can perform:

– Finance – financing or co-financing of the project;
– Design – project design, including infrastructure design and assistance model;
– Construction – construction or reconstruction of facilities included in the project;
– Maintenance – maintenance of hard infrastructure (facilities as well as equipment, if applicable);
– Operation – supply of related equipment, IT and management/delivery of services;
– Deliver – provision and management of certain clinical and clinical support services (Ho, 2006, Calabro et al., 2019, Samii et al., 2002).

Obtaining a multiple long-term effect from bilateral cooperation with mutual investment of resources is possible subject to compliance with all the principles and goals of PPP, which include open hearings and discussions of directions for investing and using PPP resources, the effectiveness and efficiency of partnerships, plans for long-term implementation, use of new, updated facilities, services, as well as the creation and implementation of projects in the following areas: management support, leasing, concession (this type is especially relevant for the Kazakh business community in the framework of cooperation in the field of PPP), "Design-Build-Operate-and Transfer" (DBOT; "Design development - construction - management – transfer"), "Build-and Transfer" (BT; "Build-transfer"), "Build-Operate-and Transfer" (BOT; "Build-management-transfer") (Riley et al., 2018,).

A much less developed issue is the possibility of using PPP tools for the innovative development of the real sector of the economy. In some scientific works, the limited use of PPP is justified by the increased risk of the timeliness of the return of investments directed to the implementation of various innovative projects (Efimov, 2016).

Methods

Determining the directions for the development of PPP tools in the field of financing innovative projects aimed at improving the manufacturability of MMC enterprises includes a set of methods, from which we selected a number of methods:

– methods of statistical data processing allowed to determine the current state of development of the PPP field in Kazakhstan;

– the system method, the logical method identified the current problems of innovative development of mining and metallurgical enterprises through public-private partnership;

– the method of analogies and modeling allowed developing an algorithm and a hierarchical model for managing and supporting PPP projects for the innovative development of the MMC.

Results

In the Republic of Kazakhstan, PPP mechanisms are at the beginning of their development. First of all, two main stages in the development of PPP mechanisms should be distinguished:

1) 2005–2013. With the adoption of the Law of the Republic of Kazakhstan "On Concession" in 2006, which defines the norms, principles and rules for the transfer of state property, the first three projects were implemented related to the development of transport and energy infrastructure (construction of the passenger terminal of the Aktau international airport, reconstruction of the railway road "Station Shar-Ust-Kamenogorsk", construction of a power transmission line "Northern Kazakhstan - Aktobe region"). At this stage, there were no more concession agreements. In 2008, JSC "Kazakhstan Center for Public-Private Partnership" was established under the Ministry of National Economy of the Republic of Kazakhstan;

2) 2014-to present time. In 2014, the Consultative Center for Public-Private Partnerships was established, later there were several reorganizations of the Center for Support of Public-Private Partnership Projects LLP, Kazakhstan Project Preparation Fund LLP, the main founder is Baiterek NMH JSC. This institutional framework was designed to accompany PPP projects at the national level. In 2015, the Law of the Republic of Kazakhstan "On public-private partnership" was adopted, which began to determine the forms of cooperation between the public partner and the private partner in the framework of PPP.

Further development of the relevant legal framework led to a number of recent amendments to the PPP Law, which have resulted in:

– Simplification of PPP planning by reducing the planning stages of PPP projects;

– Provision by the state partner of a long-term guarantee of sale/consumption;

– Development of standard documentation aimed at saving time for all parties involved;

– Launching a unified database of PPP projects.

According to the JSC "Kazakhstan Center for Public-Private Partnership" for the 16-year period from 2006 to 2022, the total number of projects amounted to 1366 units (Figure 1). From the above dynamics, it can be seen that the main development of PPP projects in Kazakhstan began only in 2017. At the same time, in the last year, there is again a sharp decrease, for six months of 2022, only 3 projects have been developed.

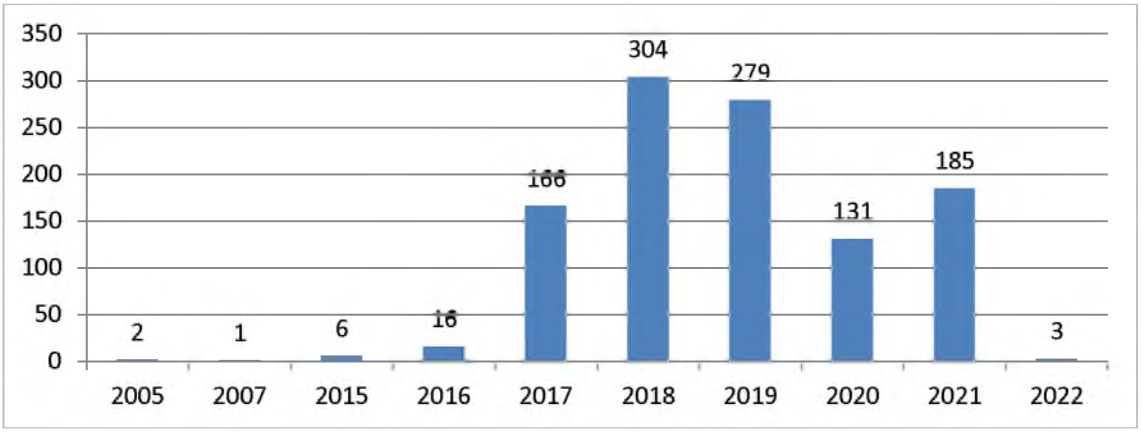

Figure 1. Number of PPP projects in the Republic of Kazakhstan

Note – Compiled by authors based on data from (Kazakhstan Public-Private Partnership Center, 2022)

As can be seen from Figure 2, 814 PPP projects (60%) are under implementation. Of these, 590 projects (72.5%) have been put into operation, 55 projects (6.8%) are at the stage of financial closure, 90 projects (11.1%) are at the stage of construction and obtaining permits.

139 projects (10.2%) are at the planning stage, 81 projects (5.9%) are at the stage of concluding contracts, contracts for 72 projects (5.3%) have been terminated, for 49 projects (3.6%) no competition took place, only for 211 projects the contract is considered to be implemented.

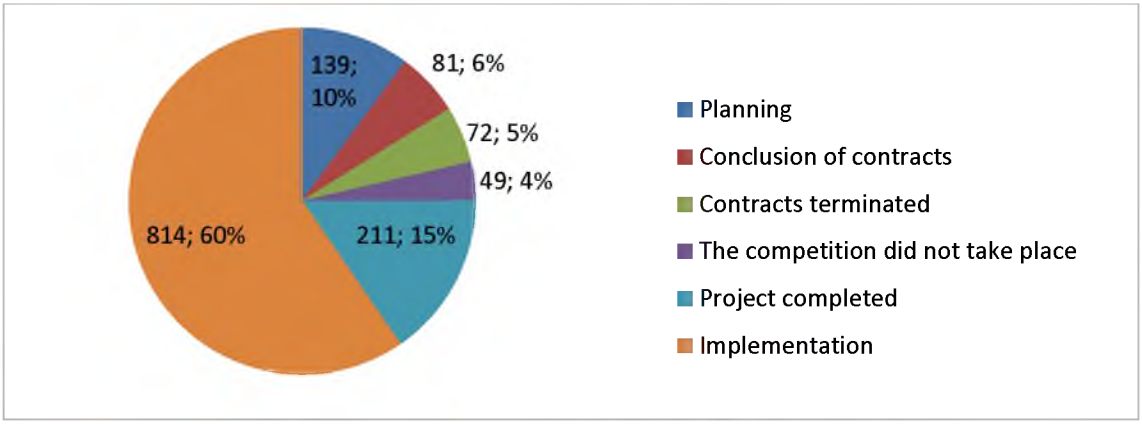

Figure 2. Structure of PPP projects by stages of implementation

Note – Compiled by authors based on data from (Kazakhstan Public-Private Partnership Center, 2022)

In addition, it should be noted that local executive bodies act as state partners. Most of the projects - 97% - are implemented at the local level (Figure 3).

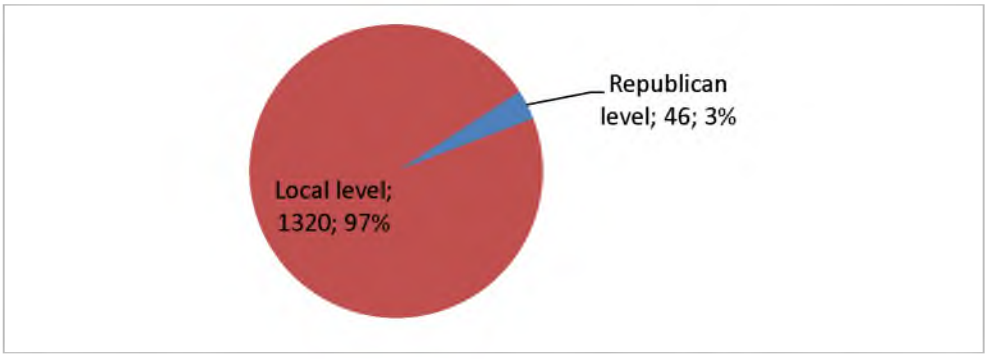

Figure 3. Structure of PPP projects by level

Note – Compiled by authors based on data from (Kazakhstan Public-Private Partnership Center, 2022)

For the entire period of implementation of PPP mechanisms at the republican level, 46 projects were considered, of which 21 projects are at the planning stage. In the field of digital technology development, the following should be noted:

– Determination of the organization that maintains the information system for tracking the movement of vehicles specializing in the removal of waste, according to satellite navigation systems;

– Implementation, maintenance, and development of an information system for centralized collection and storage of electronic information resources in the field of housing relations and housing and communal services;

– Implementation and adaptation of an information system for paperless document management in the field of air cargo transportation (e-Freight);

– Creation and implementation of an automated system for collecting data on air passengers;

– Creation, implementation, and maintenance of the automated information system of the electronic journal "Kundelik";

– Providing broadband access to rural settlements of the Republic of Kazakhstan using the technology of fiber-optic communication lines;

– Creation, implementation and operation of a hardware-software complex (hereinafter referred to as HSC), designed to automate the return of part of the money spent for all segments of the population in the form of a fiscal bonus (cashback) from the state and a commercial bonus (cashback) from manufacturers/importers of goods from the amount purchases reflected in fiscal receipts, regardless of the method of payment;

– Implementation and adaptation of a digital profile based on biometric identification;

– Implementation and operation of a computer program to ensure the functioning of the rate accounting center;

– Creation of a unified automated system for registering mobile devices using IMEI codes;

– National Spatial Data Infrastructure of the Republic of Kazakhstan (NSDI);

– Development and implementation of a universal payment system for instant payments;

– Implementation and operation of the electronic queue system at the cross-border points of the Republic of Kazakhstan;

– Implementation of the Horizontal Monitoring Platform;

– Creation and implementation of an analytical trading platform;

– A platform for the protection of consumer rights through the involvement of citizens, business representatives, pre-trial authorities and the state to improve the market situation and the quality of life of consumers.

It is impossible to assess the effectiveness of PPP projects, since the projects are at the planning and implementation stages, however, the first steps in the development of digital technologies through public-private partnerships have already been made.

If we consider the sectoral structure of PPP projects in more detail, we can conclude that the use of public-private partnership mechanisms is socially oriented.

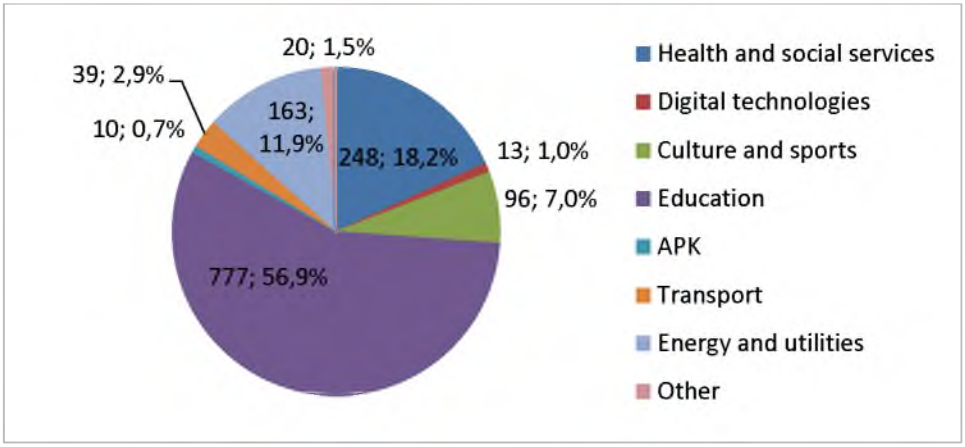

Figure 4. Sectoral structure of PPP projects

Note – Compiled by authors based on data from (Kazakhstan Public-Private Partnership Center, 2022)

57% of all projects were implemented in the educational sector, in most cases, it is the provision of catering services in children's or school institutions. The second most important sector in terms of the prevalence of PPP projects is healthcare - 248 projects (18%), here projects are mainly implemented to expand the network of hospitals, medical-obstetric stations, medical outpatient clinics, etc. 163 projects (12%) PPPs are implemented in the housing and communal services and energy, projects are aimed at improving engineering and technical networks (lighting, heating, landscaping, etc.). 96 projects (7%) are implemented in the field of culture and sports, mainly the construction and operation of sports facilities. These areas account for 94% of all PPP projects.

Discussions

In general, it should be noted that the regulation of PPP in Kazakhstan reflects accepted international standards. PPP has the following exceptional features:

– Relationships between public and private partners are established by concluding an agreement on PPP;

– The PPP project is designed for the medium or long term, from three to 30 years, depending on the specifics of the project;

– Joint participation of the public and the private partner in the implementation of the PPP project;

– Consolidation of resources of public and private partners for the implementation of the PPP project;

– Risks are shared among the parties depending on which party is in the best position to manage risk at a lower cost.

At the legislative level, there are four main goals of PPP:

1) to maintain sustainable socio-economic development of the country, the formation of prerequisites for increasing the effectiveness of partnerships between private capital and the state structure;

2) increasing the investment attractiveness of sectors of the economy, especially social and infrastructure facilities of the country, through the joint effective use of resources of private business and the state;

3) development of a client-oriented approach in the provision of services and production of goods to the population, improving the quality and availability;

4) increase the overall innovation activity in the country, including the promotion of high-tech and knowledge-intensive industrial development.

According to the current legislation, PPP is applied in an institutional format by creating a joint venture, as well as in a contact format by concluding a PPP agreement (concession, trust management agreement, leasing, service contract, R&D agreement, life cycle contract). Of the total number of PPP contracts, service contracts are the most widespread - 36% (494 projects), its specificity is the modernization and maintenance of a certain type of equipment. 26% of all PPP projects (355 units) have standard PPP agreements, 16% of PPP projects (209 units) are implemented through trust management agreements. PPP directions in relation to the development of R&D, life cycle contracts, equipment leasing are unpopular.

Judging by the sectoral structure of PPP projects, it can be concluded that public-private partnerships in the real sector of the economy are not developed, the goal of PPP to assist in the innovative development of the economy of Kazakhstan has not been achieved.

In addition, the analysis of the practice of applying PPP mechanisms revealed the following problems: The selection mechanism is not clearly applied, not all projects are budget-efficient, which leads to an increase in government obligations. Some PPP projects are implemented only at the expense of the local budget, the state has only obligations without private investment. This is reflected in the ratio of attracting private and public investments, if in world practice the normal level of the ratio is 3 to 1, in Kazakhstan it is 1.5 tenge of private investment to 1 tenge of state.

An analysis of the development of the metallurgical industry in Kazakhstan showed that the expansion of the freedom of action of economic entities is one of the most important, but not the only factors in the functioning of the mechanism of effective market interaction. Today, the state does not have effective mechanisms for the innovation and technological development of the MMC. The main reason for this situation is the moral obsolescence of production capacities and the change in the structure of demand for metal products, which requires innovative modernization of technologies. Metallurgists need large-scale investments to implement new projects.

When developing a new PPP model in an enterprise, the following criteria should be taken into account:

– obtaining by the enterprise the greatest profit on invested capital at minimum investment costs;

– achievement of economic, scientific, technical, and social effect from the activities under consideration - for each investment object, specific methods of evaluating efficiency are used, and then those projects are selected so that, all other things being equal, provide the enterprise with the maximum investment efficiency;

– ensuring the liquidity of investments;

– compliance with the state priorities for the development of the economy as a whole;

– rational use of funds for the implementation of environmental projects;

– minimization of investment risks associated with the implementation of specific projects.

Considering the complexity of the problems being solved in the metallurgical industry, their wide range, close connection with the globalization of the economy, the stimulation of new metallurgical industries should be based primarily on digital management methods, provide conditions for the economic interest of metallurgical enterprises for the development of 4-5 stages.

For the effective introduction of digital technologies in the real sector of the economy, it is necessary to develop an institutional public-private partnership, this will allow to implement the principle of a single operator. JSC National Infocommunication Holding Zerde, the Ministry of Information and Social Development of the Republic of Kazakhstan can become the state partner of this PPP model (Figure 5).

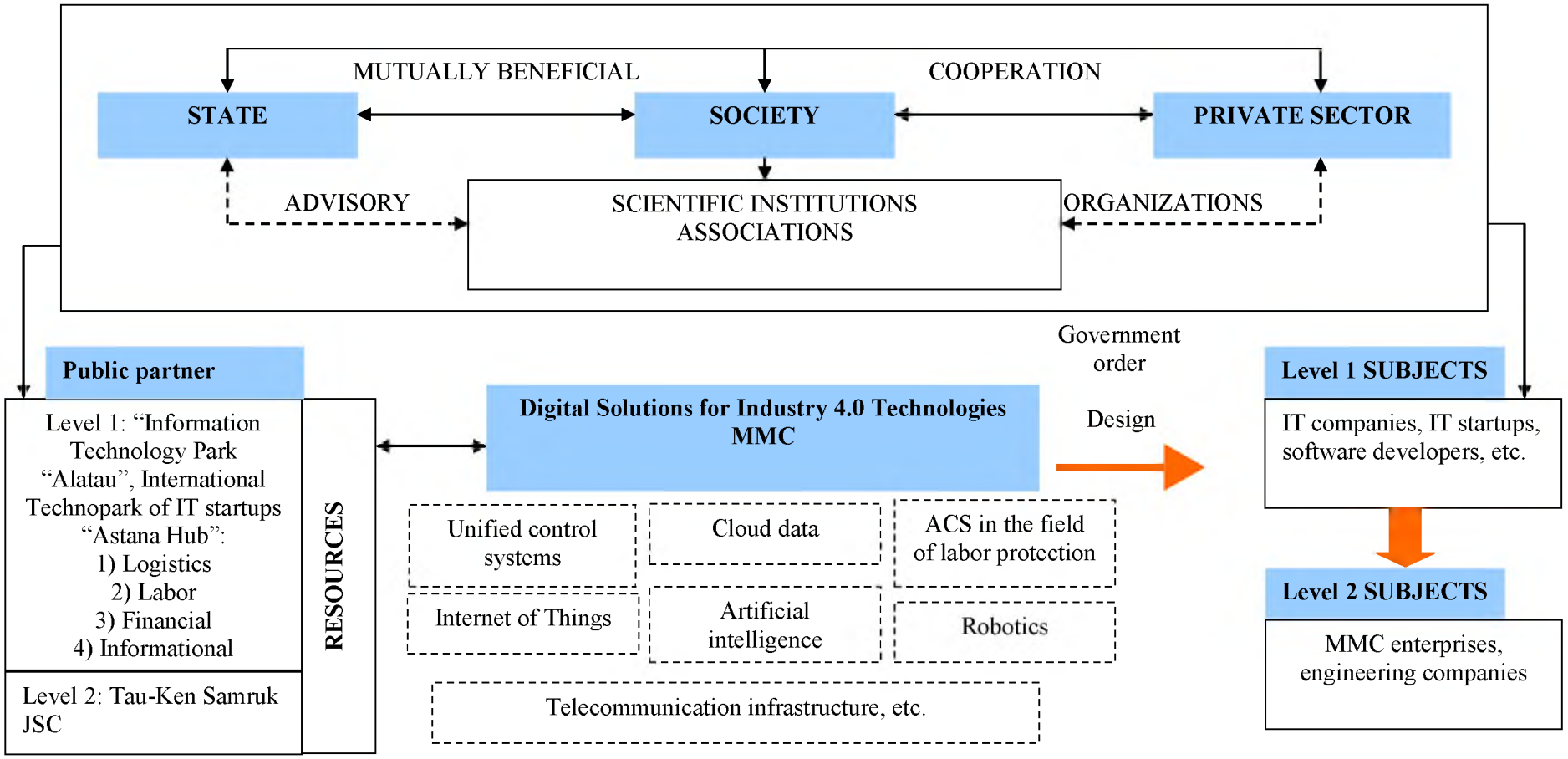

Figure 5. Two-level model of the PPP mechanism in the mining and metallurgical complex

Note – Compiled by authors

At this level, the main contract of the PPP mechanism should be R&D contracts aimed at the development of digital technologies, the creation of samples, the state order, and the order for design. The special economic zone "Park of information technologies "Alatau" and the international technopark of IT start-ups "Astana Hub" can serve as an innovative infrastructure and platform for the implementation of digital technologies and solutions. IT companies, venture companies, business agents can become private partners. The main state goal of applying the SDP is the innovative development of the MMC through the introduction of Industry 4.0 technologies. The goal of innovative entrepreneurship is to maximize profits through the commercialization of research results.

Information management and control systems have been introduced at all MMC enterprises in Kazakhstan, domestic IT companies should develop digital solutions for the compatibility of existing systems and the developed Industry 4.0 technologies, aimed primarily at improving the efficiency of control and monitoring operations, financial, economic and marketing aspects of activity. Particular attention should be paid to improving labor safety in the mining industry through digital technologies.

At the stage of implementation and diffusion of Industry 4.0 technologies, the Ministry of National Economy of the Republic of Kazakhstan, the National Mining Company Tau-Ken Samruk can become a state partner. The most suitable forms of PPP are DBOT ("Design-Build-Operate-Transfer"; "Design of digital applications - construction - management – transfer"), BT ("Build-Transfer"; "Build-transfer"), BOT ("Build-Operate-Transfer"; "Build-Control-Transfer").

World experience has identified the main factors for a successful public-private partnership:

1) joint financing of projects for the digitalization of the mining and metallurgical complex with a mandatory predominant share of the private partner;

2) gradual expansion of the functionality of the national innovation infrastructure based on the diffusion of improving innovations of individual MMC enterprises;

3) increasing the level of trust in venture projects. Creation of a mechanism for guaranteeing venture investment, creating preferences and benefits for venture companies;

4) diversification of state support to reduce the risks of state partners;

5) development of non-financial instruments of state support for innovative projects (training of personnel, advisory services for support, services for the protection of intellectual property, etc.) (Leigland et al., 2018, Frolov, 2021, Liang et al., 2018).

Conclusions

At present, the role of the state should be strengthened as a guarantor of maintaining a favorable and predictable regulatory regime for the economic activity of the MMC; one of the possible directions is the development of PPP mechanisms. It is necessary to ensure the openness and predictability of the state investment policy, to stimulate the attraction of capital from the non-state sector to solve the priority tasks of the development of metallurgy.

The following directions are proposed to improve the efficiency of the application of the PPP mechanism in relation to innovative digitalization projects and the development of Industry 4.0 technologies:

1. Unification of the provisions of the Laws of the Republic of Kazakhstan "On Concession" and "On Public-Private Partnership". These laws, in fact, are aimed at regulating provisions in one area - PPP, however, there are discrepancies in certain articles and provisions relating to concession agreements.

2. Development of the principles of cooperation in the system of initiation and development of digital applications and technologies. The concept of "coopetition" comes from the merger of the two words collaboration and competition. This phenomenon is first described in the competitive struggle of digital magnates: Apple, Microsoft, Intel. It is in the case of the development of digital technologies that require a certain unification that a certain environment is created, implying simultaneous cooperation and competition.

3. Expansion of the network of business intermediaries, business partners in the information and communication area, consolidation of their efforts in the development of unified digital solutions for mining and metallurgical enterprises.

4. Development of a mechanism for state support of MMC and ICT associations, instead of individual mining and metallurgical enterprises of small and medium-sized businesses, which will allow a comprehensive approach to the problems of digitalization of the industry and the development of Industry 4.0 technologies.

5. Creation of an institutional environment for a single digital platform for MMC enterprises in relation to Big-Data, cloud storage in the field of operational control, marketing, international trade, and other activities of the MMC, which will ensure the correct and efficient functioning of public-private partnership mechanisms.

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References

Badasyan, N., & Riemann, A. (2020). Current Status of Public–Private Partnership Research: Academia Fails to Provide Added Value for Industry. *Journal of Infrastructure Systems, 26(1).* https://doi.org/10.1061/(asce)is.1943–555x.0000508

Calabro, F., & Della Spina, L. (2019). The Public–Private Partnership for the Enhancement of Unused Public Buildings: An Experimental Model of Economic Feasibility Project. *Sustainability, 11(20).* https://doi.org/10.3390/su11205662

Casady, C.B., Eriksson, K., Levitt, R.E., & Scott, W.R. (2018). Theorizing Public-Private Partnership Success: A Market-Based Alternative to Government? *The Engineering Project Organization Journal, 8.* https://doi.org/10.25219/epoj.2018.00109

Ho, S.P. (2006). Model for Financial Renegotiation in Public-Private Partnership Projects and Its Policy Implications: Game Theoretic View. *Journal of Construction Engineering and Management, 7 (132), 678–688.* https://doi.org/10.1061/(asce)0733–9364(2006)132:7(678)

Hodge, G., & Greve, C. (2011). Theorizing Public-Private Partnership Success: A Market-Based Alternative to Government? *Public Management Research Conference at Syracuse University,* Syracuse, NY, USA.

Leigland, J. (2018). Public-Private Partnerships in Developing Countries: The Emerging Evidence-based Critique. *The World Bank Research Observer, 33(1),* 103–134. https://doi.org/10.1093/wbro/lkx008

Liang, R., Wu, C., Sheng, Z., & Wang, X. (2018). Multi-Criterion Two-Sided Matching of Public–Private Partnership Infrastructure Projects: Criteria and Methods. *Sustainability, 10(4).* https://doi.org/10.3390/su10041178

Samii, R., Van Wassenhove, L.N., & Bhattacharya, S. (2002). An Innovative Public–Private Partnership: New Approach to Development. *World Development, 30(6),* 991–1008. https://doi.org/10.1016/s0305–750x (02)00015–3

Riley, J.H., Erpenbeck, V.J., Matthews, J.G., Holweg, C.T.J., Compton, C., Seibold, W., Higgenbottam, T., Wagers, S., Rowe, A., & Myles, D. (2018). U-BIOPRED: evaluation of the value of a public–private partnership to industry. *Drug Discovery Today.* https://doi.org/10.1016/j.drudis.2018.06.015

Rosenau, P. (2000). Public–Private policy partnerships. Cambridge, MA: MIT press.

Taubayev, A., Kuttybai, M., Saifullina, Yu., Borisova, E., & Kabdybay, A. (2018). Public-private partnership development in Kazakhstan: a case study based on international benchmarking. *Economic Annals-XXI, 174(11–12),* 51–57. https://doi.org/10.21003/ea.V174–08

Villani, E., Greco, L., & Phillips, N. (2017). Understanding value creation in public-private partnerships: A comparative case study. *Journal of Management Studies, 6,* 876–905. https://doi.org/10.1111/joms.12270

Volkov, L.V. (2018). Zarubezhnaia praktika gosudarstvenno-chastnogo polzovaniia [Foreign practice of public-private use]. *Gumanitarnye, sotsialno-ekonomicheskie i obshchestvennye nauki – Humanitarian, socio-economic and social sciences, 4* [in Russian].

Efimov, V.I., Popov, S.M., & Fedyaev, P.M. (2016). Puti resheniia problem vzaimodeistviia gosudarstva i gornodobyvaiushchego biznesa pri vnedrenii innovatsionnykh ekologicheskikh tekhnologii v krizisnykh usloviiakh [Ways to solve the problems of interaction between the state and the mining business in the implementation of innovative environmental technologies in crisis conditions]. Izvestiia Tulskogo gosudarstvennogo universiteta. Nauki o Zemle – News of the Tula State University. *Earth Sciences, 4,* 24–29 [in Russian].

Tkachenko, I.N., Savchenko, Ya.V., & Evseeva, M.V. (2014). Metodologiia otbora i otsenki effektivnosti proektov gosudarstvenno-chastnogo partnerstva s uchetom interesov steikkholderov [Methodology for selecting and evaluating the effectiveness of public-private partnership projects, taking into account the interests of stakeholders]. Diskussiya – Discussion, 8 (49), 81–89 [in Russian].

Frolov, A.V. (2021). Tekhnologicheskie gosudarstvenno-chastnye partnerstva: primer i opyt Yevropy [Technological public-private partnerships: the example and experience of Europe]. Vestnik Moskovskogo universiteta imeni S.Yu. Vitte – Bulletin of the Moscow University named after S.Yu. Witte. *Series 1: Economics and Management, 4 (39),* 58–67 [in Russian].

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Қазақстанның ТМК кәсіпорындарының технологиялық дамуы үшін мемлекеттік-жекеменшік әріптестіктің мүмкіндіктері

Аңдатпа

Мақсаты: ТМК кәсіпорындарының өндірістік қабілеттілігін арттыруға бағытталған инновациялық жобаларды қаржыландыру саласында МЖӘ құралдарын дамыту бағыттарын анықтау.

Әдісі: Зерттеуді жүргізу кезінде статистикалық мәліметтерді өңдеу әдістері, жүйелік әдіс, логикалық әдіс, аналогия және модельдеу әдісі қолданылды.

Нәтижелері: МЖӘ дамытудың бірқатар проблемалық мәселелерін қорытындылауға болады: МЖӘ жобалары санының динамикасының өсу қарқынының жеткіліксіздігі, олардың салалық теңгерімсіздігі, экономиканың нақты секторында тиімді жобалардың болмауы, іріктеу механизмінің жеткіліксіз тиімділігі, бюджеттік тиімділікке, МЖӘ тетігінің нормативтік-құқықтық базасының бытыраңқылығы мен анық еместігіне және бірқатар басқаларына теріс әсер етеді.

Қорытындылар: Қазақстанның тау-кен металлургиялық кешенін цифрландыру деңгейін арттыру үшін Индустрия 4.0 технологияларын дамыту және ілгерілету бойынша бірыңғай операторды құру арқылы МЖӘ институционалдық моделі негізделді. «Зерде» ұлттық инфокоммуникациялық холдингі» АҚ, «Алатау» ақпараттық технологиялар паркі» АЭА, «Astana Hub» IT-стартаптар халықаралық технопаркінің функционалдығын кеңейту қажет. Мемлекеттік серіктес цифрлық технологияларды дамыту мәселелерін отандық және шетелдік IT-компаниялар арасындағы ынтымақтастықты дамыту арқылы шешеді. Бұл тапсырманың маңызды критерийі әзірлемелердің жоғары бәсекеге қабілеттілігі мен коммерцияландыру, сондай-ақ ТМК кәсіпорындарының қызметіне енгізу үшін біріздендіру болып табылады. Цифрлық шешімдерді тарату кезеңінде салалық бірлестіктерді: тау-кен металлургия кешенін, IT секторын қолдауға көбірек назар аудару керек. Бұл құрылымдардың институционалдық жауапкершілігін арттыру мемлекеттің қатысу тәуекелдерін азайтады, сондай-ақ жеке бизнес тарапынан сенім деңгейін арттырады.

Кілт сөздер: мемлекеттік-жекеменшік әріптестік, концессия, мемлекеттік инвестициялар, инновациялар, ТМК технологиялық дамуы, цифрлық технологиялар, МЖӘ үлгілері, IT секторы.

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Возможности и перспективы государственно-частного партнерства для технологического развития предприятий ГМК Казахстана

Аннотация:

Цель: Заключается в определении направлений развития инструментов ГЧП в области финансирования инновационных проектов, направленных на повышение технологичности предприятий ГМК.

Метод: При проведении исследования использованы методы статистической обработки данных, системный метод, логический метод, метод аналогий и моделирования.

Результаты: Можно обобщить ряд проблемных вопросов развития ГЧП: недостаточные темпы роста в динамике количества проектов ГЧП, их отраслевые диспропорции, отсутствие действенных проектов в реальном секторе экономики, недостаточно эффективный механизм отбора, что негативно отражается на бюджетной эффективности, фрагментарность и неоднозначность нормативно-правовой базы механизма ГЧП и ряд других.

Выводы: Для повышения уровня цифровизации ГМК Казахстана обоснована институциональная модель ГЧП путем создания единого оператора разработки и продвижения технологий Индустрии 4.0. Следует расширить функциональные возможности АО «Национальный инфокоммуникационный холдинг "Зерде"», СЭЗ «Парк информационных технологий "Алатау"», международного технопарка IT-стартапов «Astana Hub». Государственный партнер решает задачи разработки цифровых технологий за счет развития кооперации среди отечественных и иностранных IT-компаний. Важным критерием данной задачи является высокая конкурентоспособность и коммерциализуемость разработок, а также унификация для внедрения в деятельность предприятий ГМК. На этапе распространения цифровых решений больший упор следует сделать на поддержку отраслевых ассоциаций: ГМК, IT-сектора. Повышение институциональной ответственности данных структур позволит снизить риски государственного участия, а также повысить уровень доверия со стороны частного бизнеса.

Ключевые слова: ГЧП, концессия, государственные инвестиции, инновации, технологическое развитие ГМК, цифровые технологии, модели ГЧП, IT-сектор.

References

Badasyan N. Current Status of Public–Private Partnership Research: Academia Fails to Provide Added Value for Industry / N. Badasyan, A. Riemann // Journal of Infrastructure Systems. — 2020. — 26(1). DOI:10.1061/(asce)is.1943–555x.0000508.

Calabro F. The Public–Private Partnership for the Enhancement of Unused Public Buildings: An Experimental Model of Economic Feasibility Project / F. Calabro, L. Spina Della // Sustainability. — 2019. — 11(20). DOI:10.3390/su11205662.

Casady C.B. Public-Private Partnership Success: A Market-Based Alternative to Government? / C.B. Casady, K. Eriksson, R.E. Levitt, W.R. Scott // The Engineering Project Organization Journal. — 2018. — No. 8. DOI: 10.25219/epoj.2018.00109.

Ho S.P. Model for Financial Renegotiation in Public-Private Partnership Projects and Its Policy Implications: Game Theoretic View / S.P. Ho // Journal of Construction Engineering and Management. — 2006. — No. 7 (132). — P. 678–688. DOI:10.1061/(asce)0733–9364(2006)132:7(678)

Hodge G. Theorizing Public-Private Partnership Success: A Market-Based Alternative to Government? / G. Hodge, C. Greve // Public Management Research Conference at Syracuse University 2–4 June 2011, Syracuse, NY, USA.

Leigland J. Public-Private Partnerships in Developing Countries: The Emerging Evidence-based Critique / J. Ligland // The World Bank Research Observer. — 2018. — 33(1). — P. 103–134. DOI:10.1093/wbro/lkx008

Liang R. Multi-Criterion Two-Sided Matching of Public–Private Partnership Infrastructure Projects: Criteria and Methods / R. Liang, C. Wu, Z. Sheng, X. Wang // Sustainability. — 2018. — No. 10(4). DOI:10.3390/su10041178

Samii R. An Innovative Public–Private Partnership: New Approach to Development / R. Samii, L.N. Wassenhove, S. Bhattacharya // World Development. — 2002. — 30(6). — P. 991–1008. DOI:10.1016/s0305–750x (02)00015–3

Riley J.H. U-BIOPRED: evaluation of the value of a public–private partnership to industry / J.H. Riley, V.J. Erpenbeck, J.G. Matthews, C.T.J. Holweg, C. Compton, W. Seibold, T. Higgenbottam, S. Wagers, A. Rowe, D. Myles // Drug Discovery Today. — 2018. DOI:10.1016/j.drudis.2018.06.015

Rosenau P. Public–Private policy partnerships / P. Rosenau // Cambridge, MA: MIT press, 2000.

Taubayev A. Public-private partnership development in Kazakhstan: a case study based on international benchmarking / A. Taubayev, M. Kuttybai, Yu. Saifullina, E. Borisova, A. Kabdybay // Economic Annals-XXI, 2018. — No. 174(11–12). — P. 51–57. DOI: https://doi.org/10.21003/ea.V174–08

Villani E. Understanding value creation in public-private partnerships: A comparative case study / E. Villani, L. Greco, N. Phillips // Journal of Management Studies. — 2017. — Vol. 54. — No. 6. — P. 876–905. DOI: 10.1111/joms.12270

Волков Л.В. Зарубежная практика государственно-частного пользования / Л.В. Волков // Гуманитарные, социально-экономические и общественные науки. — 2018. — № 4.

Ефимов В.И. Пути решения проблем взаимодействия государства и горнодобывающего бизнеса при внедрении инновационных экологических технологий в кризисных условиях / В.И. Ефимов, С.М. Попов, П.М. Федяев // Изв. Тульского гос. ун-та. Науки о Земле. — 2016. — № 4. — С. 24–29.

Ткаченко И.Н. Методология отбора и оценки эффективности проектов государственно-частного партнерства с учетом интересов стейкхолдеров / И.Н. Ткаченко, Я.В. Савченко, М.В. Евсеева // Дискуссия. — 2014. — № 8 (49). — С. 81–89.

Фролов А.В. Технологические государственно-частные партнерства: пример и опыт Европы / А.В. Фролов // Вестн. Моск. ун-та им.С.Ю. Витте. Сер.1: Экономика и управление. — 2021. — № 4 (39). — С. 58–67.

Kazakhstan Public-Private Partnership Center (2022). https://kzppp.kz/projects.

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The efficiency of the agricultural economy digitalization

Abstract

Object: Based on the analysis of the current economic state of agricultural development in the country and the level of use of digital factors, the degree of influence of the processes of agriculture digitalization on its efficiency was determined, the main problems of their implementation and development were assessed.

Methods: Economic and statistical methods: comparison and correlation methods, logical and analytical methods.

Results: An assessment of the main indicators development level of the country's agricultural activity, as well as the digital factors use level were given. Using correlation analysis methods, the degree of connection between the parameters of agriculture and the industry digitalization level was determined, a regression model was compiled with a predictive estimate of the next year parameters. Specific examples of the digital technologies use and the main problems in this area were considered.

Conclusions: The study showed that the digital factors used in the country have a positive effect on agricultural performance indicators and have a high impact potential. However, currently in our country, it is insignificant, hardly noticeable and this process is not systematic, fragmented in terms of geography of application.

Keywords: digitalization, agriculture, efficiency, digital technologies, correlation, precision farming, digital factors.

Introduction

Digitalization in agriculture is the implementation of a set of measures aimed at automating all stages of the processing of farm products with the participation of stakeholder organizations and administrations. There related to value increase and development of the agricultural industry. Digitalization makes it possible to monitor and supervise the entire life cycle of agricultural products, and quantitative and qualitative assessment of production, and costs. The introduction of traceability and transparency systems ensures a direct focus on a specific market to attract investments in the industry and to create an export-oriented range of agricultural products, to do a quality evaluation of agricultural production. The introduction of comprehensive control using supervisory systems will increase the quality standards of the products of the agro-industrial complex and thereby have a synergistic effect to increase the competitiveness of Kazakhstani agricultural products in foreign markets. To introduce the process of "precision farming" on a number of farms, a pilot project is being implemented using meteorological stations. Based on the pilot project results, the cost-effectiveness of the widespread use of "real farming" will be determined.

Literature Review

Against the backdrop of the rapid development of digital technologies in almost all areas of human activity, there is currently a rapid growth of scientific research and publications in the field of digitalization of the economy of rural areas. In this area, one can name the works of such Kazakhstani scientists as Ahmet D.M., Bukatov S. such Russian researchers as Trufljak E.V., Kurchenko N.U., Magomedov A.M. as well as foreign scientists Benyam A.A., Debauche O., Hafeez A., Jerhamre E., Jones J.W., Mishra S.K., Namani S. They considered the theoretical and methodological aspects of the use of digital technologies in rural areas. At the same time, they tried to show the high importance of digital factors, and also paid great attention to the evolution of the digitalization process of the agro-industrial complex.

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Most of the current research is aimed at characterizing new farming methods, such as "smart farms" (Jerhamre, Carlberg, & van Zoest, 2022), "cloud technologies" (Debauche et al., 2021; Hafeez et al., 2022), "precision farming" (Jones et al., 2017; Benyam, Soma, & Fraser, 2021; Odintsov Vaintrub et al., 2021), etc., while these studies are mostly descriptive, indicating how these technologies work, what are their benefits and areas of application. Nevertheless, in our opinion, these works poorly describe the opportunities and currently existing barriers in the countryside for the introduction of these technologies for a specific production. Thus, despite the relatively large number of scientific publications and publications related to the digitalization of agriculture in recent years, some issues that have not been studied sufficiently. These include issues related to determining the quantitative dependencies of digital factors and performance indicators of rural enterprises, as well as assessing the correspondence between the impact potential of these technologies and the possibilities of their implementation in rural areas in specific economic conditions (Namani & Gonen, 2020). This justifies the relevance of the chosen research topic.

Methods

Since agriculture is one of the most important sectors of the economy of Kazakhstan, contributing to the growth of the country's economy, ensuring food and economic security, as well as the labor potential of the state, especially in rural areas, it becomes necessary to address the above issues. Covering 1/10 of the country's GDP, whose products account for more than 50% of all trade in goods, it has a great impact on improving the well-being of the population. The sector is of great importance for our country as well. Despite the positive dynamics of the agricultural industry, the volume of gross production has a gap between the growth rate of consumption and the income of the population and maintaining a low level of labor intensity and competitiveness of agricultural products does not allow increasing production volumes. This leads to the import of products to the domestic market of Kazakhstan. At the same time, Kazakhstan's membership in the WTO significantly complicated the situation for the competitiveness of agriculture in foreign markets.

From the experience of developed countries, such as the United States, Canada, and Australia, the digitalization of agriculture acts as a disruptive technology and significantly changes this traditional industry. Big data aggregated from different sources, such as geo-information systems and IT, makes it possible to increase benefits with minimal damage to the soil and use resources rationally. The Internet has allowed to create smart farms managed using remote technologies, fully automating the process of growing plants. Modern logistics technologies combined with e-commerce enable a reduction of the cost of delivery of agricultural products and provide more efficient supply chains to the end consumer, even for small farms, while maintaining its quality. The health of the nation comes to the fore and environmentally friendly products are important in this matter which the Republic of Kazakhstan can use to create an export-oriented brand.

At the same time, having great advantages, digital technologies in agriculture of the Republic of Kazakhstan are not sufficiently introduced among agricultural producers, this limits the growth of competitiveness. A big problem is the fact that agricultural land is often underutilized, sometimes misused. This makes it difficult to analyze land use, short-term and long-term forecast of the state of use, and many other issues related to monitoring. In addition, the large spread of the territory of the Republic of Kazakhstan complicates the process of collecting information and monitoring land. Digital technologies are designed to solve a number of problems in this area. Therefore, the digitalization of agriculture is of great importance for the Republic of Kazakhstan, and the programs for introducing digital technologies will improve the quality of the agricultural economy and ensure the profitability of this industry.

The purpose of the study is to address a number of issues related to the development of the agro-industrial complex in Kazakhstan through the use of the latest technologies of the digital industry and the analysis of opportunities to increase the efficiency of their application in the current conditions of the development of agriculture in our country.

The main objectives of this study stem from the consideration and search for ways to solve the main problems facing the desire to introduce new digital technologies in the production and non-production areas of the agricultural industry. These include the following:

The first problem is the availability of equipment from the times of the USSR in Kazakhstan and its low efficiency in the agro-industrial complex. For example, due to a shortage of new equipment, outdated equipment causes a loss of 14 percent of grain and oilseeds during the sowing and harvesting of seeds. At the same time, this direction requires a lot of manual labor, and the problem of increasing the volume of production arises.

Secondly, such problems in animal husbandry as fattening, increasing productivity, loss of livestock. According to statistics, over the past 3 years, 70 percent of the loss of livestock was due to improper control. The direct way to achieve this goal is the automation of agriculture in the country and the complete digitalization of the industry.

Thirdly, weather forecasting in agriculture, determination and control of crop growth rates. The ongoing work in this direction will not only increase productivity but also improve the quality of agriculture in the Republic of Kazakhstan.

Fourthly, the sale and delivery of agricultural products to consumers at no additional cost and affordable prices.

The agricultural complex of the Republic of Kazakhstan is considered an object of study.

The materials are the regulatory legal acts of the Republic of Kazakhstan, the data of the National Bureau of Statistics of the Agency of the Republic of Kazakhstan, special literature and periodicals on the problem under study, materials from Internet resources, information on the official websites of the regions of Kazakhstan, the authors' own research. During the study, economic and statistical methods were used, in particular, comparison methods, correlation and regression analysis, and logical-analytical methods.

Results

Digitalization can have a strong impact on the economy of any country. In the last decade, the whole world has been striving for a new type of economy based on digital technologies. We are witnessing the fact that in a market economy it is significant to use the latest examples of scientific and technological progress to be highly competitive. To improve product quality, maintain a high level of productivity, reduce the cost of goods and services, digital transformation has a huge impact. At present, the basis for the transition of the state to digital development is the widespread use of information technologies in its activities, whether in the private sector or the public sector. Leading world experts predict that by 2022 the world economy will switch to digitalization by 35%, and the process of introducing new equipment and technologies in large volumes will be carried out. Therefore, Kazakhstan, to keep up with developed countries, is moving to the use of digital technologies in all sectors of the national economy.

According to a study by the Boston Consulting Group (BCG), Kazakhstan ranks only 50th among 85 countries in terms of the level of digitalization of the economy (Akhmet, 2020). Because our state is just beginning to study the impact of new equipment and technologies, especially in the field of the agricultural complex, and is gradually introducing them into domestic production. The current situation on the implementation and use of digital methods shows so far little positive developments in this area. However, the agricultural industry is one of the priority, promising sectors of the country's economy. The development of agriculture is objectively determined by the need to form new effective infrastructural links of the digital economy and provide the population with the food of the right quality in the required quantity.

Discussions

The main directions of the implemented measures of the agriculture digitalization program are the increase in crop productivity and labor productivity, the preservation of the country's food security.

The development and introduction of elements of real farming in all regions of the Republic of Kazakhstan is envisaged to simplify activities in the sector, increase crop productivity and labor productivity.

The producer gets the opportunity to make decisions based on the range of received data on the state of crops, moisture, nutrients, nitrogen, potassium, phosphorus, pests, and possible precipitation in real time. At the same time, the introduction of elements of precision farming will be carried out in a complex manner, depending on the acquisition of new agricultural equipment, the implementation of agricultural technologies and the training of farmers. Along with the creation of new and development of existing state information systems in the Kazakhstani agro-industrial complex, the requirement for the creation and implementation of automated systems in the agricultural formations themselves is mandatory and important. Because of such trends in 2019 the profit from agriculture increased the republican GDP by 4 trillion tenge. Animal husbandry annually brings 2 trillion tenge of profit to the state budget. Also, this industry showed growth this year by 3.6%.

The digitalization of the agricultural sector is of great importance in the development of the agro-industrial complex. In particular, one of the areas of digitalization launched in 2017 is the process of "smart" technology. In this regard, to digitalize the agricultural economy, the state program for the development of the agro-industrial complex of the Republic of Kazakhstan for 2017–2021 was adopted, in 2018 - "Agriculture digitalization program: E-APK", "Digital Kazakhstan". When conducting studies of the country regions

on the basis of these programs (Adilet, 2018), one can observe the following picture. For example, in 2020, compared to 2019, the volume of gross agricultural output increased by 23% and amounted to 6.3 trillion tenge. Table 1 presents the overall picture of changes in the main indicators of agriculture.

Table 1. Main indicators of agriculture over the past 8 years

Indicators	Years								Growth rate during 8 years, %
	2013	2014	2015	2016	2017	2018	2019	2020	
Meat (in slaughter weight), thousand tons	871,0	900,2	931,0	960,7	1 017,6	1 059,4	1 120,6	1 168,6	34,2
Milk, thousand tons	4 930,3	5 067,9	5 182,4	5 341,6	5 503,4	5 686,2	5 864,9	6 051,4	22,7
Eggs, million pieces	3 896,0	4 291,2	4 737,0	4 757,2	5 103,0	5 591,4	5 531,4	5 065,8	30,0
Grain yield, centner per hectare	11,6	11,7	12,7	13,5	13,4	13,5	12,3	12,8	10,3
Potato yield, center per hectare	181,5	184,3	185,5	190,4	194,2	197,9	203,4	206,7	13,9
Oilseed yield, centner per hectare	8,0	7,8	8,1	9,6	9,7	9,7	9,3	9,5	18,8
Livestock of cattle, heads	5 851	6 033	6 184	6 413	6 764	7 151	7 436	7 850	34,2
Livestock of small cattle, heads	17 561	17 915	18 016	18 184	18 329	18 699	19 156	20 058	14,2
Note – Compiled by the authors based on the Bureau of National statistics									

According to Table 1, in general, there are positive dynamics of the main indicators of the village over the past 8 years. Significant growth rates are observed for meat, eggs, milk; as well as an increase in the number of cattle. The total gross output in agriculture is also steadily growing, both in crop production and in livestock, as can be seen in Figure 1. Both in crop production and livestock production, there is an increase in production by more than 2 times.

This growth is not a consequence of the introduction of only digital factors. To a greater extent, this is a consequence of the increase in the cost of agricultural products, the use of highly productive seeds, the introduction of minerals, and the extensive increase in the main factors of production. The use of digital methods in production or the management of an agricultural enterprise is at the initial level and still makes a relatively small contribution to the activity. To determine the degree of influence of rural digitalization on changing the main parameters of agriculture, we will try to select indicators of the use of digital technologies that are more or less responsible for the activity of their use in work.

First of all, this is an indicator of the number of expenses of rural enterprises for the introduction of information and communication technologies, since it is this parameter that determines the activity of enterprises to use digital methods in their work.

The volume of information technology use implies an increase in demand for specialists in this field who could use these technologies. Thus, the number of high-tech specialists is also important for analysis.

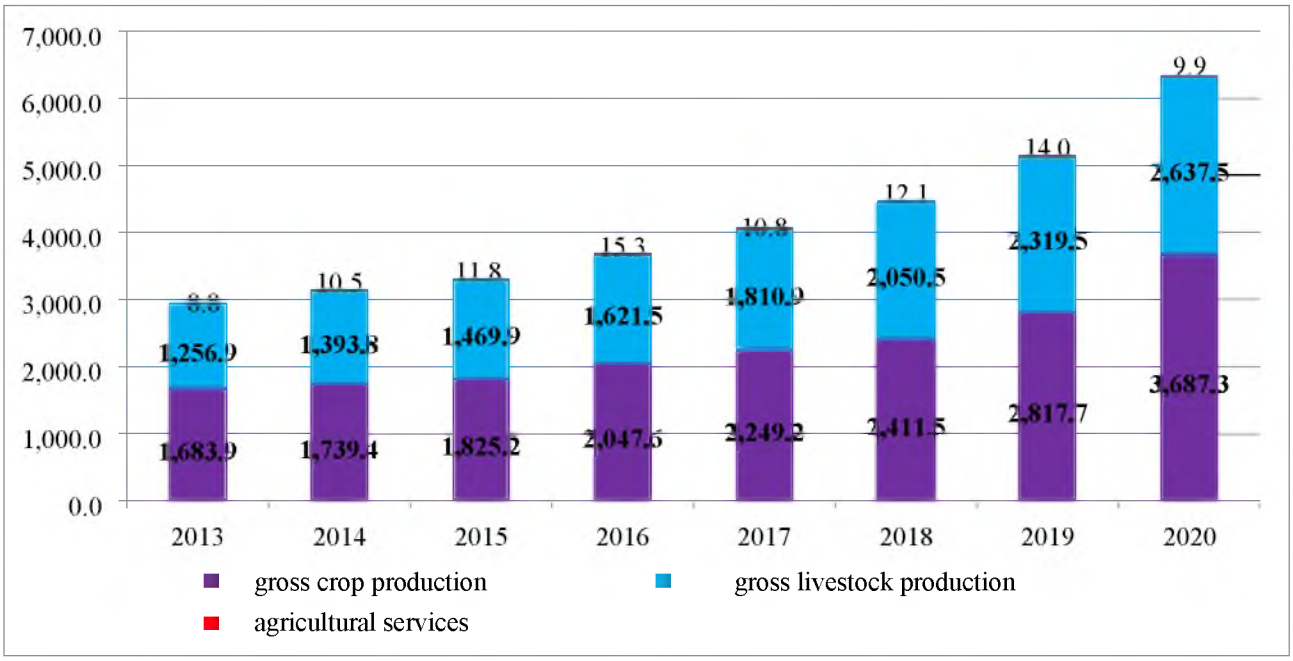

Figure 1. Dynamics of gross output of agricultural production, billion tenge

Note – Compiled by the authors based on the Bureau of National statistics

Separately, one can consider such parameters as the equipment of rural enterprises with computer equipment, and an Internet connection, as well as the number of firms using computer equipment, Internet portals and websites, as well as the number of enterprises using new digital technologies, in particular cloud technologies that have begun to be applied since 2016.

These parameters are presented in Table 2.

Table 2. Indicators of digitalization in agriculture of the Republic of Kazakhstan

Indicators	2013	2014	2015	2016	2017	2018	2019	2020
Number of enterprises using computers	1 624	1 706	1 786	2 389	2 252	3 573	3 893	4 375
Number of enterprises using cloud technologies	0	0	0	19	102	162	193	288
Number of enterprises using Internet portals	310	469	639	1 041	1 155	1 748	2 127	2 388
Number of computers with Internet	5 174	6 212	5 438	8 912	9 637	10 501	12 054	13 425
Number of IT specialists, persons	188	192	120	403	312	156	238	195
Expenses on ICT technologies, million tenge	539	601	480	743	947	949	1 027	1 421
Note – Compiled by the authors based on Bureau of National statistics								

It can be noticed from Table 2, the parameters of digitalization are growing at a high pace from year to year. Thus, the use of computer technology has increased almost three times, Internet portals have been used seven times more, the costs of information and communication technologies have increased almost three times. Only the number of specialists in the field of computer technology, having increased in 2016 to 403 people, again decreased to 195 people, which was the result of low wages and high staff turnover in the countryside.

Despite the positive dynamics of the parameters, if they are analyzed in absolute measurement and in comparison with general indicators throughout the economy, then one can see a weak level of implementation of digitalization elements in the countryside. For example, spending on information and communication technologies over the past year amounted to 1.4 million tenge, which is only 0.37% of the cost of these technologies throughout the country (389 million tenge). The same can be seen in other parameters. This means that the agriculture of our country is currently weakly implementing digital methods.

To assess the impact of digital parameters on the efficiency of agricultural production, let us try to determine the degree of connection between the dynamics of their changes and the dynamics of the total gross output of the village (Table 3).

Table 3. Matrix of pair correlations between the parameters of digitalization and gross rural output

	1	2	3	4	5	6	7
The volume of agricultural production, billion tenge	1						
Enterprises using computers	0,9572	1					
Enterprises using cloud technologies	0,9802	0,9617	1				
Computers with Internet	0,9497	0,9480	0,9422	1			
Number of specialists	0,0021	-0,0298	-0,0774	0,2283	1		
ICT spending, million tenge	0,9678	0,9109	0,9650	0,9612	0,1319	1	
Firms using the Internet	0,9677	0,9876	0,9645	0,9746	0,0446	0,9293	1
Note — Compiled by the authors							

As can be seen from Table 3, there is a good correlation between the dynamics of digital indicators and the gross volume of agricultural production (over 0.9), except for the parameter of the number of specialists, where the relationship is very low, almost imperceptible. The reason is the specificity of this work and the presence of highly paid demand for this category of specialists.

Based on the obtained data, it is possible to determine the regression equation between the specified parameters and the performance indicator (Table 4). The possibilities of the Excel program were used in the calculations.

Table 4. Regression analysis results

Indicators	Coefficient	Determination coefficient	Number of Observations
Free term of the equation	2 822,77	0,994	8
Number of enterprises using computers	-0,144		
Number of enterprises using cloud technologies	-3,895		
Number of computers with Internet	-0,665		
Number of IT specialists	1,429		
Expenditure on ICT technologies	4,911		
Number of firms using Internet portals	2,893		
Note — Compiled by the authors			

It was found that the coefficient of determination or R-square is 0.994. This means that the calculated parameters of the model explain the relationship between the studied parameters by 99.4%. This is a high parameter and means the high quality of the presented model. Based on the calculated coefficients of the regression equation, we will compose an equation for our model. It will be equal to:

$$Y = 2822,7 - 0,144X1 - 3,895X2 - 0,665X3+1,429X4+4,911X5+2,893*X6$$

The equation shows that to increase the volume of gross agricultural output, more attention should be paid to such parameters as an increase in the cost of information technology, the number of IT specialists and the number of firms actively using Internet technologies. The number of computers, the number of firms using cloud technologies and computer technology are not particularly important for agricultural performance.

If we accept the growth dynamics of digital indicators in 2020 compared to 2019 and the next year 2021, we can predict the size of the gross agricultural output for this year. It will be equal to:

$$Y = 2822,7 - 0,144*4917 - 3,895*430 - 0,665*14952 + 1,429*160 + 4,911*1966 + 2,893*2681 = 8131,3$$ (billion tenge)

Thus, according to the regression model, the volume of gross agricultural output will increase by 28.4%, which is a high parameter for the growth of economic indicators. Such growth due to the indicated increase in the level of digital parameters is impossible, since the share of the impact of the considered indi-

cators in the total number of agricultural factors is currently insignificant. The resulting figure only shows the mathematical-statistical interaction of the parameters. However, in any case, using the example of the regression analysis carried out, one can be convinced of the importance of digitalization in the industry and its positive impact on the efficiency of rural producers.

Since 2019, such a new parameter as the use of digital technologies in production has been added to the statistics of information and communication technologies. We believe that this is a positive moment and this indicator will allow us to more accurately determine the degree of influence of the digital technology factor on the activities of firms.

Over the past two years, this parameter throughout the country amounted to about 2,500 firms that actively used digital technologies in production, in particular, about 50-60 firms in rural areas, or about 2–2.5% of the total. This small figure also indicates that digitalization in our country is still insignificant and fragmented. There is an important task for the economy and the authority of our country to give this process a systemic character.

As mentioned above, the introduction of digital methods is still fragmentary, low in volume and uneven, and therefore the effectiveness of using these methods can be seen from individual examples through the reflection of some of the results of digitalization in certain regions of the country. For example, in Kostanay region, within the framework of the digitalization of agriculture program, in the Kamysty village, "PKF Kairat" LLP began to apply the method of precision farming, which gave a practical result in the form of savings in production costs in the amount of 15%. And in the Fedorovsky district, "Troyana" LLP in spring sowing, using 4 satellite navigation units, sowed 6.4 thousand hectares, saved 10 million tenge on sowing seeds, fuels and lubricants, fuel resources, protective equipment. If these examples are reflected in the size of the whole region, the annual economic effect could reach tens of billions of tenge.

In Pavlodar region, 870 million tenge was received from the digitalization of seven agricultural enterprises, the costs of treatment facilities and crop protection equipment, fuel and energy materials decreased by 2 times. And on the introduction of precision farming elements from 1 hectare, an additional 500 kilograms of the crop was obtained, i.e. the average yield on the farm increased from 17 centners per hectare to 22 centners per hectare. Another example is that in the largest agricultural holding in the region, "Olzha Agro" LLC, all grain harvesting equipment is equipped with "friend or foe" technology (Bukatov, 2020), which ensures the safety of grain and control over its movement.

In the East Kazakhstan region, two digital crop production projects are being implemented. The first project is called "Introduction of IT-technologies for the efficient use of land". This is an experimental oilseed farm in the village Solnechnoye, Glubokoe district, and farming in the village Saratovka, Ulan district. The second project is "Introduction of sustainable farming technologies to increase the yield of fodder crops in the field areas". It is implemented by the farms "Lana", "Ertay", "Balke" of the Beskaragay region.

According to Trufliak, Kurchenko, & Kreimer (2019), precision farming is an integrated agricultural production system based on the achievements of information technology, the use of an automatic control and regulation system for tractors and agricultural machines and equipment, sensor technology and general computerization of all agricultural management processes and aimed at optimizing agricultural technologies and stabilizing the productivity of agrocenosis with minimal negative impact on the environment.

In this regard, the Information Technology Center was opened in the East Kazakhstan region in the office of the regional government. According to the principle of the above-mentioned precision agriculture, the main goal of the center is to create electronic field maps to increase the economic efficiency of crop production, develop economic models for the introduction of technologies for farms of various types as part of the introduction of elements of precision agriculture, including accurate meteorological data, sensors and space monitoring, and other solutions, providing the process of digitalization of the region as a whole.

Especially important for ensuring rapid and comprehensive digitalization in the country is the development of the activities of educational institutions and research institutes, as well as pilot farms for the study and practical application of digital technologies. No less important is the establishment of close cooperation between these development institutions and the business environment, because the introduction of such technologies can increase production efficiency by an average of 15% due to accurate seeding, differential insemination, and reduction of protective equipment and costs.

There are examples of the use of advanced technologies in animal husbandry. From year to year the demand for meat and meat products is growing. The solution to this problem is impossible without direct processes of digitalization and automation. One of the new trends is automated sites for the creation of marbled veal steak. This process is carried out using radio frequency identification, in which a special RFID tag

is hung on experimental oxen. This tag hangs on the animal's neck during the period from the beginning of the fattening process to the sale of meat. Through it, it is taken into account how much weight the cattle add daily. Here, along with the daily ration, one can also get information about which veterinary examination the livestock has undergone. Therefore, such a digital process increases the economic efficiency of animal husbandry and simplifies its calculation. The main result of the digitalization of agriculture is an increase in labor productivity and a reduction in costs.

Thus, in many regions of Kazakhstan, electrification of a beef cattle fattening farm is being carried out. Feeding sites with a capacity of 14 thousand heads in Aktobe region, 10 thousand heads in Karaganda region, 8 thousand heads in Kostanay region, 45 thousand heads in Akmola region, 39 thousand heads in Almaty region have already been launched and are operating.

As for individual farms, then in Kostanay region, "Saryagash" LLP has installed electronic bracelets for milking cattle, monitoring the health and productivity of animals. Under the "Sybaga" program, 62 800 thoroughbred bulls were produced. If in 2019 the net weight of a bull was 344 kg, then by 2022 it is planned to increase this figure to 500-600 kg. Thus, it is possible to increase the number of cattle to 1 million heads and increase the area of pasture land to 10 million hectares. In animal husbandry, by 2022, it is planned to create 166 advanced farms and one digital farm. Now basic farms with an information-analytical system are being created. To date, eight dairy farms have implemented Smart Farm elements.

There are also positive results in East Kazakhstan region, because of digital technologies, the amount of milking milk from 6 thousand cows on farms has been increased by one and a half times. By 2022, digital equipment will be installed on seven more farms. New technologies are used in the meat farms "Shalabay", "Sembell", "Elimay-Kokpekty", "Ykybay", "Nur".

An automatic system for recording livestock was launched in Turkestan region. The advantage of this system is that it allows you to control the grazing movement of livestock and check which veterinary activities have been carried out.

One of the ways to comprehensively address the digitalization of agriculture is the digitalization and replacement of machinery and equipment used in agriculture with modern technology. This is a relevant problem (Informburo, 2018), since at the moment the technical park of agriculture is outdated, which reduces labor productivity, hinders the increase in production efficiency, increases the level of use of fuels and lubricants, and negatively affects the quality and volume of products. In this regard, for the modernization of agricultural machinery in our country, on our own experience, advanced technologies of foreign producers are used.

One of the proofs is the use of intelligent technology in the West Kazakhstan region, which is automatically controlled and operates 24 hours a day, which increases productivity by 18% and reduces costs by 11%. On the territory of the West Kazakhstan region, 12 advanced farms are implementing this new system. The advantage of this system (Magomedov, 2020a & Magomedov, 2020b) is that with a differentiated method of applying fertilizers, i.e. when sowing seeds on barren soils, unproductive lands, fertilizers are sown in large volumes, and on fertile and high-yielding lands - in smaller volumes.

The most important role in the digitalization of rural areas belongs to the development of rural e-commerce. This conceals huge reserves for the development of rural areas.

Thus, the analysis of the results of the introduction of digital methods into the practical activities of the enterprise showed that these measures have a tangible effect, but the size of these activities and the volume of investments at the current time are small and are of little significance in the country as a whole. We consider the following to be the main reasons for such a small volume of digital technologies introduction in agriculture:

– lack of information awareness of agricultural producers about the availability, possibilities, and effectiveness of digital methods;

– low level of digital literacy of the population (especially rural), which leads to a low starting level of digitalization (in most rural enterprises, computers are used only for office or accounting needs);

– the high cost of digital technologies, the lack of financial resources of rural entrepreneurs due to the seasonal nature of production, the lack of free working capital, etc.;

– a small number of large agricultural formations that have more production and financial opportunities when introducing digital methods;

– low communication between scientific and educational institutions and agricultural producers, etc.

Conclusions

Based on the study, the following conclusion can be drawn. Modern information technologies help to improve the efficiency of agricultural production. Statistical analysis of the impact of digital factors on the performance of rural enterprises confirmed their positive impact and high correlation with the resulting parameters. The analysis also showed that, unfortunately, the innovations of the agro-industrial complex in Kazakhstan are practically not developed. The use of these technologies is insignificant and fragmentary in nature. Measures are being taken in some regions, there are specific firms that actively use the latest technologies that prove their viability and effectiveness. However, these measures, for various reasons, are single and uneven. To achieve high development efficiency, it is necessary to create various programs for improving the digital skills of personnel promoting and developing agricultural production. Summarizing the above, it can be noted that the digitalization of agriculture is beginning to emerge in our country, and the further development of agriculture in the country and regions will depend on the level of application of digital production methods.

References

Adilet (2018). Gosudarstvennaya programma razvitiya agropromyshlennogo kompleksa Respubliki Kazakhstan na 2017–2021 gody *[State Programme for the Development of the Agro-industrial Complex of the Republic of Kazakhstan for 2017-2021]*. Retrieved from https://adilet.zan.kz/rus/docs/P1800000423 [in Russian].

Akhmet, D.M. (2020). Tsifrovizatsiya selskogo khozyaistva Respubliki Kazakhstan v period pandemii [Digitalization of agriculture of the Republic Kazakhstan in the pandemic period]. *Internauka: Yelektron. Nauchnyi zhurnal – InterScience: Electron. Scientific Journal, 43(172)*, 39–42. Retrieved from https://internauka.org/journal/science/internauka/172 [in Russian].

Benyam, A.A., Soma, T., & Fraser, E. (2021). Digital agricultural technologies for food loss and waste prevention and reduction: Global trends, adoption opportunities and barriers. *Journal of Cleaner Production*, *323*, 129099. https://doi.org/10.1016/j.jclepro.2021.129099

Bukatov, S. (2020). Itogi uborochnoi kampanii–2020 v Kazakhstane [Results of the 2020 harvest campaign in Kazakhstan]. *KazakhZerno*. Retrieved from https://kazakh-zerno.net/175157-itogi-uborochnoj-kampanii-2020-v-kazahstane/ [in Russian].

Bureau of National statistics (2021). stat.gov.kz. Agency for Strategic Planning and Reforms of the Republic of Kazakhstan Bureau of National Statistics. https://stat.gov.kz/ (Date of access: 15.11.2021).

Debauche, O., Mahmoudi, S., Manneback, P., & Lebeau, F. (2021). Cloud and distributed architectures for data management in agriculture 4.0: Review and future trends. *Journal of King Saud University — Computer and Information Sciences*. https://doi.org/10.1016/j.jksuci.2021.09.015

Hafeez, A., Aslam Husain, M., Singh, S., Chauhan, A., Tauseef Khan, M., Kumar, N., Chauhan, A., & Soni, S. (2022). Implementation of Drone Technology for Farm Monitoring & Pesticide Spraying: A Review. *Information Processing in Agriculture*. https://doi.org/10.1016/j.inpa.2022.02.002

Informburo (2018). Tsifrovizatsiia selskogo khoziaistva: umnye fermy [Digitalization of agriculture: smart farms]. *International News Agency KazInform*. Retrieved from https://www.inform.kz/ru/cifrovizaciya-sel-skogo-hozyaystva-umnye-fermy_a3454293 (Date of access: 11.12.2021) [in Russian].

Jerhamre, E., Carlberg, C. J. C., & van Zoest, V. (2022). Exploring the susceptibility of smart farming: Identified opportunities and challenges. *Smart Agricultural Technology*, *2*, 100026. https://doi.org/10.1016/j.atech.2021.100026

Jones, J.W., Antle, J.M., Basso, B., Boote, K.J., Conant, R.T., Foster, I., Godfray, H.C.J., Herrero, M., Howitt, R.E., Janssen, S., Keating, B.A., Munoz-Carpena, R., Porter, C.H., Rosenzweig, C., & Wheeler, T.R. (2017). Toward a new generation of agricultural system data, models, and knowledge products: State of agricultural systems science. *Agricultural Systems*, *155*, 269–288. https://doi.org/10.1016/j.agsy.2016.09.021

Magomedov, A.M. (2020a). Tsifrovizatsiia i razvitie selskikh territorii [Digitalization and development of the rural areas]. *The Caucasus-Economic and Social Analysis Journal of Southern Caucasus*, *36*(02), 12–16. Retrieved from https://doi.org/10.36962/cesajsc3602202020 [in Russian].

Magomedov, A.M. (2020b). Tsifrovizatsiia kak kliuchevoi faktor razvitiia selskikh territorii i selskogo khoziaistva [Digitalization as a key factor of the development of rural areas and agriculture]. *Sovremennye tekhnologii upravleniia – Modern Technologies of Management*, *2 (92)*, 1–9. Retrieved from https://sovman.ru/article/9204/ [in Russian].

Mishra, S.K., & Sarkar, A. (2021). Service-oriented architecture for Internet of Things: A semantic approach. *Journal of King Saud University — Computer and Information Sciences*. https://doi.org/10.1016/j.jksuci.2021.09.024

Namani, S., & Gonen, B. (2020). Smart Agriculture Based on IoT and Cloud Computing. *2020 3rd International Conference on Information and Computer Technologies (ICICT)*. https://doi.org/10.1109/icict50521.2020.00094

Odintsov Vaintrub, M., Levit, H., Chincarini, M., Fusaro, I., Giammarco, M., & Vignola, G. (2021). Review: Precision livestock farming, automats and new technologies: possible applications in extensive dairy sheep farming. *Animal*, *15*(3), 100143. https://doi.org/10.1016/j.animal.2020.100143

Trufliak, E.V., Kurchenko, N.Yu., & Kreimer, A.S. (2019). Monitoring i prognozirovanie v oblasti tsifrovogo selskogo khoziaistva po itogam 2018 g. [Monitoring and forecasting in digital agriculture by the end of 2018]. Krasnodar: Kubanskii gosudarstvennyi agrarnyi universitet, 100 [in Russian].

Д.О. Калдыбаева, Б.М. Баядилова, А.С. Койчубаев

Ауыл шаруашылығы экономикасын цифрландыру тиімділігі

Аңдатпа

Мақсаты: Елдегі ауыл шаруашылыгы дамуының ағымдағы жағдайын талдау және цифрлық факторларды пайдалану деңгейін бағалау арқылы ауыл шаруашылығын цифрлендіру процестерінің оның тиімділігіне ықпал ету дәрежесін анықтау, оларды енгізу және дамытудың негізгі мәселелерін бағалау.

Әдісі: Мақалада экономикалық-статистикалық әдістер қолданылды, оның ішінде салыстыру тәсілдері, корреляциялық талдау мен логикалық-аналитикалық әдістер.

Қорытынды: Елдегі ауыл шаруашылық қызметінің негізгі көрсеткіштерінің даму деңгейіне, сондай-ақ, цифрлық факторларды пайдалану деңгейіне баға берілді. Корреляциялық талдау әдістерін қолдану негізінде алынған мәліметтер бойынша ауыл шаруашылық параметрлері және саланы цифрлендіру деңгейі арасындағы байланыс дәрежесі анықталып, регрессиялық модель құрастырылды, осы модель негізінде болашақ жылдың параметрлеріне болжамдық баға жасалынды. Берілген салада цифрлық технологияларды пайдаланудың нақты мысалдары мен негізгі мәселелері қарастырылды.

Тұжырымдама: Зерттеу көрсеткендей, елде қолданылатын цифрлық факторлар ауыл шаруашылық тиімділігін сипаттайтын көрсеткіштерге өте жағымды ықпал жасайды және оның әлеуеті өте жоғары екені анықталды, алайда, қазіргі уақытта біздің елімізде бұл ықпалдың деңгейі өте төмен, мардымсыз аз және бұл процесс жүйесіз сипатта өтетіндіктен, оның елдегі қолданылу географиясы фрагментарлы түрде болғаны анықталған.

Кілт сөздер: цифрлендіру, ауыл шаруашылыгы, тиімділік, цифрлық технологиялар, корреляция, нақты егіншілік, цифрлық факторлар.

Д.О. Калдыбаева, Б.М. Баядилова, А.С. Койчубаев

Эффективность цифровизации экономики сельского хозяйства

Аннотация:

Цель: Анализ текущего состояния развития сельского хозяйства в стране и оценка уровня использования цифровых факторов позволили определить степень влияния процессов цифровизации сельского хозяйства на ее эффективность, оценены основные проблемы их внедрения и развития.

Методы: Использованы экономико-статистические методы, в частности, методы сравнения и корреляционного анализа, логико-аналитический.

Результаты: Дана оценка уровня развития основных показателей сельскохозяйственной деятельности страны, а также уровня использования цифровых факторов. По полученным данным на основе применения методов корреляционного анализа была определена степень связи между параметрами сельского хозяйства и уровнем цифровизации отрасли, составлена регрессионная модель с прогнозной оценкой параметров будущего года. Рассмотрены конкретные примеры использования цифровых технологий и основных проблем в данной сфере.

Выводы: Исследование показало, что применяемые в стране цифровые факторы очень положительно влияют на показатели эффективности сельского хозяйства и имеют высокий потенциал воздействия, но данное влияние в настоящий момент в нашей стране носит очень незначительный, малозаметный характер, и этот процесс не систематичен, фрагментарен по географии использования в нашей стране.

Ключевые слова: цифровизация, сельское хозяйство, эффективность, цифровые технологии, корреляция, точное земледелие, цифровые факторы.

References

Ахмет Д.М. Цифровизация сельского хозяйства Республики Казахстан в период пандемии [Электронный ресурс] / Д.М. Ахмет // Интернаука: электрон. научн. журн. — 2020. — № 43(172). — Режим доступа: https://internauka.org/journal/science/internauka/172.

Benyam A.A. Digital agricultural technologies for food loss and waste prevention and reduction: Global trends, adoption opportunities and barriers / A.A. Benyam, T. Soma, E. Fraser // Journal of Cleaner Production. 2021. — No. 323. — P. 129099. https://doi.org/10.1016/j.jclepro.2021.129099.

Букатов С. Итоги уборочной кампании–2020 в Казахстане. Сайт аналитики — «КазахЗерно» [Электронный ресурс]. — Режим доступа: https://kazakh-zerno.net/175157-itogi-uborochnoj-kampanii-2020-v-kazahstane/.

Сайт Бюро национальной статистики [Электронный ресурс]. — Режим доступа: https://stat.gov.kz/.

Debauche O. Cloud and distributed architectures for data management in agriculture 4.0: Review and future trends / O. Debauche, S. Mahmoudi, P. Manneback, F. Lebeau // Journal of King Saud University — Computer and Information Sciences. https://doi.org/10.1016/j.jksuci.2021.09.015

Hafeez A. Implementation of Drone Technology for Farm Monitoring & Pesticide Spraying: A Review / A. Hafeez, M. Aslam Husain, S. Singh, A. Chauhan, M. Tauseef Khan, N. Kumar, A. Chauhan, S. Soni // Information Processing in Agriculture. https://doi.org/10.1016/j.inpa.2022.02.002

Цифровизация сельского хозяйства: умные фермы [Электронный ресурс]. Сайт Междунар. информ. агентства KazInform. Режим доступа: https://www.inform.kz/ru/cifrovizaciya-sel-skogo-hozyaystva-umnye-fermy_a3454293.

Jerhamre E. Exploring the susceptibility of smart farming: Identified opportunities and challenges / E. Jerhamre, C.J.C. Carlberg, V. Zoest // Smart Agricultural Technology. — 2022. — No. 2. — P. 100026. https://doi.org/10.1016/j.atech.2021.100026

Jones J.W. Toward a new generation of agricultural system data, models, and knowledge products: State of agricultural systems science / J.W. Jones, J. M. Antle, B. Basso, K. J. Boote, R. T. Conant, I. Foster, et al. // Agricultural Systems. — 2017. — No. 155. — P. 269–288. https://doi.org/10.1016/j.agsy.2016.09.021

Магомедов А.М. Цифровизация и развитие сельских территорий / А.М. Магомедов // The Caucasus-Economic and Social Analysis Journal of Southern Caucasus. — 2020. № 36. 12–16. 10.36962/CESAJSC3602202020.

Магомедов А.М. Цифровизация как ключевой фактор развития сельских территорий и сельского хозяйства [Электронный ресурс]. / А.М. Магомедов // Современные технологии управления. — 2020. — № 2 (92). Режим доступа: https://cyberleninka.ru/article/n/tsifrovizatsiya-kak-klyuchevoy-faktor-razvitiya-selskih-territoriy-i-selskogo-hozyaystva.

Mishra S. K. Service-oriented architecture for Internet of Things: A semantic approach / S. K. Mishra, A. Sarkar // Journal of King Saud University — Computer and Information Sciences. — 2021. https://doi.org/10.1016/j.jksuci.2021.09.024

Namani S. Smart Agriculture Based on IoT and Cloud Computing / S. Namani, B. Gonen // 3rd International Conference on Information and Computer Technologies (ICICT). — 2020. https://doi.org/10.1109/icict50521.2020.00094

Государственная программа развития агропромышленного комплекса Республики Казахстан на 2017–2021 годы [Электронный ресурс].- 2018. — Режим доступа: https://adilet.zan.kz/rus/docs/P1800000423.

Odintsov Vaintrub M. Review: Precision livestock farming, automats and new technologies: possible applications in extensive dairy sheep farming / M. Odintsov Vaintrub, H. Levit, M. Chincarini, I. Fusaro, M. Giammarco, G. Vignola // Animal. — 2021. — No. 15 (3). — 100143. https://doi.org/10.1016/j.animal.2020.100143

Труфляк Е.В. Мониторинг и прогнозирование в области цифрового сельского хозяйства по итогам 2018 г. / Е.В. Труфляк, Н.Ю. Курченко, А.С. Креймер. — Краснодар: КубГАУ, 2019. — 100 с.

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Risk management and financial stability of banks

Abstract

Object: Increasing the role of the banking sector in the economy is one of the main tasks of the state. Kazakhstan's banking sector is one of the most important sectors of the economy, where the bank acts as a financial institution. Kazakhstan gained considerable success by overcoming the difficult period and achieving its own strategy and tactics of economic reforms after reaching financial stabilization of the peak of structural transformation.

Methods: The methods of research, processing and analysis of financial, economic, mathematical, statistical, logical information.

Results: The main task of risk management is to minimize the negative impact of risks on the financial results of banks.Justification of the objective need for risk management in banks; identifyingthe importance of risk management in banks and prospects for its development; analysis of data, collected from using statistical methods of data processing and analysis; development of conclusions and recommendations on risk management organization in banks.

*Conclusions:*Risk management identifies the bank management effectiveness, taking into account the factors of uncertainty that may have a negative or positive effect on the bank's performance.

The scientific value of the article is as follows:

– specifies the peculiarities of risk management in the bank;

– identifies risk management issues in banks and prospects for its development.

Keywords: risk management, methods, bank, loan portfolio, financial, statistical, model, capital regulation, systemic risk.

Introduction

The practical significance of the article is aimed at use of its basic provisions and conclusions in further work at structural subdivisions of banks and non-banking credit organizations.

To improve the competitiveness of the Kazakhstani economy in the international arena, it is necessary to maintain a stable level of the banking sector development, which can be ensured through the introduction of an effective banking risk management system. The most important issue in banking management is the problem of risk management due to its relevance.

After a large-scale state support of second-tier banks (STB) over the past few years, it is expected a radical improvement in the banking system. However, despite the relative stabilization of the situation in the banking market, the risks of deterioration in the financial condition of individual second-tier banks and, accordingly, the new wave of license revocation seem to persist.

Negative processes in the banking sector continue. First of all, the level of overdue loans attracts attention.

Although their share in the sector as a whole is gradually decreasing, the number of all non-performing loans remains high and still exceeds 10%.

What the numbers say? The level of all bad loans to the beginning of the new year reached 14.51% of the loan portfolio in the banking sector, or almost 2 trillion tenge. At the same time, the share of NPL90 + decreased to 7.3% and amounted to 1016.3 billion tenge in absolute terms.

However, the reserves created by banks turned out to be significantly lower than the aggregate volume of bad loans. On January 1st, 2021 provisions for International Financial Reporting Standards (IFRS) for the entire troubled portfolio of second-tier banks amounted to 1,776.6 billion tenge and for loans with overdue debts above 90 days - 762 billion tenge, that is significantly lower than non-performing loans.

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At the beginning of 2021, the number of second-tier banks, which had a share of all problem loans, exceeding this indicator in the sector, as a whole, was 14.51%.

Hypothesis

If the bank's risks are properly managed, the financial situation of the bank will be stable.

It was analyzed in the correlation matrix that if the bank's NPL is higher, it affects the bank's Assets, Liabilities, and capital, as well as the bank's portfolio.

Literature Review

There are many studies by Kazakhstani, Russian, and foreign authors on the problems of the risk management system. The emergence of this issue raised the problem of banking risk management. The scientific works of M.A. Bukhtin, T. Barton, A.G. Algina, S.B. Makhysh, B.I. Lisak, U.M. Iskakov, I.T. Balabanov, G.S. Panov, B.C. llaeven, R. Levinel, G. Majnoni, H. Huizinga, G. Nicodemal, D. Klingebiel, Justin Jing Kiryardan, Gerald J. Lob, and others are devoted to this problem.

The works of these scientists are designed to study the theoretical foundations of risk management in the banking sector, apply the various models of financial risk assessment, and introduce modern management approaches.

Analyzing these works, we identified a number of issues arising in the introduction of the risk management system.

Methods

During the study, the methods of research, processing and summarizing financial, economic, mathematical, statistical, logical information were used.

Results

Considering second-tier banks of the RK in 1993, there were 204 banks, and in 1994, 184 banks remained the same 9.8% in one year. In those years, when the sovereignty turned to the market economy and strengthened the status of our own currency, the financial sector began to take shape (Hajek, 2011).

That is why there are reasons why such a bank has been shut down in one year; in 1995 there were 130 banks; in 2002, 38 banks accounted for 29.2%.

From 1993 to 2002, 166 banks were closed, i.e. 18.6%. And in 2005 there were 35 banks, in 2010 there were 39 banks, which means, it included 3 more banks.

And now in 2018 there are only 28 banks in the financial market.

According to statistics, in 1993 there were 204 banks, and in 2018 - 28 banks (204-28) remained at 15.6%, and in 2022-22 banks (204-22).The effects of the financial crisis and the effects of economic instability have a direct impact on the banking sector.

The sharp decline in the number of banks depends on the economic instability, and also depends on the strategy of incorrect risk management of bank holderstaking into account factors influencing, that is, the policy of incorrect internal risk management and incorrect strategy.

Recently several banks lost their licenses, and some banks are merging into one another. As to the banking sector in the modern financial market, the banking sector was represented by 22 second-tier banks, the number of foreign banks is 12, including 10 subsidiary banks.

On the banks' assets and loan portfolio, the assets of tier two banks in Kazakhstan as of June 1st, 2021 amounted to 23 507.2 billion Tenge (at the beginning of 2021 - 24 157.9 billion Tenge), and the decrease for 2020 was 2.7%.

The problem is in the improper implementation of the risk management system of banks by the loss of banks' licenses on the financial market and their departure from the financial market, inappropriate corporate governance;bank employees are unable to manage their risks.

In terms of banks' assets, the largest share in the structure of assets (52.4% of total assets) was 13 397.6 billion Tenge (in the beginning of 2021 - 13 590.5 billion Tenge), and the decrease for 2021 - 1.4%. Compared with the banks of the Russian Federation, our neighbors, their banking system is closer to us, but the steps of our banks are weak.

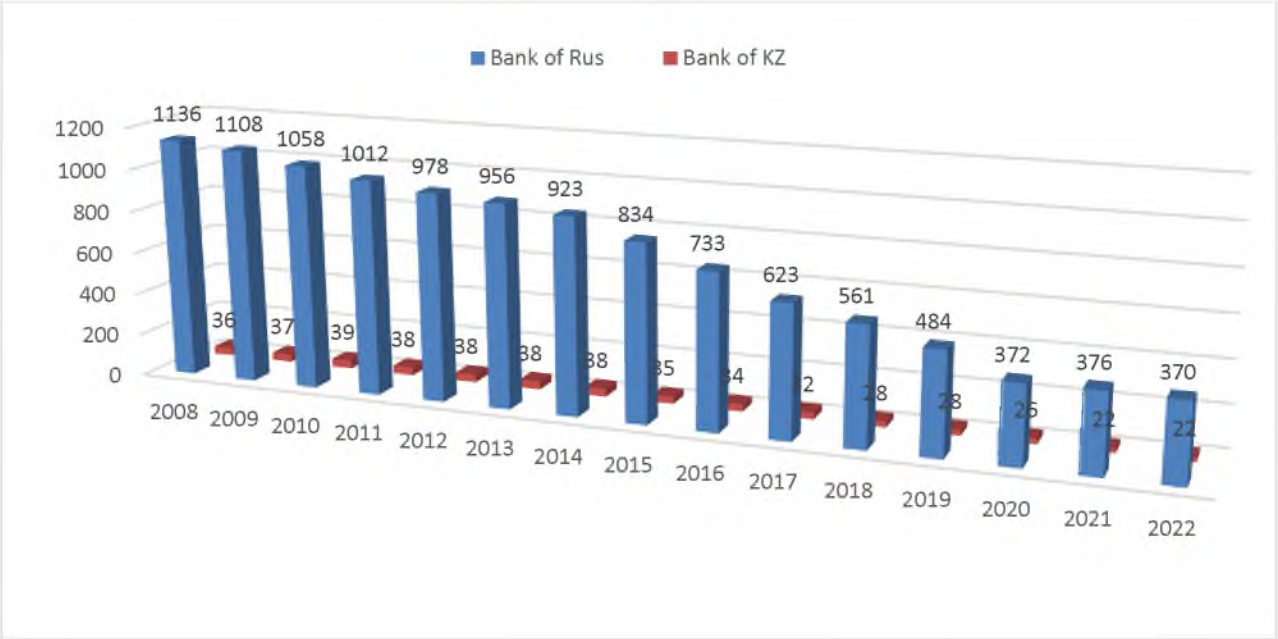


Figure 1. Comparative dynamics of the number of banks of Kazakhstan second-tier banks and Russian banks between 2008 and 2022

Note – Compiled by the authors based on statistical data

The large number of banks here is also based on the population size. According to statistics on Russian banks, in 2008 there were 1136 banks, and in 2012 978 banks were reduced by 86% .

There were 834 banks in 2015, and 923 banks in 2014, having decreased to 89 banks for the year (923 - 834). Statistics shows that 834 banks (1136 - 834) reduced to 302 banks in 2007 compared to 26.6% in 2009, amounted to 561 banks, compared to 2015 (834-561), with the loss of 303 licenses, which is 67.2% Compared to Figure 2, we can see changes in Kazakhstani banks and Russian banks from 2008 to 2022. We see that both our banks and Russian banks are not in a good condition.

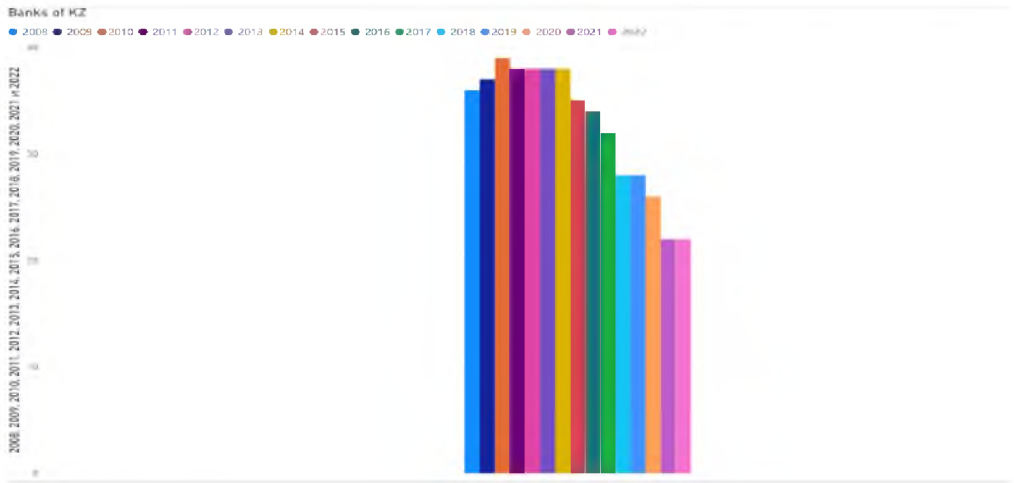


Figure 2. Comparative dynamics of the number of banks of Kazakhstan between 2008 and 2022

Note – Compiled by the authors on the basis of statistical data made in the Power BI program

The most negative thing is the reduction of banks; termination of bank's activity on the financial market, and ill-management of banks' own risks and regulators pick up licenses from second-tier banks (Lisak, 2013). The banking sector is badly affected by other sectors of the economy, and overall banking financial crises have a negative impact on the economy as a whole.

The banking sector is exposed to a variety of risks, and its impact on the economic law can not be undermined, so the bank needs to be able to manage risks, not to eliminate the risks, but also to control its effect.

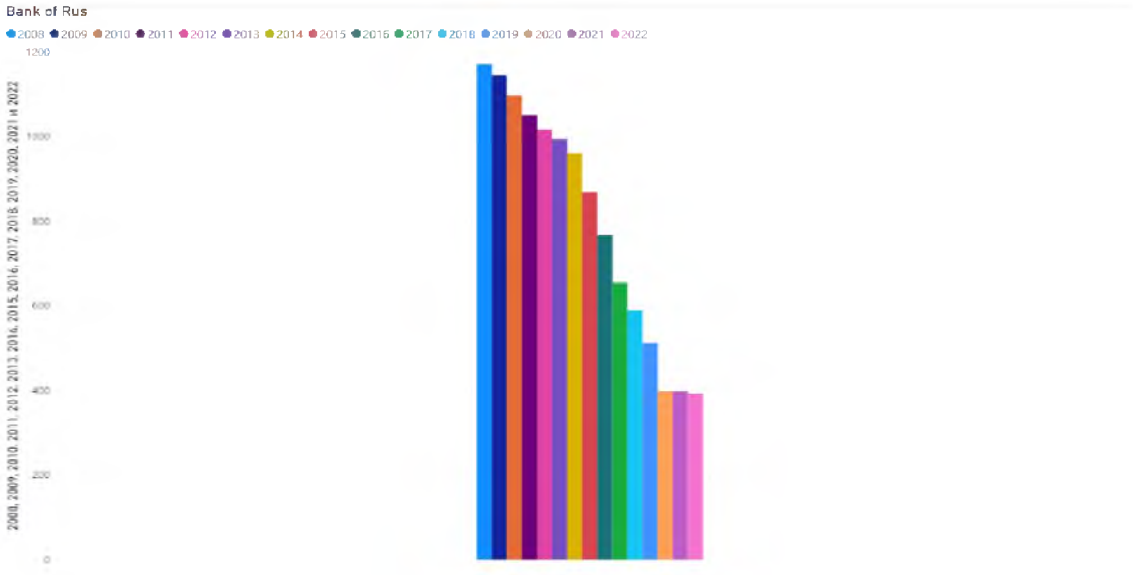


Figure 3. Comparative dynamics of Russian banks between 2008 and 2022

Note – Compiled by the authors on the basis of statistical data made in the Power BI program

Domestic banks and Russian banks are sometimes unsuccessful in risk management. Basically, it uses the management system to optimize the operations of large banks, to assess the risks in the current process and to increase the market value of the bank. And small banks consider the risk management system as a superficial issue, not only for risk prevention, but also by the state, when it is necessary to comply with regulatory requirements by the National Bank.

Due to unplanned risk management, these small banks are no longer endured by competitors in the financial market. Compared to Czech banks, where banks are monopolized and 4 second-tier banks monitor 60% of assets.

Economically developed states rely on certain principles.

The banking industry is not subject to government policy, which has a positive impact on monetary policy.

There are about 40 large banks in Czech Republic, among them shares of which are owned by foreign shareholders.

In its strategy, the bank keeps the data on clients' money secretly, whether they aretax authorities who ask for information or information that the police requests about the client, the bank does not disseminate information about the client, which increases the confidence of clients in the bank. In the history of the bank, foreign citizens' funds have never been confiscated (Volkov, 2015).

At the same time, the bank gives a guarantee. Foreigners may retain their own funds in kron or other foreign currency.

The government has legally guaranteed that each client receives up to 400,000 kron if the bank has certain problems.

The introduction of a risk management system in the banking sector is a mandatory requirement for a number of regulatory acts, state and international standards.

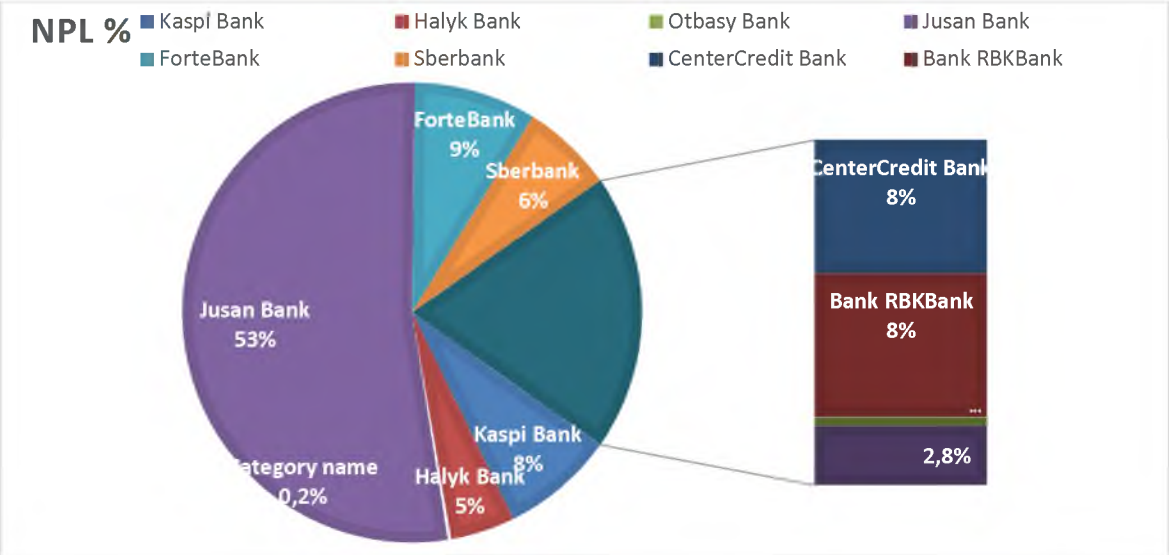


Figure 4. NPL of Kazakh banks' indicators 2022

Note – Compiled by the authors on the basis of statistical data

The growth of non-performing loans accelerated.The share of non- -performing loans (NPL 90+) at the end of June 2022 was 3.61% while, the gpowth of non- -performing loans accelerated from 0.9% to 3.2% and amounted to 770 billion tenge.

The share of ovrdue loans increased from 6.89% in May to 7.28% in June.The highest share of overdue loans in the first tier of banks is observed at Jusan Bank (NPL 53%) ,Forte bank (NPL 8%), Kaspi Bank NPL 6%).

The level of coverage of the portfolio of non-performing loans with an overdue period of more than 90 days by the amount of formed provisions in the sector in June amounted to 203.6% (210.3% at the beginning of the year, 201.7% in May)

The bank has the right to choose the best practices which are considered to be safe and effective in risk management system, to choose the most effective risk assessment methods for the bank, but all the methods used by the bank should comply with legal and regulatory requirements.

Nevertheless, economic instability, that is, the external factors affecting the banking sector have had its own consequences. Here, the corporate governance system was also affected by economic instability and political conditions.

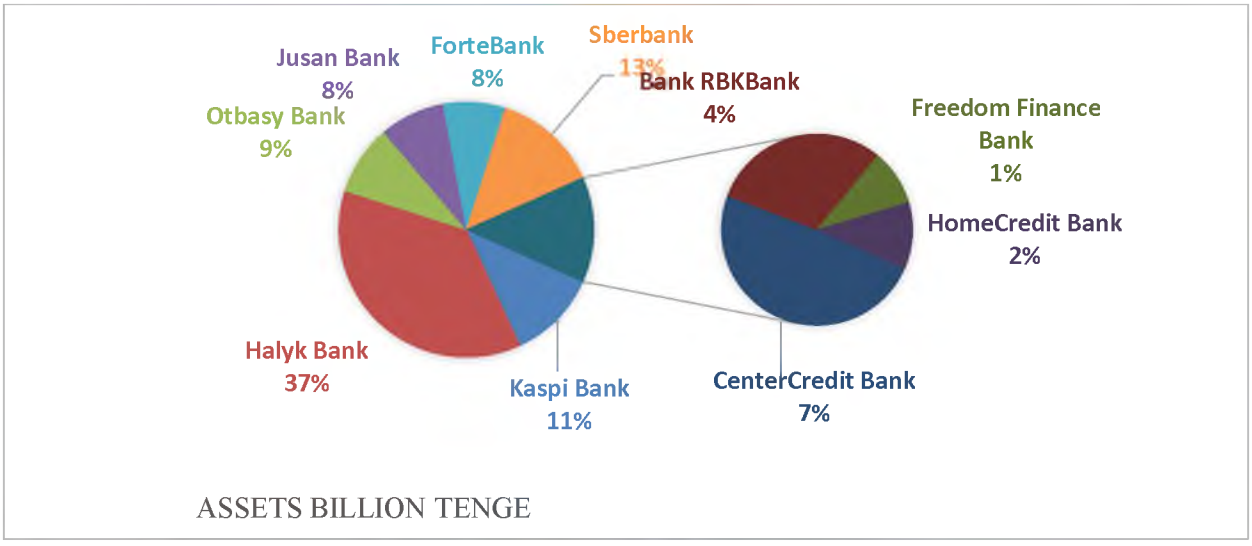


Figure 5. Kazakhstan bank assets 2022

Note – Compiled by the authors on the basis of statistical data

As of July 1, 2022 assets amounted to 39.23 trillion tenge.

This was reported by the press service of the Agency for Regulation and Development of the Financial Market. Second-tier banks have a significant stock of highly liquid assets,amounting to more than 11.41 trillion tenge or 29.1% of assets.

"Halyk Bank" is the leader in the current 2021. Multiple correlation-regression analysis was performed on the basis of "Halyk Bank" financial data.

The GRETL program was used in the analysis. As a result of the analysis, the indicator (Y) was the bank's cumulative income. The reason is that second-tier banks in the financial market are trying to earn profits in the competitive market conditions. Key financial indicators have been used as indicator factors that affect the bank's revenue.

Among them, we have identified: X1-capital, X2-Assets, X3 - Short-term and long-term debts and loans, X4 - Overdue loans up to 90 days (Ushanov, 2015). If we take X4, the financial crisis that began in 2007 has left its mark on the banking sector.

The bank's clients are experiencing problem loans, which are not paid due to the economic instability, deterioration of their clients' social standing, which is loans more than 90 days.

The bank increased interest-bearing loans with hope for having a profitby overdue loans, but vice versa, the number of overdue loans for more than 90 days increased, primarily due to the fact that the bank was unable to manage its credit risk by preliminary analysis, but also by external factors. It affects the assets of the bank (Smirnov & Makarov, 2017).

Correlation-regression analysis was carried out with these factors.

Multiple correlation-regression analysis can not be analyzed by conducting statistical research. In this regard, data on processing of the annual reports of "Halyk Bank" JSC were obtained.

An analysis was made of Excel and Gretl using information about the annual financial performance to determine what factors affect the bank's revenue, benefit.In the ordinary normal distribution, a rather rigid form of simple dependence forms a linear form, i.e., the dependence of the form:

$$y = a0+a1x1 +a2x2 +\ldots+apxp \quad (1)$$

It is important to determine whether to include all variables in the equation or to determine whether there are variables that do not have a significant effect on Y and that they do not need to be added to the equation (1).

To solve this solution, a table consisting of pairs of correlation coefficients was created for all 4 factors.

Table -1 Correlation Matrix

	y	x1	x2	x3	x4
y	1				
x1	0.914589338	1			
x2	0.820241226	0.874785245	1		
x3	0.910312218	0.919857017	0.955665905	1	
x4	-0.547077993	-0.624604021	-0.326906076	-0.350439563	1

According to data from Table 1, factors X1, X2, X3 are closely related to the Y coefficient (correlation coefficients are respectively 0.91, 0.82, and 0.91) and negative (- 0.55). But in spite of strong communication, we eliminate the X2, X3 predictors from the model, as there are multicollinearity effects.

Multicollinearity is one of the main obstacles to the efficient use of multiple regression analysis.

Thus, we establish a regression equation:

$$y = a0+a1x1+a_2x_4 \quad (2)$$

The following is a graph of the values calculated by the regression equation.

Table2 - The model created by the GRETL computation software for the risk management of "Halyk Bank"

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	−1.5752e+07	9.32909e +06	−1.468	0.3361	*
X2	-0.0109609	0.009677 89	-0.73	0.6828	**
X5 X6	53.0934 463.933	44.0721 289.515	1.186 1.602	0.4459 0.3552	 ***
Mean dependent var	5896714		S.D. dependent var	2926977	
Sum squared resid	1.82e+11		S.E. of regression	301694.0	
R-squared	0.994688		Adjusted R-squared	0.989376	
F(2, 2)	187.2501		P-value(F)	0.005312	
Log-likelihood	−67.88981		Akaike criterion	141.7796	
Schwarz criterion	140.6079		Hannan-Quinn	138.6349	
rho	−0.813300		Durbin-Watson	3.472497	

Model 1: OLS, using observations 2018-2021 (T = 5)Dependent variable: Yk

The correlation analysis for the model, as you would see in the chart, is that the multicolleniary is low; the p-value value ranges from 0.2 to 0.8, which means that the model is adequate. Three independent variables with economical value have been selected for each other:

X2 - Assets, thousand Tenge; X5 - Average wages, thousand Tenge; X6 - Minimum wage, thousand Tenge. The regression equation: y = -1,57-0,01X2 + 53,09X5 + 463,9X6

Other explanatory indices show an average, while the volume of assets (X2) exceeds 1 thousand Tenge, showing that the overdue loans decreased by 0.01.

It is true that there is a negative proportion of the decline in overdue loans if the bank's assets are growing.

While other explanatory indices indicate the average, the average wage level (X5) increased by 53%, with overdue payments up to 1 thousand Tenge.

The reason is that the average wage reflects the social status of the country's population. If this figure exceeds only 1 thousand Tenge during the reporting period, then ordinary people will have no money and will have to go to banks.

Hence, there is a possibility of growth of overdue and doubtful loans up to 53%.

The economic sense has been clarified. Now it is necessary to determine multicolleniary to determine the statistical significance of the model and the economic significance of the model.

The multicolline model created for the"Halyk Bank" JSC was checked.

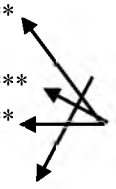
The relationship between the factors should not be more than 10%.

Consequently, the analysis has economic significance and has been confirmed as adequate. It also demonstrated the right choice of factors affecting the loan-dependent variable with past due payments. Using the GRETL application, we will issue the following report:

Model 2: Gretl // MNC, obtained from indicators 1-22 (n = 22)

Dependent variable:NPL (non-performing loan)

	Coefficient St. Defect		*t*- statistics	*P*- value	
Assets	−577721	254828	−2,2671	0,0327	**
ROA	109521	1,43442e+06	0,0764	0,9398	
Liabilities	265249	70619,1	3,7560	0,0010	***
Eqity	−0,0786939	0,036191	−2,1744	0,0398	**
ROE	−164751	342988	−0,4803	0,6353	
Credit_portfolio	0,00296448	0,00993649	0,2983	0,7680	
Loans_90d	0,292296	0,0640243	4,5654	0,0001	***



This Gretl model has only a few dependent variables that are excluded from the previously unrelated business relationships, including Assets, Liabilities, Loans_90d (Over 90 Days of Doubtful Credits), Equity, Credit_portfolio. Variable NPL - (non-performing loan).

Variable indicator shows a strong relationship between NPL and Liabilities, Assets, Equity (Loans), Loans_90d. F = 46.9, which is greater than the table F = 4.057.

Consequently, our model is relevant and important and can be used for further forecasting. From Table 2 we see that R-squared = 0.91 and often R is not the correlation coefficient, but its multiplicity (common) coefficient is R2. By Fisher Criteria.

SAS information-analytical environment.

Graph 3 is made by the key factor: A - years, U - with overdue payments.

As you can see, in 2021 there is a sharp decline in the volume of assets and overdue loans and a subsequent increase (increase) in subsequent years.

The reason for the appearance of blue and red is the increase or decrease in the minimum wage.

If there is a connection between the dependent variable and the factor, the points are located close to the straight line and the number of deviations is small.

There is a marked correlation between the factors of H, X2 and X6. In addition, the correlation coefficients include overdue loans (C) and bank assets (X2), loan portfolio (X1) and average salary (X6), as well as correlation between X1 and X2 factors, and X1 and X4 factors, the number of overdue loans (C) and loan portfolio (X1), bank asset (X2) and average salary (X6).

Consequently, factors affecting the risk management of banks were properly selected and the calculations were made correctly.

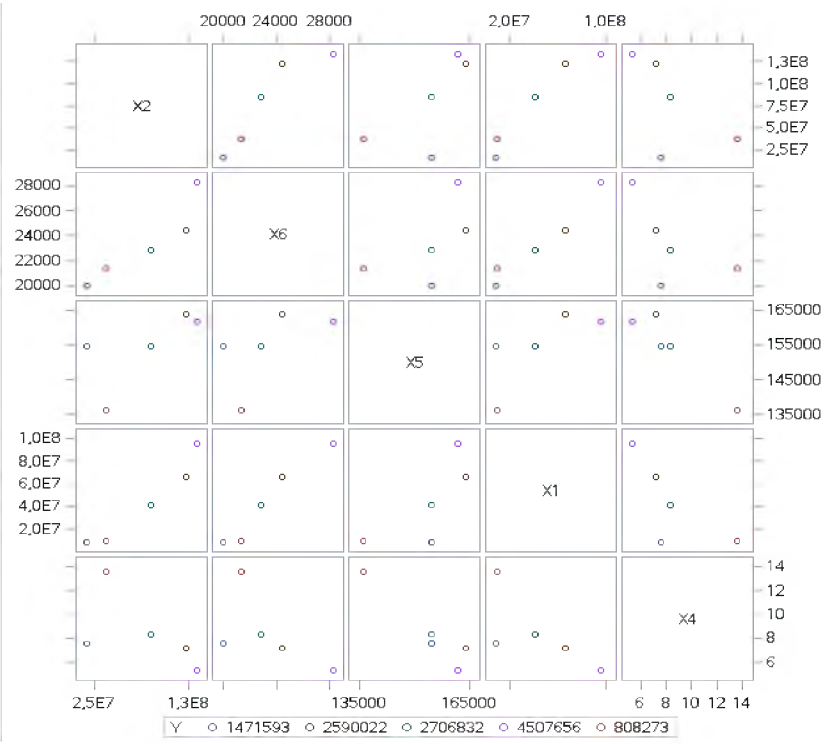


Figure 6. Schedule of correlation relations analyzed in the SAS environment for "Halyk Bank" financial position

Note – Compiled by the authors on the basis of the source data

Figure 6 illustrates analytical work using the SAS information analytical environment to determine the main information spreads of "Halyk Bank" JSC.

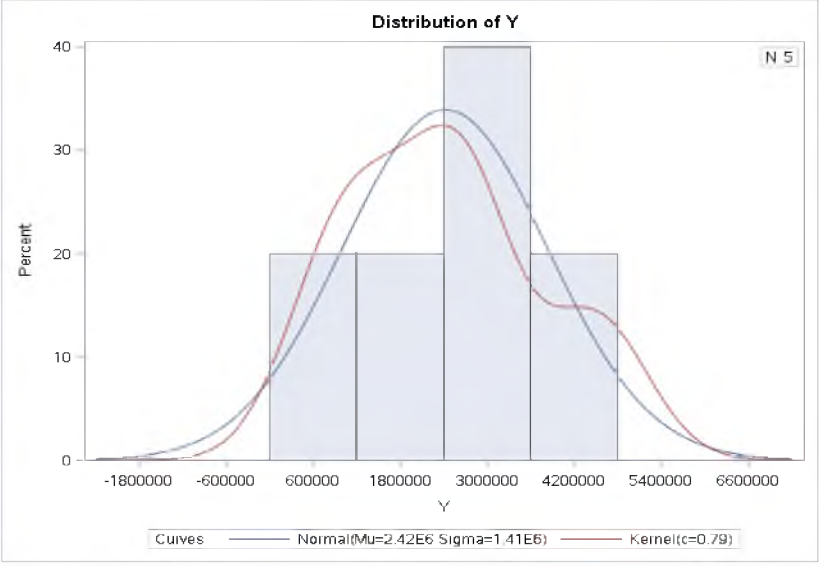


Figure 7. Created by the SAS software for the distribution of the Variable Y of "Halyk Bank" JSC

Note – Compiled by the authors on the basis of source data

As you can see in Figure 7, the distribution range of the dependent variable is given in the figure in a red line. By default, the distribution zone must match the blue line. It has been established that over the 5 years of 2017-2021 the volume of overdue loans of the bank is constantly spreading and affecting other factors. "Halyk Bank's" financial position was analyzed in MS Excel, SAS and GRETL.

Specific purpose of the analytical work is to determine the extent to which the financial situation of the banks concerned is affected.

Discussions

That is, if the bank does not allocate funds for marketing and management policy, the bank will issue loans, regardless of the financial position of its clients, to attract funds. This can lead to an increase in overdue loans (Volkov, 2015). To sum up, it has been determined that there is a negative proportional relationship with the decrease of overdue loans if the bank's assets grow.

The statistical criteria were checked to determine the concepts obtained during the final analysis of the models. As a result, the concepts were confirmed and certain factors influencing the risk-management of the banking system were found. Risk can not be overcome, but it can reduce the likelihood of its occurrence or its consequences for the bank.

Analysis of "Halyk Bank" risk management systems has shown that banks have a well-developed policy that identifies ways to manage the risk-management process.

It includes the functions of independent units and collegial bodies for risk management, risk assessment, monitoring and control, and distribution of powers and responsibilities among them.

Conclusions

Based on the analyzes and assumptions, the following conclusions and recommendations can be made:

We need to further develop the risk management process using new information technologies. The peculiarity of Kazakhstan's specificity is the absence of a good regulatory framework and competent regulation in the risk management, and the gap between the risk managers' relations.

Unfortunately, those with experience in risk management do not intend to exchange their original solutions, know-how and analytical methods.

The risk management of the Republic of Kazakhstan still needs to be explained to both professionals and the general public by the problem of information openness and public accessibility.

Therefore, it is important for the players of the Kazakh banking market to use the foreign experience wisely.

It is possible to conclude that, based on the analysis; the management of the bank requires further improvement for large-scale productivity regardless of the substantial work done on the basis of organizational fundamentals of risk management.

References

Agentstvo Respubliki Kazakhstan po regulirovaniyu i razvitiyu finansovogo rynka [Agency of the Republic of Kazakhstan for regulation and development of the financial market]. (2022). *gov.kz.* Retrieved from https://www.gov.kz/memleket/entities/ [in Russian].

Basel Committee on Banking Supervision (2004). International convergence of capital measurement and capital standards. Basel Committee on Banking Supervision. (2004). Moscow: Bank for International Settlements. Retrieved from://efaidnbmnnnibpcajpcglclefindmkaj/https://www.bis.org/publ/bcbs107

Bureau of National statistics (2022). Agency for Strategic planning and reforms of the Republic of Kazakhstan. *stat.gov.k.* https://www.stat.gov.k

Hajek, P. (2011). Mark-to-Market Rule: Can Fair Value Accounting Be Fair During a Financial Crisis? *International Statistical-Economical Days in Prague (MSED).* University of Economics in Prague. *msed.vse.cz.* https://msed.vse.cz/files/2011/Hajek.pdf

Lisak, B.I. (2013). Integrirovannyi risk-menedzhment [Integrated risk management in banks]. *lib.uib.kz.* Retrieved from http://lib.uib.kz/product/ [in Russian].

Smirnov, A.V., & Makarov, D.I. (2017). Klassifikatsiia bankovskikh riskov [Classification of banking risk]. *cyberleninka.ru.* Retrieved from https://cyberleninka.ru/article/n/klassifikatsiya-bankovskih-riskov-1 [in Russian].

Ushanov, A.E. (2015). Optimizatsiya kreditnogo protsessa v usloviyakh vyzovov [Optimization of the credit process in the face of challenges]. *cyberleninka.ru.* Retrieved from https://cyberleninka.ru/article/n/optimizatsiya-kreditnogo-protsessa-v-usloviyah-vyzovov [in Russian].

Volkov, A.A. (2015). *Upravlenie riskami v kommercheskom banke [Risk management in a commercial bank].* Moscow: Omega-L [in Russian].

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Тәуекелдерді басқару және банктердің қаржылық тұрақтылығы

Аңдатпа

Мақсаты: Тәуекелді басқару — бұл банктің тәуекелі мен табыстылығы арасындағы оңтайлы арақатынасты табу. Банктік тәуекелдерді басқару — бұл тәуекелдерді басқару процесі, яғни тәуекелдерді анықтауға және оларды шешудің әдістері мен жолдарын әзірлеуге бағытталған шаралар кешені. Мақсат —тәуекелдердің сипаттамаларын, сондай-ақ қаржылық шығындарды азайту және банктердің табысты жұмыс істеу шарттарын қамтамасыз ету үшін олардың әртүрлі түрлерін басқарудың экономикалық негіздерін анықтау.

Әдістері: Үрдістік және қаржылық, экономикалық, математикалық, статистикалық, логикалық талдау.

Нәтижелері: Банктердегі тәуекелдерді басқарудың объективті қажеттілігі негізделген, банктердегі тәуекелдерді басқарудың маңыздылығы және оны дамыту перспективалары анықталған. Қаржылық-статистикалық мәліметтер өңделіп, диаграмма түрінде ұсынылған.

Талдау барысында статистикалық әдістерді қолдану нәтижесінде жиналған мәліметтер талданған.

Тұжырымдар: Банктерде тәуекелдерді басқаруды ұйымдастыру бойынша қорытындылар мен ұсынымдар әзірленді. Тәуекелдерді басқару тиімділігіне теріс немесе оң әсер етуі мүмкін белгісіздік факторларын ескере отырып, банкті басқарудың тиімділігі анықталып, тәуекелдерді басқару ұғымдары берілген. Мақаланың ғылыми құндылығы мынада

– банктегі тәуекелдерді басқарудың ерекшеліктерін көрсетеді;

– банктердегі тәуекелдерді басқару мәселелері және оның даму перспективалары анықталған.

Кілт сөздер: тәуекелдерді басқару, әдістер, банк, несие портфелі, қаржылық талдау, статистикалық талдау, модель, капиталды реттеу, жүйелік тәуекел.

Қ.М. Қазбекова, Г.К. Жанибекова, Д.Ж. Мырзаханова, А.Б. Мыржықбаева

Управление рисками и финансовая устойчивость банков

Аннотация:

Цель: Управление рисками состоит в нахождении оптимального соотношения между риском и доходностью банка. Управление рисками банков — это процесс управления рисками, то есть совокупность мероприятий, направленных на выявление рисков и разработку методов и способов их решения. Целью является выявление особенностей рисков, а также экономических основ управления различными их видами для снижения финансовых потерь и обеспечения условий успешного функционирования банков.

Методы: Методы исследования, обработки и анализа финансовой, экономической, математической, статистической, логической информации.

Результаты: Обоснована объективная необходимость управления рисками в банках, определена значимость управления рисками в банках и перспективы его развития. Финансово-статистические данные были обработаны и представлены в виде диаграммы.

В ходе анализа были проанализированы данные, собранные в результате использования статистических методов.

Выводы: Разработаны выводы и рекомендации по организации управления рисками в банках. С учетом факторов неопределенности, которые могут отрицательно или положительно повлиять на эффективность управления рисками, определена эффективность управления банком и даны понятия, управления рисками. Научная ценность статьи заключается в следующем:

– показаны особенности управления рисками в банке;

– определены проблемы управления рисками в банках и перспективы его развития.

Ключевые слова: управление рисками, методы, банк, ссудный портфель, финансовый анализ, статистический анализ, модель, регулирование капитала, системный риск.

References

Агентство Республики Казахстан по регулированию и развитию финансового рынка [Электронный ресурс]. — 2022. — Режим доступа: https://www.gov.kz/memleket/entities/

Basel Committee on Banking Supervision (2004). International convergence of capital measurement and capital standards. Basel Committee on Banking Supervision. — M.: Bank for International Settlements, 2004. [Electronic resource]. — Access mode: efaidnbmnnnibpcajpcglclefindmkaj/https://www.bis.org/publ/bcbs107

Hajek P. Mark-to-Market Rule: Can Fair Value Accounting Be Fair During a Financial Crisis? / P. Hajek // International Statistical-Economical Days in Prague (MSED). University of Economics in Prague. — 2011. Retrieved from https://msed.vse.cz/files/2011/Hajek.pdf

Лисак Б.И. Интегрированный риск-менеджмент [Электронный ресурс] / Б.И. Лисак. — 2013. — Режим доступа: http://lib.uib.kz/product/

Смирнов А.В. Классификация банковских рисков [Электронный ресурс] / А.В. Смирнов, Д.И. Макаров. — 2017. — Режим доступа: https://cyberleninka.ru/article/n/klassifikatsiya-bankovskih-riskov-1

Ушанов А.Е. Оптимизация кредитного процесса в условиях вызовов [Электронный ресурс] / А.Е. Ушанов. — 2015. — Режим доступа: https://cyberleninka.ru/article/n/optimizatsiya-kreditnogo-protsessa-v-usloviyah-vyzovov

Волков А.А. Управление рисками в коммерческом банке. А.А. Волков. — М.: Омега Л, 2015.

Бюро национальной статистики Агентства по стратегическому планированию и реформам Республики Казахстан [Электронный ресурс]. — 2022. — Режим доступа: https://www.stat.gov.kz/

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Development of Logistics Services in Kazakhstan and Evaluation of the Opinions of Logistics Company Managers with the Nvivo Program

Abstract

Object: This study aims to review the transportation sector in Kazakhstan; evaluate the current status and performance of logistics centers; and identify the main problems and root causes. Our research problem is to determine whether it is possible to establish a logistics center sufficient to meet the expectations of both the country and the logistics companies and, if possible, to determine the requirements of that center.

Methods: Interviews, NVivo package program, observation, document analysis, coding techniques.

Results: The qualitative analysis revealed the expectations of the sector representatives from a logistics center and the requirements that a center should meet to support the development of the sector and the country's economy. The fact that concepts such as logistics center, logistics, and logistics service are present in almost all interviews shows the sensitivity of the sector to the subject.

Conclusions: Kazakhstan can create an integrated complex that complies with international standards, can provide quality service for any goods in every direction and distance, and can provide all kinds of barrier-free transportation.

Keywords: logistics, logistics sector, logistics infrastructure, logistics services, logistics companies, transportation, Kazakhstan, NVivo package program.

Introduction

Developing economic relations with other countries will allow Kazakhstan to enter the international division of labor, the global production chain, and the global economy as a full participant. Given the globalization and regionalization of the world economy, the success of economic reforms will largely depend on the effective development of these relations. Deepening economic relations between states also requires the creation of an advanced transportation system based on the formation and functioning of international transport corridors. International transportation corridors and routes create a network between logistics centers and create favorable conditions for investment projects. Therefore, the logistics potential of Kazakhstan, which is located on the historical Silk Road and at the crossroad of many modern transit corridors, is worth examining. As a country with rich underground resources, Kazakhstan has serious export and logistics potential. Despite having such a commercial advantage, Kazakhstan's logistics infrastructure is still in its infancy. This study examines why Kazakhstan cannot meet logistics expectations despite its strategic location. Our study provides examples of contemporary logistics and transportation practices, discusses logistics infrastructure and services, examines Kazakhstan's trade volume, and evaluates the past, present, and future of logistics in Kazakhstan. Then, Kazakhstan's logistics potential is analyzed in depth. It is identified that the logistics sector in Kazakhstan works mainly on land and rail transport, and its logistics infrastructure is still underdeveloped. First of all, Kazakhstan's transportation infrastructure should be renewed and developed for a fully functional logistics center.

Literature Review

This section focuses on Kazakhstan's logistics infrastructure and logistics services, as well as the past, present, and future of its logistics industry. For this purpose, examples from the world and studies dealing with the role of the Kazakhstan logistics system in the global logistics system are examined. The review provided modern and objective data that allowed us to analyze the issues and summarize our aims.

Rana (2016) reviewed Kazakhstan's current transportation system, various problems of its logistics management system, and infrastructural problems. He suggested the development of multimodal transport

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systems and resources and the use of government policies to create more efficient and effective transport systems. This article is an important resource for both the industry and researchers.

Omirbekova et al. (2017) examine the cooperation between Turkey and Kazakhstan within the framework of the development of international trade, transport, and logistics systems, and the possibilities for countries to expand their borders based on the principles of openness, equality, and mutual benefit. The logistics potential of Kazakhstan, which is located on important trade routes such as the historical Silk Road and still hosts many international transit land, rail, and air corridors, is worth examining. Despite having such a commercial advantage, Kazakhstan's logistics infrastructure is still in its infancy. Because the country has large lands, the cities are located at far distances from each other, and there are no facilities on the highways. Rehabilitation of railway and road transportation lines and the development of combined transportation systems will be effective in overcoming these problems. Kazakhstan and Turkey have positive perspectives on the construction of new transport lines, including transit. Kazakhstan can make a breakthrough and get ahead in the logistics sector by building iron and oil pipelines and renovating its refineries. This transportation line, which connects Asia and Europe via Turkey and the Caspian Sea, is expected to be faster and cheaper, offering the opportunity to become the world's largest trade and logistics center for both Turkey and Kazakhstan.

Mukhtarova et al. (2018) state that the high level of logistics development positively affects many socio-economic indicators such as inflation rates, productivity indicators, etc. Increasing productivity through logistics has a positive impact on competitiveness in global markets, as well as on profit. The authors analyzed the evolution of productivity in rail transport among several countries between 1997 and 2016. They used a non-parametric approach that allowed them to change the performance and efficiency of the transport infrastructure. The results indicate that productivity growth is concentrated in the last period (1997–2016) when most countries reformed their infrastructures. This increased productivity is mainly due to technical progress. They also analyzed the factors of effectiveness and justified that the higher the autonomy and financial independence, the higher the level of efficiency and technical change in the infrastructure of railway transport.

The work of Bolganbayev and Parilti (2019) contributes to the increasing role of Kazakhstan's transport and communication complex in the development of world trade and the realization of national interests. In many countries, logistics has long been a practical business tool, accounting for 20 to 30% of the gross national product (GNP) of the leading industrialized countries. Market conditions require rhythm, continuity, reliability, high-speed delivery, and minimum cost that enable the transportation industry to meet international standards, as well as consumer requirements. The obtained data obtained were interpreted using time series and regression analysis.

Bulatov et al. (2020) are novel in their presentation of a comprehensive engineering project that can be implemented by optimizing the existing components of the supply chain. Such tools can be based directly on the principles of engineering solutions and micro-logistics systems. An economic rationale has been put forward for the proposed system and its elements. This work can be extended with the application of decentralized logistics system technologies.

Sladkowski et al. (2020) focused on the inequality between the regional transportation services in Kazakhstan, the increased demand for logistics services, and the lack of logistics capacity. The authors suggested the Analytic Hierarchy Process (AHP) method to determine the most favorable sites for the construction of logistics centers in Kazakhstan.

Aislu et al. (2020) analyzed the mutual relations between economic, road, transport, and logistics indicators. In addition to the freight turnover between 1993 and 2017 in Kazakhstan, they conducted retrospective research on variables such as total road length, the number of transport companies, and GDP.

Gabdullina et al. (2020) explored how all transport modes (rail, river, sea, road, air, and pipeline) in Kazakhstan can be combined under a single transportation system. The authors determined that a range of socio-economic factors (economic development; multimodality; urban location; direction and strength of major transportation and economic relations; location of major resorts and tourist sites; need to optimize costs) must be considered for an effective supply chain management and transportation network. In addition, they analyzed supply chain management in the target region through innovation trends, intellectual capital, and organizational resources. The results showed that both multimodality and intellectual capital are positively and significantly associated with innovation in logistics services. However, the study found no evidence of a relationship between organizational resources and innovation in logistics services.

Bolganbayev et al. (2021) also tried to determine the relationship between the logistics sector and the Gross Domestic Product (GDP) and to examine the relationship between the changes in the logistics sector

data and the GDP. This relationship was analyzed using the X11-ARIMA/88 method and time series. Long-term coefficients and error correction model findings showed that there is a one-period lag in the relationship between X13_SA and GDP variables, and the trend is statistically significant. A one-period lag and a statistically significant trend are found between X14_SA and the GDP variable. A one-period lag and a statistically significant trend are found between X18_SA and the GDP variable.

Raimbekov and Syzdykbayeva (2021) examined the link between logistics indicators and economic growth in Kazakhstan between 1995 and 2019. They revealed the reciprocal effects of various transport and economic growth indicators. They also identified that the economic growth in Kazakhstan, compared to other large economies, creates less demand for transport and logistics services, and suggested that road and maritime transport conditions should be improved to promote economic growth.

Methodology

In this study, in-depth structural interviews were conducted with company officials about both the logistics center and the general situation of the logistics industry. An interview form was prepared to collect the thoughts and statements of company managers. Therefore, the data were collected from the primary source. The data were analyzed using the QSR NVivo version 11 qualitative research package program. As a result, we obtained valuable information on the current situation of the logistics sector, the opinions of the companies, their predictions, and expectations from a logistics center.

This study employs a qualitative research model based on structured interviews with company executives. The scope consists of logistics companies already operating in Kazakhstan. Interview data were coded for analysis. Coding techniques are explained in the following headings. Qualitative data analysis helps researchers to organize the data, divide it into units of analysis, and to synthesize it. It also reveals important variables (Özdemir, 2014). Qualitative research uses information collection methods such as observation, interview, and document analysis, and aims to reveal perceptions and events in a natural environment realistically and holistically (Yıldırım, 1999).

Qualitative data analysis can be described as the process of obtaining analyzes related to the study area from verbally expressed text, opinions, and comments such as interviews, literature reviews, images, or website data. Operationally, qualitative research begins with the coding process. Coding is the process of assigning symbolic words or short sentences to research data for research purposes. The coding process is, on the one hand, the analysis itself, on the other hand, it is a specific and concrete process that initiates the analysis (Yalçın, 2018). Coding is an important process for grounded theory analysis and provides the link between data and conceptualization. The coding types are open coding, axis coding, and selective coding (Bryman and Burgess, 2002).

Open Coding

Open coding is the process of determining the words and concepts related to the study area from the text at the stage of obtaining the data. At this level, the codes are determined by carefully reading the text line by line. The purpose of this stage is to gather preliminary information to create concepts or categories (Strauss, 1987). In open coding, it is useful to review some interview files before starting coding. In this way, first impressions can be obtained. In addition, research codes can be determined more easily by pre-reviewing important concepts related to the subject and creating a list (Punch, 2011).

Axial Coding

In axial coding, codes obtained by open coding are grouped by determining connections or relationships between them. In other words, words or concepts obtained in open coding are converted into clusters on certain axes (Punch, 2011). The keywords and concepts obtained in the open coding phase are clustered considering the theories of the research area and the general structure of the application area. At this stage, the concepts or words in the same cluster are expected to be closely related (Creswell, 2016).

Selective Coding

The third stage of the coding process is selective coding. At this stage, the codes obtained in axis coding are brought together at the level of certain central categories. Selective coding is constructed by reanalyzing the initial texts when necessary and reviewing the concepts and theories of the study area (Creswell, 2016). The most important contribution to the reporting stage of the research is the codes obtained at this stage. Thus, it is expected that the codes obtained by selective coding will have both the ability to express the main dimensions of the research problem and a structure that will provide ease of reporting and inter-

pretation. In other words, selective codes are expected to express independent dimensions of the main problem.

Discussion and Results

In this section, the answers of the company officials to the interview questions are evaluated and interpreted. Then, the obtained results by the coding method are evaluated.

Table 1. Summary information for logistics companies

Firm No.	Foundation Year	Number of Employees	Target Countries	Transportation Modes
1. Firm	2013	248	Kazakhstan, Belarus, CIS, Uzbekistan, China, Kyrgyzstan, Turkmenistan, Tajikistan, Russia, USA, Asia, and Europe	Road, Railway, Airline, Seaway, Multimode
2. Firm	2007	54	Kazakhstan, Russia, Belarus, China, and Kyrgyzstan	Road
3. Firm	2000	38	UAE, China, Kyrgyzstan, Turkey, and Russia	Road
4. Firm	2008	118	CIS, EU, South-West Asia, Iran, and Turkey	Road, Railway
5. Firm	2003	32	Kazakhstan, Russia, Belarus, Kyrgyzstan, and Uzbekistan	Road
6. Firm	1963	540	Asia, Europe, Near East, Iran, and Turkey	Seaway, Multimode
7. Firm	2008	68	Kazakhstan, Uzbekistan, China, Kyrgyzstan, Turkmenistan, Tajikistan, and Russia	Road, Railway, Airline, Multimode
8. Firm	2001	84	CIS, Russia, China, and Europe	Road, Railway
9. Firm	2005	26	China, Europe, Asia, and CIS	Road
10. Firm	2012	45	Kazakhstan and CIS	Road, Railway
Note – Compiled by authors on the basis of research				

Considering the establishment dates of the companies included in the study, it is clear that most of them are established after the 2000s (See Table 1). The oldest is the 6th company established in 1963. It also has the largest number of employees. The lowest number of employees belongs to the 9th company. Central Asia and the CIS countries are at the forefront of the countries where these companies transport goods. Some companies provide logistics services to the Near East, Europe, the USA, and UAE. While there are companies that offer various options in terms of transport mode, road transport is more common. All of these companies provide road transport services. Moreover, the 1st, 4th, 7th, 8th, and 10th companies have railway transportation capacity; the 1st and 6th companies have sea transportation capacity; the 1st and 7th companies have air transportation capacity; and the 1st, 6th, and 7th companies have multimodal transportation capacity.

Interviews were held with the managers of the companies and data were obtained in the light of the answers given by asking the questions in Table 2.

Table 2. Interview questions

1.	What do you understand by the concept of a logistics center?
2.	What are the main features that a logistics center should have?
3.	What are the points to be considered in the establishment and operation of logistics centers?
4.	At what stage are the developments in logistics centers in our country?
5.	What are your most important problems in the logistics sector?
6.	Do you have a vehicle tracking system? How do you inform?
7.	Is authorization and quality certificate required?
8.	What kind of goods do you transport? What goods do you not transport?
9.	What types of vehicles do you have in your vehicle fleet? What are the dimensions of the vehicles?
10	Do you carry out customs procedures for your export/import shipments?
11	What do you think about a center that will meet all the needs of the business?
Note – Compiled by authors on the basis of research	

Many of the companies we interviewed within the scope of the study reported that the main problems in the logistics sector of Kazakhstan are the lack of infrastructure and the inadequacy of transportation routes. Among the problems listed by the 1st, 2nd, 4th, 5th, 7th, 8th, and 9th companies, both are mentioned. In addition, the 1st, 2nd, 3rd, 7th, and 9th companies counted the low number of warehouses, especially the scarcity of A-class modern warehouses among the current problems. In addition, the 1st, 2nd, 4th, 7th, 8th, and 10th companies stated that another problem in the logistics sector is the shortage of trained personnel and experts. The 2nd, 3rd, 4th, and 7th companies count the low service quality among the existing problems. The 1st, 4th, and 10th companies stated that the logistics sector investments are insufficient, while the 5th company stated that the state support is low. The 1st, 4th, and 5th companies claim that the vehicles transporting goods do not comply with the old and international standards. The 4th, 6th, and 7th companies think that the technical equipment of the facilities is weak and does not comply with the standards. However, the 3rd company said that there is no multi-faceted service in the logistics centers and that there is no competition among the companies. While the 2nd company said that the internal communication between the logistics companies is insufficient, the 5th company also stated that there were deficiencies in informing the customers. The 6th company stated that there are irregularities in the planning and timing of the transportation of the goods and that the prices are also high. The 4th and 10th companies also counted the lack of statistical data in Kazakhstan among the problems.

The answers show that logistics companies do not carry only one type of goods, but also different types of products. The 1st, 3rd, 4th, 5th, and 6th companies stated that they can transport goods such as wagons, ships, aircraft parts, construction materials, construction equipment, drilling rigs, mining, and metallurgical products. The 1st, 3rd, 4th, and 8th companies stated that they also have the opportunity to transport liquid goods. In addition, the 1st and 8th companies stated that they can work on the transportation of dangerous, chemical, and radioactive materials. Unlike the others, the 1st company also carries "live" cargo, while the 7th company only transports the goods with declarations and documents (shoes, clothes, children's toys, cosmetics, furniture, electronic technology, electrical tools, etc.). The answers show that the 4th, 5th, 6th, and 10th companies also carry mineral fertilizers, animal feeds, agricultural products, and food. The 9th company carries ready-made products, consumer goods, cosmetics, and perfumes from the factory, and the 10th company carries cosmetics, tobacco, alcoholic products, pharmaceuticals, technological and electronic devices. The 2nd company stated that they transported all the goods that are not prohibited by the laws of Kazakhstan and that they do not carry illegal goods. The 5th company does not carry explosive and dangerous products. In addition, all companies stated that they carry out customs procedures for export and import transportation. The 1st, 5th, 7th, 9th, and 10th companies stated that they can assist their customers in obtaining various documents, insurance, and security as well as customs procedures. While the 6th, 7th, and 10th companies carry out their customs procedures through brokers, other companies can carry out these transactions with their staff.

Finally, all companies are positive about the establishment of a center where all their logistics needs will be met. Some also claimed that meeting all needs in one place would save time and money, and besides, such a center will provide convenience to customers. The 1st, 2nd, 3rd, 4th, 5th, and 7th companies declared a common idea that such a center should have various cars, car services, warehouses, dining hall, accommodation, weighing, packaging machines, health center, and all the necessary equipment. The 2nd, 3rd, 4th, 6th, 9th, and 10th companies stated that insurance, transportation, cargo, distribution, various permits, and customs procedures should be done in logistics centers. The 7th company, on the other hand, stated that to have a center that meets all needs, it is necessary to have expert staff trained in the field: "...It would be good for customers to be able to do all the work from a single center. If such a center exists, it should consist of the best-trained staff and the best companies in their field. He who knows his job well knows what is needed there. Therefore, first of all, the employees should be professional. They should be able to offer the most suitable vehicle and route options for national and international transportation of goods. It should have employees who will know which permits and authorization documents are needed for which products for the transportation of goods, who will inform them about the changes according to the country and region, and who will present competitive offers". The 8th company, on the other hand, thinks that a center where all needs are met is comforting and that companies will develop and grow rapidly: "Having a center that meets all their needs will relieve companies and make their work easier. I view the establishment of such a center positively. Some companies have been operating in our industry for a long time, newly established or providing limited

service. As you mentioned, a center enables these companies to grow and develop rapidly. The development of companies means the development of the logistics industry". The answers of the companies interviewed within the scope of the study show that a logistics center should be established in Kazakhstan where all needs are met.

Now, we need to share the findings of the axis and open codes of the coding of data related to competition, development, and quality of companies.

Table 3. Axes and open codes related to selective coding on "competition, development of firms and quality-related evaluations"

Evaluations on Competition, Development of Firms and Quality
Quality management and certificate Quality certificate, ISO 9001, ISO 2200, OHSAS 18001, ISO 14001, TAPA, Quality standards, Service, Facility features
Economic and Managerial benefits Speeding things up, Cost reduction, Option - Time, Option - Transportation, Option - Price, Synergetic effect, Planning, Development, Logistics cost, Demand
Competition and Development of Logistics Firms Competition, Foreign partner, Investors, Supplier, Consumer, Supply chain, New business opportunities, Logistics performance index, Customer
Note – Compiled by authors on the basis of research

As the first selective coding theme, the contribution of the logistics center to the companies was extracted from the data of the companies. In this selective coding, 28 different open codes are defined under three axes (Table 3).

Table 4. Axes and open codes for selective coding on "evaluations regarding the logistics industry"

Evaluations on the Logistics Sector
Vehicles and Transport System Vehicle fleet, Wagon, Container, Refrigerated wagon, Truck, TIR, Crane, Forklift, Trailer, Tanker, vehicles
Modes of Transportation Seaway, Highway, Airway, Pipeline, Railroad, Maritime
Technology and Communication Structure Technology, Digital management, Information, Navigation tracking system, GLONASS, Information, Navitel, Navigation, Vehicle tracking system, Digital Kazakhstan, Intelligent transportation system, Communication information exchange, Cargo tracking system
Transported Products and Their Features Heavy industry, Radioactive, Toxic, Transported goods, Hazardous-military industrial products
Note – Compiled by authors on the basis of research

The second selective coding theme extracted from the data of the companies is the evaluations related to the logistics sector. In this selective coding, 35 different open codes are defined under four-axis coding (Table 4).

Table 5. Axes and explicit codes for selective coding on "legal actions and expectations from the State or government"

Legal Action and Expectations from the State or Government
Legal Support Customs transactions, Insurance transactions, Broker, Tax, Fee, Connection with official institutions, Legal transactions, Documentation, Risk insurance
Solutions to the Problems and Needs of the Logistics Sector Maintenance and repair of roads, Problems, Insufficient infrastructure, Support, Maintenance and repair, Security measures, CRM, Industrialization, Modernization, Hardware
Relations with the State or Government Customs union, Eurasian economic union, Transport permit, Potential, Document, Authorization document, Permit, Nurlijol
Note – Compiled by authors on the basis of research

The third selective coding theme extracted from firms' data is legal action and expectations from the state or government. In this selective coding, 28 different open codes are defined under three-axis coding (Table 5).

Table 6. Axes and explicit codes for selective coding on "Evaluations about the logistics center"

Evaluations on the Logistics Center
Human Resources and Personnel Structure Scientist, Expert, Employee, Expert and trained personnel, Human resources, Occupational Health and Safety
Clustering Customs administration, Logistics, ATM, Financial centers, Cargo companies, Maintenance and repair services, Hotel, Health center, Clustering, Insurance, Facilities
Logistics Network and Connections Logistics network, Access to international corridors, Transit roads, Intercity transportation, International transportation, Access road connection, Export, Import
Features of the Logistics Center Modern warehouse, Quality of service, Class A warehouse, Versatile service, Multimodal transportation, Multimodal, Location, Infrastructure, Discipline, Emergency response, Search and rescue, Parking lot, Equipment, Coordinator, Operation
Features of the Location of the Logistics Center Population density, Industrial zones, Regional development, Traffic density, Customs, Logistics center, Warehousing
Note – Compiled by authors on the basis of research

The fourth selective coding theme extracted from the data of the companies is the evaluations about the logistics center. In this selective coding, 47 different open codes are defined under five-axis coding (Table 6).

Table 7. Statistics on coding according to the companies participating in the research

Interview File	Number of Codes Obtained with Open Coding	Number of Codes Obtained with Axis Coding	Number of Codes Obtained by Selective Coding
1. Firm	143	71	4
2. Firm	91	50	4
3. Firm	85	43	4
4. Firm	103	59	4
5. Firm	85	44	4
6. Firm	72	45	4
7. Firm	96	55	4
8. Firm	64	45	4
9. Firm	78	52	4
10. Firm	88	52	4
TOTAL	905	516	40
Note – Compiled by authors on the basis of research			

The analysis findings of the interview data of each enterprise are summarized in Table 7. At the open coding level, the highest number of codes were detected in the 1st and 4th enterprises. All of the selector code statements were also observed in all company interviews. According to these results, the main evaluation areas related to the logistics center consist of the four selective codes mentioned above.

Conclusions

The transportation sector is important for Kazakhstan and it is a rapidly developing sector in its economy. Some modes of transport are characterized by monopoly or oligopoly (air transport, rail, and pipeline transport), while others (road and water transport) are characterized by competition. In this context, a comprehensive analysis of Kazakhstan's logistics infrastructure is made and its potential and features of providing and maintaining worldwide goods flows are determined. According to the results, the main evaluation areas related to the logistics center consist of the four selective codes determined above. In other words, the problems that the sector companies expect during the establishment of the logistics center and their expectations after the logistics center is established can be expressed with the following items.

i. The logistics center should contribute to the competitiveness of the companies and the quality of the sector.

ii. The center must be compatible with the general structure of the logistics industry.

iii. The logistics center should facilitate companies' legal transactions and meet their expectations from the state or government.

iv. The logistics center should be sufficient (similar to other country practices) in terms of factors such as clustering, international connectivity, or physical characteristics.

The analysis of the structured interviews provided these results:

1. The open coding level analysis shows that companies know and use more than a hundred concepts or key phrases. This shows that the sector has a high interest in the logistics center, that they closely follow the developments in this field, and that their level of knowledge is high.

2. The axis coding level analysis revealed the dimensions that can be interpreted as the general framework related to the logistics center. As a result, the basic objectives, principles and values, operating policy, services to be fulfilled, vision and mission principles of the logistics center are determined.

3. In the analysis at the selective coding level, four main dimensions related to the logistics center were obtained.

a. Businesses mostly cared about the dimension of evaluations about the logistics center. Under this dimension, businesses generally expressed their views on the center's human resources and personnel structure, clustering, logistics network, connections, features, and location.

b. Other dimensions are;

– Evaluations on Competition, Development of Firms and Quality,

– Evaluations of the Logistics Sector,

– Legal Action and Expectations from the State or Government.

4. When we evaluated the structured interviews in general, we saw that the enterprises had some thoughts about the operation, location, duties, authorities, and responsibilities of the center. We consider that it would be beneficial to conduct new research to reveal these thoughts in more detail and to obtain information that will contribute to the establishment of the center. These studies can be in-depth interviews or focus group meetings on the selective coding information obtained, as well as in the form of structured questionnaires. In addition, ensuring the participation of other stakeholders in new studies will be complementary to this research. In this sense, state/government officials, mid-level workers/employees working in the enterprise, companies receiving service from the sector, and local government representatives can be considered stakeholders.

To sum up, we determined that by successfully applying a global experience such as establishing a logistics center, Kazakhstan can create an integrated complex that complies with international standards, can provide quality service for any goods in any direction and at any distance, and can provide all kinds of barrier-free transportation.

References

Aislu, T., Bagdat, T., Loprensipe, G., & Nailya, I. (2020). Analysis of enterrelation between economic, road, transport and logistic indicators. *News of the National Academy of Sciences of the Republic of Kazakhstan, Series of Geology and Technical Sciences,* 2(440), 162–169.

Bolganbayev, A., & Parilti, N. (2019). Kazakistan'da Taşımacılık Sektöründeki Gelişmelerle Gayri Safi Milli Hasıla (GSMH) Arasındaki İlişki. Third Sector Social Economic Review, 54(1), 626–637.

Bolganbayev, A.D., Myrzabekkyzy, K., Kelesbayev, D.N., & Baimaganbetov, S.T. (2021). The Importance of Logistics Center Application for Development of Goods Transportation and Research on Kazakhstan. *Bulletin of the Karaganda University. Economy series,* 4(104), 13–26.

Bryman, A., & Burgess, R.G. (2002). Analyzing Qualitative Data. This edition published in the Taylor & Francis e-Library. Routledge: London.

Bulatov, N.K., Balabaev, O.T., Arpabekov, M.I., & Bobeev, A.B. (2020). Formation of a transport and logistics center within the boundaries of a transitive economy. Research in Transportation Business & Management, 37(1), 100556.

Creswell, J.W. (2016). Nitel Araştırma Yöntemleri. (Üçüncü Baskı). Ankara: Siyasal Kitabevi, 97–288.

Gabdullina, L., Kirdasinova, K., Amanbayeva, A., Zeinullina, A., Tlessova, E., & Azylkanova S.A. (2020). Transport and logistics innovations in supply chain management: Evidence from Kazakhstan. *Uncertain Supply Chain Management,* 8(2), 255–266.

Omirbekova, R., Myrzabekova, M., & Sartayeva, K. (2017). Türkiye ve Kazakistan Lojistik Sistemlerinin Gelişim Perspektifleri. The International New Issues in Social Sciences, 5(5), 435–452.

Özdemir, M. (2014). Nitel Veri Analizi: Sosyal Bilimlerde Yöntembilim Sorunsalı Üzerine Bir Çalışma. Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi, 11(1), 323- 343.

Punch, K.F. (2011). Sosyal Araştırmalara Giriş. (İkinci Baskı). Ankara: Siyasal Kitabevi.

Raimbekov, Z., & Syzdykbayeva, B. (2021). Assessing the impact of transport and logistics on economic growth in emerging economies: a case study for the conditions of the Republic of Kazakhstan. *Transport Problems,* 16(2), 199–211.

Rana, K. (2016). Transportation in Kazakhstan and its Economic İmplications. International Journal of Business and *Applied Social Science,* 2(1), 11–20.

Mukhtarova, S.K., Ospanov, S.S., Antoni, A., & Sharapiyeva, M.D. (2018). The evaluation of the efficiency of transport and logistics infrastructure of railway transport. *Pomorstvo, 32*(1), 88–101.

Sladkowski, A., Teltayev, B., & Izteleuova, M. (2020). Multi-criteria choice of the region for the construction of a logistics center based on AHP: case study for Kazakhstan. *Transport Problems,* 15(2), 119–131.

Strauss, A.L. (1987). Qualitative Analysis For Social Scientists. Cambridge: Cambridge Universtity Press.

Yalçın, A. (2018). Küresel Doğan İşletmelerin Uluslararasılaşma Sürecine Etki Eden Girişimcilik Yöneliminde Yenilikçilik Boyutu. Doktora Tezi, Gazi Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

Yıldırım, A. (1999). Nitel Araştırma Yöntemlerinin Temel Özellikleri ve Eğitim Araştırmalarındaki Yeri ve Önemi. Eğitim ve Bilim Dergisi, 23(112), 7–17.

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Қазақстандағы логистикалық қызметтерді жетілдіру және логистикалық компания менеджерлерінің пікірлерін Nvivo бағдарламасы арқылы бағалау

Аңдатпа

Мақсаты: Мақала Қазақстанның көлік саласына шолу жасауға, логистикалық орталықтардың ағымдағы жағдайы мен жұмысын бағалауға, негізгі мәселелер мен олардың себептерін анықтауға бағытталған. Зерттеудің негізгі міндеті — ел мен сектор компанияларының Қазақстандағы дамып келе жатқан логистика секторынан талапқа сай логистикалық орталық құру мүмкін бе, мүмкін болса, логистикалық орталық қандай сипаттамаларға ие болуы керек екенін анықтау.

Әдісі: Бұл зерттеудің негізгі моделі компания менеджерлерімен құрылымдық сұхбатқа негізделген сапалық зерттеу болып табылады. Зерттеу саласы ретінде Қазақстандағы логистикалық сала қамтылған. Сапалық зерттеудің аясы елімізде жұмыс істейтін логистикалық компаниялар болып табылады. Компания басшыларының бағалаулары мен талдауларын алу үшін сұхбат парағы дайындалып, осы формаға сәйкес басшылардың мәлімдемелері жазылды. Алынған ақпарат Nvivo сапалық зерттеу бағдарламасының көмегімен талданды.

Қорытынды: Сапалы талдау нәтижесінде логистикалық орталықтан сала өкілдеріне қойылатын талаптар және сала мен ел экономикасының дамуын қолдау тұрғысынан олардың біліктілігі анықталды. Іскерлік сұхбаттардың барлығында дерлік логистикалық орталық, логистика және логистикалық қызмет сияқты ұғымдардың бірінші орынға шығуы сектордың тақырыпқа деген сезімталдығын көрсетті.

Тұжырымдама: Логистикалық орталық құрудың әлемдік тәжірибесін сәтті қолданып келе жатқан Қазақстанның халықаралық стандарттарға сәйкес барлық бағытта, барлық қашықтықтағы кез келген тауар үшін сапалы қызмет көрсетуге қауқары бар екендігі, сондай-ақ кедергісіз тасымалдаудың барлық түрін қамтамасыз ете алатын кешенді құра алатындығы анықталды.

Кілт сөздер: логистика, логистикалық сектор, логистикалық инфрақұрылым, логистикалық қызметтер, логистикалық компаниялар, тасымалдау, Қазақстан, Nvivo бағдарламасы.

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Развитие логистических услуг в Казахстане и оценка мнений менеджеров логистических компаний с помощью программы Nvivo

Аннотация

Цель: Данное исследование направлено на обзор транспортной отрасли Казахстана, оценку текущего состояния и работы логистических центров, выявление основных проблем и их причин. Основная задача исследования — выяснить, возможно ли создание логистического центра, отвечающего ожиданиям страны и компаний сектора от развивающегося сектора логистики в Казахстане, и если возможно, то какими характеристиками должен обладать логистический центр.

Методы: Основной моделью данного исследования является качественное исследование, основанное на структурированном интервью с менеджерами компании. Он охватывает логистическую отрасль в Казахстане как область исследования. Сферой качественного исследования являются логистические компании, работающие в стране. Была подготовлена форма интервью для получения оценок менеджеров компании, и заявления менеджеров были записаны в соответствии с этой формой. Полученная информация была проанализирована с помощью пакета качественных исследований NVivo.

Результаты: В результате качественного анализа были выявлены требования к представителям отрасли от логистического центра и их квалификации с точки зрения поддержки развития отрасли и экономики страны.

Преобладание таких понятий, как логистический центр, логистика и логистические услуги практически во всех деловых интервью, показывает чувствительность сектора к этой теме.

Выводы: Установлено, что Казахстан, успешно применивший мировой опыт создания логистического центра, способен оказывать качественные услуги для любых грузов во всех направлениях, на всех расстояниях, а также может создать интегрированный комплекс, способный обеспечить все виды безбарьерных перевозок в соответствии с международными стандартами.

Ключевые слова: логистика, логистический сектор, логистическая инфраструктура, логистические услуги, логистические компании, транспорт, Казахстан, программа Nvivo.

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Impact of COVID-19 on Kazakhstan's economy

Abstract

Object: This article aims to analyze the impact of the COVID-19 outbreak on the economy of Kazakhstan, identify positive and negative factors, and propose recommendations for further economic development and overcoming the crisis based on the opinions of leading experts in the field.

Methods: A theoretical review of the scientific literature on the research topic.

Results: Using scientific analysis based on publications dated 2020-2021 and statistical data from official information resources, the main directions of Kazakhstan's economic development were outlined. The analysis of the situation in the sphere of economic research was carried out. Economic freedom indicator and business climate ranking were provided.

Conclusions: Since assessment and prediction of the economic situation in Kazakhstan have been performed in accordance with various criteria and methods, it is therefore difficult to obtain an unambiguous picture of socio-economic threats induced by the processes taking place in the global economy nowadays. Nevertheless, the analysis of economic indicators shows that the economic well-being of the country appears to be satisfactory, and Kazakhstan has good prospects for further development in many areas. New approaches to the investment sector in the economic policy of the country are necessary to overcome the crisis caused by the pandemic. The authors propose a change in the basic approaches to regulatory policy, formulated the principles of comprehensive and effective regulation, taking into account current economic challenges.

Keywords: Kazakhstan, COVID-19, economic crisis, pandemic, expert opinion, index of economic freedom, doing business rank.

Introduction

Currently published analytical reports and economic surveys indicate that even the US and Chinese economies have been exposed to the negative effects of the COVID-19, such as reduced government revenue and lower economic activity of the population (Aliefendioğlu, Tanrivermis, & Salami, 2021; 1–19; Straka et al., 2021; 1–30). Low- and middle-income countries experienced similar effects from the world lockdown (Egger et al., 2021; 1–12) and attempted to fill the financing gap through loans and currency swaps provided by international financial institutions, that, according to the experts, would only exacerbate the crisis, as the costs of dealing with the pandemic are likely to increase in the future, and access to immediate financing mechanisms will be limited due to the substantial debt burden (Stubbs et al., 2020; 1–8).

The level of uncertainty about when the global economy will return to its original status is high. The first wave of COVID-19 pandemic lasted about 6 months. Since the beginning of the second wave of COVID-19, many countries tried to minimize its impact, however, strategies that were successfully applied during the previous global financial crisis, were ineffective in addressing the challenges posed by the pandemic (French, 2020; 463–470).

The first case of COVID-19 infection in Kazakhstan was registered in March 2020. On July 20, 2022, more than 1.41 million cases of the disease and more than 19 thousand deaths were registered (WHO, 2022). Currently, about 2 thousand cases a day have been registered. The epidemiological situation has stabilized over the past month, and currently, almost all regions are outside the high-risk zone ("red zone"). The Kazakhstan authorities continue to gradually open up the economy and ease restrictions for regions that remain outside the red zone (IMF, 2021). Nevertheless, there are still some restrictive measures: the authorities have

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reduced the number of international flights, closing borders for some countries. On the other hand, there is also a positive aspect of the pandemic: recently in Kazakhstan, a mobile application was launched to track the level of immunity of people (IMF, 2021).

Relevance of the study. Currently, the economy of Kazakhstan, as well as many developing countries, has a number of serious problems, in particular, the lack of economic sustainability and the impending new wave of the pandemic coronavirus, which may again entail a series of cuts, instability in the social sphere, and new economic challenges. Unfortunately, there are few publications in the available scientific literature devoted to the impact of COVID-19 on the economy of Kazakhstan. This study presents the results of a macroeconomic forecast considering the consequences of the COVID-19 pandemic for assessing the development of the economy of Kazakhstan. The data and the theoretical interest in this paper are presented to specialists in the field of economics and can be used by public authorities with developing a strategy for the socio-economic development of the Republic of Kazakhstan.

Novelty and Practical Significance. The novelty of the study lies in the fact that the authors have systematized the results of a critical review and analysis of the economy of Kazakhstan, the prospects for development and areas of state support for regional industries during the pandemic. The actual measures proposed by the authors for targeting strategic investors and the formation of new ecosystems in the sectors of the economy have practical significance.

The aim of the study is to consider the impact of COVID-19 on the economy of Kazakhstan.

The objectives of the study are to seek and analyze the views of economic experts on possible solutions to the crisis created by the pandemic.

Hypothesis. It is expected that new approaches to the investment sector in the economic policy of the country will lead to the development of entrepreneurship and improve the economic situation in the country during the pandemic.

Methods

The presented research is analytical. The research methods are based on the principles of system-structural analysis, the methods of scientific analysis and synthesis were applied. Based on the analysis of publications of 2020–2021, official reports of state bodies and analytical bureaus, the main data on the state of the Kazakh economy during the pandemic were presented. To analyze the current state of Kazakhstan's economy, reliable data were collected from official sources for March 2021. The logical explanation and description of the problem were provided. To make the study more informative, the article presented current statistical data and theoretical materials on the research theme.

In addition to the above, the results of the study include the following:

1. The index of economic freedom, which reflects the ten components of economic freedom, is grouped into four broad categories or pillars of economic freedom: the rule of law (property rights, freedom from corruption); limited government (fiscal freedom, public expenses); regulatory efficiency (freedom of business, freedom of labor, monetary freedom); open markets (freedom of trade, freedom of investment, financial freedom). Each of the freedoms in these four broad categories is evaluated individually on a scale from 0 to 100. The overall assessment of a country's economic freedom is a simple average of its assessments of 10 individual freedoms.

2. Rating of the business environment. The business rating model reflects the quality or attractiveness of the business environment in 82 countries covered by The Economist Intelligence Unit reports by country. It explores ten separate criteria or categories covering the political environment, the macroeconomic environment, market opportunities, free enterprise and competition policy, foreign investment policy, foreign trade and currency control, taxes, financing, labor market, and infrastructure.

Literature review

The President of Kazakhstan Kassym-Jomart Tokayev on 15th March 2020 issued a decree on the health emergency throughout the country, which forced the closure of schools, universities, kindergartens, shopping and business centers. Four days later, quarantine measures were introduced in the former and present capitals of Almaty and Nur-Sultan. In April, the government began paying a one-time unemployment benefit of 42,500 tenge to those who lost their jobs due to COVID-19. Two electronic portals operated by the Ministry of Labor failed on the first day, which led to serious delays in payments (Voloshin, 2021).

Despite the fact that the poorly coordinated government response to the pandemic was a common cause of discontent throughout the Central Asian region, and despite the fact that Kazakhstan coped with the chal-

lenges better than neighboring countries, the emergency situation was an additional confirmation of the fragility of the country's economic model.

According to Kazakh scientists, in the modern conditions of the crisis experienced by the world economy and the suspension of economic activity, the issues of the development of the oil and gas industry not only in our country but also in the entire world economy have become aggravated and require theoretical reconsideration.

Experts emphasize that Central Asia's largest economy is still heavily dependent on crude oil exports. The global benchmark of Brent crude oil at the end of February 2020 was trading on the spot market at about $ 60 per barrel, but by the middle of March 2020, it fell to $ 26 per barrel. The spread between Brent and CPC Blend grades, which Kazakhstan exports abroad, increased by April to an unprecedented $11 per barrel. According to the March estimate of Kazakhstan economists, every $ 10 drop in the price of Brent crude oil led to a loss of Kazakhstan's daily export revenue in the amount of $ 20 million.

Against the background of new production cuts agreed in April 2020 between Russia, Saudi Arabia, and other members of the OPEC+ Group (International Intergovernmental Organization of Petroleum Exporting Countries), Kazakhstan Union of Oilfield Service Contractors said in May that almost half of its members are on the verge of bankruptcy. A few months later, the national oil and gas company KazMunayGas reported a 97% decrease in net profit for the first half of 2020 (Voloshin, 2021).

According to the National Bank of Kazakhstan, as a result of the COVID-19 outbreak and falling oil prices, Kazakhstan's gross domestic product (GDP) decreased by 2.6%, and the current account became deficient in the amount of 5.7 billion dollars in 2020. The National Fund, the sovereign wealth fund accumulating oil revenues, decreased by $2.4 billion due to the adoption of anti-crisis measures. Last year, the government borrowed $4 billion by selling treasury bills and plans to borrow up to $4.5 billion in 2021 (National bank of Kazakhstan, 2021). Thus, the total volume of new borrowings is almost 5.5 percent of GDP in 2020.

President K.-J. Tokayev announced a number of new measures aimed at increasing the economic attractiveness and competitiveness of the country, eradicating corruption and reducing the tax burden for small and medium-sized businesses. However, in a statement, it was predicted the end of the upward cycle in the commodity sector, adding: "We must develop a technologically diversified economy. There are no more alternatives to this path" (Voloshin, 2021).

The policy measures taken to resolve the current economic situation in Kazakhstan include price regulation for socially important goods, financial support for vulnerable sectors, and targeted assistance to significantly affected small and medium-sized enterprises (SMEs). The development strategy includes plans to improve public administration through public service reform, increase competitiveness in priority sectors such as manufacturing, pharmaceuticals, and agriculture, as well as social policies to support the welfare of the population (IMF, 2021).

Let us focus on the key support measures as on March 2, 2021. The following anti-crisis packages are highlighted: fiscal, monetary, and macro-financial.

1. Fiscal package

The anti-crisis package announced in March 2020 includes cash payments to the unemployed and self-employed, the increase of pension and social benefits, additional health care costs and support for employment and business. Subsidized lending in the amount of 1 trillion tenge (1.5% of GDP) is provided under the State Program "Economy of Simple Things" along with measures to assist SMEs in financing current assets (800 billion tenge). 1.8 trillion tenge has been allocated to support employment under the program "Roadmap to Employment", including some large-scale projects to modernize transport infrastructure. Individual enterprises and individual entrepreneurs are also entitled to new tax benefits. Additional measures recently announced to restore economic growth include the mortgage subsidy program for households with a segment specifically targeted at young people, tax incentives for agriculture, and significantly affected sectors (civil aviation, tourism), credit support for SMEs and manufacturing enterprises (the newly established industrial development fund) and infrastructure development. After the resumption of quarantine, as previously indicated, in early July 2020, the authorities provided additional money transfers to individuals who lost their jobs due to quarantine, reduced subsidized interest rates on SME loans (up to 6%) and expanded tax benefits for vulnerable persons and enterprises. It is expected that some supportive measures (for example, "Roadmap to Employment" and current assets support for SME) will be continued in 2021. The Health Ministry recently announced plans to increase doctors' salaries in 2021–2023; estimated total budget expenditures are about 0.7% of GDP in 2021.

2. Monetary and microfinance packages

The National Bank of Kazakhstan (NBC) raised the base rate from 9.25% to 12% on March 10, 2020, after pressure on the tenge increased due to falling oil prices. Later lowered the base rate and kept it at 9%. To support banks and the economy as a whole, since the middle of March 2020, the official authorities have reduced the risk weights (for SMEs from 75% to 50%, for loans in foreign currency from 200% to 100% and from 100% to 50% for syndicated loans); the capital conservation buffer by one percentage point; liquidity ratio (from 80% to 60%), and also lowered the limits of open foreign exchange positions.

To support the population and small and medium-sized businesses, the authorities encouraged banks and other lenders to delay repayment of the loan to eligible borrowers until the removal of restrictions in connection with COVID-19. It is expected that most of these measures will be temporary, and some (for example, the buffer conservation assets) will last until the middle of 2021 (IMF, 2021).

According to Kazakh scientists, depending on the purpose, currency regulation can stimulate or restrain the economic development of the country and, accordingly, affect the state of individual sectors, industries and enterprises, as well as the place of the state in the world market. In modern conditions of economic globalization, the exchange rate is becoming one of the main complex macroeconomic indicators, which affects not only the foreign economic activity of the state but also the socio-economic development of our country as a whole (Ongdash et al., 2020; 54–65).

As for the exchange rate, the NBU allowed tenge to depreciate by more than 15% to almost 450 tenge per dollar in March 2020, intervening to mitigate excessive volatility. Tenge partially recovered in April, and in general, it depreciated by 10% in 2020 due to the continuing uncertainty about the pandemic. The NBK has mostly refrained from currency interventions since April, with the exception at the end of September and October, when the tenge was under pressure due to falling oil prices. International reserves have increased due to the rise in gold prices. Tenge remained stable with a slight strengthening in 2021, helped by increased oil prices (IMF, 2021).

Thus, the growth of real GDP in Kazakhstan as of 2020 decreased by 2.6%. Summarizing the above, we note that, according to experts, the decline in the country's economy is mainly due to low activity in the services sector and a reduction in oil production in accordance with the OPEC+ agreement, while a significant package of state support (9% of GDP, announced in March 2020) helped to mitigate the economic consequences.

Results and Discussion

After analyzing data from the United States and the United Kingdom, where large-scale knockdowns were carried out, Aum, Lee, & Shin (2020; 1–19) concluded that only half of the 5-6 percent reductions in the number of jobs in the economies of these countries are associated with the closure of production due to quarantine. The rest of the cases could be caused by other factors, such as public panic.

According to the results of statistical calculations performed by Asahi et al. (2021; 1–11), the local introduction of isolation in Chile for 3-4 months had the same effect on economic activity in the country as the Great Recession of 2008-2009. However, the findings of the study by Brzezinksi, Kecht, & van Dijcke (2020; 1–38) indicate that the refusal to introduce quarantine measures does not provide an improvement in economic indicators due to increased spending in the health sector.

In contrast to the 2015 crisis, the flexibility of the tenge ensured the protection of foreign exchange reserves (excluding gold), which compensated for the reduction in the inflow of foreign direct investment in hydrocarbons. Restrictions on the withdrawal of foreign currency by companies were introduced in the second half of 2020, and there is a risk of introducing additional restrictions or capital controls in 2021.

Based on the survey results and official sources, the current state of the economy of Kazakhstan is described and a forecast of economic development for 2021–2022 is presented in this chapter.

According to official data, Kazakhstan's economic growth is largely based on revenues from gas and oil (35% of GDP and 75% of exports). Kazakhstan's GDP increased by 4.5% in 2019 as domestic demand, business spending and a construction boom supported economic activity. In 2020, Kazakhstan's economy collapsed due to the outbreak of the COVID-19 pandemic, a negative growth balance (2.7%) was registered. According to the forecast of the International Monetary Fund (IMF), growth will resume in 2021, amounting to 3.3% of GDP, and will stabilize at 3.6% in 2022.

In April 2020, the average oil price fell to $21 per barrel – the lowest level in the last two decades. This made the economy even more vulnerable. Public debt increased to 24.1% of GDP in 2021, compared with 23.4% in 2020, and is expected to rise to 25.3% in 2022. In addition, the country's budget deficit reached 4.9% in 2020. The IMF predicts a slight budget reduction; the deficit will be 3% in 2021 and 2% in 2022.

Table 1 provides detailed data and the forecast of the development of the economic situation in Kazakhstan for 2021–2022.

Table 1. Key macroeconomic indicators January–March 2021

Indicator, %	2018	2019	2020*	2021**	2022**
GDP (USD billion)	179,34	181,67**	165,73	180,72	199,55
GDP growth	4,1	4,5	-3,5	2,8 / 3,3	3,6
GDP per capita (US $)	9**	9**	8	9	10
Inflation (annual average)	6,0	5,2	6,9	6,2	5,0
Unemployment rate (% of employed)	4,9	4,8	7,8	5,8	4,8
Fiscal balance (% of GDP)	2,3	-1,3	-4,9	-3,0	-2,0
Budget balance (% of GDP) ***	2,6	-0,6	-5,3	-3,3	-
Current account balance (USD billion)	-0,22	-6,5	-5,49	-5,1	-5,12
Current account balance (% of GDP)	-0,1	-3,6	-3,3	-2,8	-2,6
General government gross debt (% of GDP)	20,3	19,9	23,4	24,1	25,3
** - assessment; ** - forecast; *** - including receipts from the sovereign fund of the NFRK;* *Note – Compiled by the authors on the basis of these sites (Nordea, 2021; Coface, 2021)*					

Since 2015, Kazakhstan has been a member of the Eurasian Economic Union (with Russia, Belarus, Armenia, and Kyrgyzstan), which can eventually be used to promote economic diversification. Kazakhstan is turning more to China to meet its development needs, while China considers cooperation mutually beneficial, as Kazakhstan contributes to the development of the Silk Road project: in 2015, a railway terminal was opened on the Chinese side of the border. Kazakhstan stopped exporting oil to China in early 2020 after the discovery of contaminated materials in crude oil flows to China.

Emerging challenges include weakening global demand for fossil fuels, increased regional competition to attract investment, increased risks of instability in the financial sector, and a greater need for accountable and transparent management.

Index of the Economic freedom of Kazakhstan according to the Heritage Foundation for 2019 was 65.4 out of 100; Kazakhstan ranked 59th in the world ranking on the index of economic freedom, and 12th in the regional ranking (The Heritage Foundation, 2021).

Rating of Kazakhstan's business environment based on the results of calculations by "The Economist - Business Environment Rankings" for 2014–2018 was 5.67; in the world ranking, Kazakhstan has 64th place out of 82 (The Economist, 2021).

The industry of Kazakhstan has grown over the past few years, and currently accounts for 33% of the GDP; it employs 20.5% of the working-age population. The state of agriculture deteriorated after the collapse of the Soviet Union, but it has recovered over the past 20 years. The sector accounts for 4.5% of the GDP and employs 15.4% of the working-age population.

At the same time, the unemployment rate in Kazakhstan increased to 7.8% in 2020 compared to 4.8% in 2019 due to the negative economic consequences of the COVID-19 pandemic, such as weakening global demand for fossil fuels and increased risks of instability in the financial sector. Regarding IMF estimates, this trend is expected to decrease to 5.8% in 2021 and to 4.8% in 2022. According to the World Bank's estimates for the economic development of Kazakhstan, the poverty rate in the country increased to 12–14% in 2020 from the baseline level of 6% in 2016. The Government has provided significant direct support to businesses through tax deferrals and subsidized loans, as well as financial support to poor households and affected persons.

Conclusions

Consequences of the COVID-19 pandemic affected the economy of Kazakhstan more than the crises of 2008 and 2015. The pandemic halted global activity in the second quarter of 2020 and reduced global demand and oil prices. Despite the government's efforts to diversify, unfortunately, Kazakhstan is still dependent on oil prices, and the economy is heavily dependent on hydrocarbon exports.

Economic weakness, such as the above-mentioned dependence on raw materials (oil, gas, uranium, iron, steel, copper); dependence in solving some issues on the main partner in diplomacy and security - Russia, as well as China; an insufficiently diversified economy; insufficiently developed road, port, and electrical infrastructure; weakly competitive market structures (high concentration in key sectors and a significant

presence of the state), fragile banking system and significant dollarization (40% of deposits and 16% of loans), weak governance (corruption, politicization of the judicial system, shortcomings of collective legal proceedings), require advanced solutions.

Moreover, Kazakhstan has no access to the sea; it has a low population density and is relatively far from world markets. Despite WTO membership, there are significant non-tariff barriers.

However, there are also strengths in the Economy of Kazakhstan, which follows: the country has significant oil and gas and mining potential, the extraction of hydrocarbons; the state has a net creditor position and a well-secured sovereign wealth fund; in addition, Kazakhstan is a country with abundant foreign direct investment, the floating exchange rate, a member of the Eurasian Economic Union (EAEU) and a member of the Chinese initiative "One Belt – One Road" (BRI), as well as the country, has a good strategic location between Europe, Russia, and China.

Estimation and forecasting of the economic state of Kazakhstan are carried out according to various criteria and methods, which does not allow us to get an unambiguous picture of the socio-economic threats caused by the processes taking place in the modern economic space. Nevertheless, the results of the analysis of economic indicators demonstrate that the economic condition of the country seems satisfactory; Kazakhstan has good prospects for further development in many areas. Also, the economy of the Republic of Kazakhstan has been developing dynamically even in the conditions of quarantine restrictions. The strategic goal of Kazakhstan by 2050 is to be among the 30 developed countries of the world while maintaining a favorable economic environment, and a growth rate of 5.5% is predicted. However, the crises of 2014–2015, as well as the recent troubles, were a deterrent to economic growth, radically changing the basic scenario of development.

Let us consider proposals for a way out of the pandemic crisis. We believe that to restore stable and qualitative economic growth and overcome the crisis, the government should further move towards attracting investment, creating a strong entrepreneurial class, increasing the self-sufficiency of the economy and promoting exports, industrial and service development, improving the social welfare of the population and macroeconomic stability. It is necessary to attract investment, which implies the need to change the regulatory approach from passive, based on the creation of favorable conditions for the investor, to direct work with each holder of capital at all stages of the value-added chain.

Systemic measures to support investors based on the identification of priorities and potential effects on the economy as a whole are critical. To stimulate the inflow of investment, stability of legislative conditions of formation and resource provision of state programs should be ensured, including preferential financing, loan guarantees, export support mechanisms. Extension of preferences in free economic zones, guaranteed purchase of products by state, quasi-state sectors and subsoil users, and reimbursement of part of capital costs through tax instruments (based on the offset of tax liabilities arising after the end of the preferential tax period, etc.) should be provided for major projects.

To improve the investment climate measures should be taken to develop the level and accessibility of basic infrastructure facilities. This is possible due to the reimbursement of investors' costs for the development and construction of engineering and communication infrastructure. Developed infrastructure will allow for diversification of the investment portfolio of public-private partnership projects and improve the quality of projects.

An obligatory condition is the support of anti-crisis programs at the state level. It is worth noting that for realization of a course on the economic growth of our country, the Ministry of National Economy in tandem with the Institute of Economic Research worked out practical recommendations on provision of GDP growth at the level of 7,5 %. However, this is not enough.

Thus, new approaches to the investment sector in the country's economic policy are required. It is essential to rethink the basic approaches to regulatory policy, taking into account today's economic challenges. New approaches to the investment sector in the country's economic policy will also lead to improvement of the economic situation in the country during the ongoing pandemic.

References

Aliefendioğlu, Y., Tanrivermis, H., & Salami, M.A. (2021). House price index (HPI) and Covid-19 pandemic shocks: evidence from Turkey and Kazakhstan. *International Journal of Housing Markets and Analysis*, Ahead of print, 1–19.

Asahi, K., Undurraga, E.A., Valdés, R., & Wagner, R. (2021). The effect of COVID-19 on the economy: evidence from an early adopter of localized lockdowns. *Journal of Global Health*, 11, 1–11.

Aum, S., Lee, S.Y.T., & Shin, Y. (2020). COVID-19 doesn't need lockdowns to destroy jobs: The effect of local outbreaks in Korea. *National Bureau of Economic Research*, w27264, 1–19.

Brzezinski, A., Kecht, V., & Van Dijcke, D. (2020). The cost of staying open: voluntary social distancing and lockdowns in the US. *Economics Series Working Papers Oxford*, 910, 1–38.

Coface for trade (2021). Major macroeconomic indicators from Kazakhstan. https://www.coface.com/Economic-Studies-and-Country-Risks/Kazakhstan (Date of access: 28.04.2021).

Egger, D., Miguel, E., Warren, S. S., Shenoy, A., Collins, E., Karlan, D., Parkerson, D., Mobarak, A. M., Fink, G., Udry, C., Walker, M., Haushofer, J., Larreboure, M., Athey, S., Lopez-Pena, P., Benhachmi, S., Humphreys, M., Lowe, L., Meriggi, N. F., Wabwire, A., …Vernot, C. (2021). Falling living standards during the COVID-19 crisis: Quantitative evidence from nine developing countries. *Science advances*, *7*(6), 1–12.

French, N. (2020). Property valuation in the UK: material uncertainty and COVID-19. *Journal of Property Investment and Finance*, 38(5), 463–470.

International Monetary Fund (IMF) (2021). Policy Responses to COVID-19. *www.imf.org.* https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#K (Date of access: 18.04.2021).

National bank of Kazakhstan (2021). https://www.nationalbank.kz/en (Date of access: 20.04.2021).

Nordea (2021). Kazakhstan: Economic and Political Overview. https://www.nordeatrade.com/en/explore-new-market/kazakhstan/economical-context (Date of access: 28.04.2021).

Ongdash, A., Elemesov, R., Rakhmetjan, A., & Ongdashuly, E. (2020). Methods of influencing the exchange rate: problems of currency regulation and ways to overcome them. *The Journal of Economic Research & Business Administration*, 4(134), 54–65.

Straka, W., Kondragunta, S., Wei, Z., Zhang, H., Miller, S.D., & Watts, A. (2021). Examining the Economic and Environmental Impacts of COVID-19 Using Earth Observation Data. *Remote Sensing*, 13(1), 1–30.

Stubbs, T., Kring, W., Laskaridis, C., Kentikelenis, A., & Gallagher, K. (2020). Whatever it takes? The global financial safety net, Covid-19, and developing countries. *World Development*, 137, 1–8.

The Economist (2021). Kazakhstan — Business: Business environment. Business Environment Rankings (2021). https://www.economist.com (Date of access: 15.04.2021).

The Heritage Foundation (2021). Kazakhstan Economy: Population, GDP, Inflation, Business. https://www.heritage.org (Date of access: 28.04.2021).

Voloshin, G. (2021). Year 2020 in Review: Kazakhstan struggling with structural reform amid COVID-19 Crisis, Eurasia Daily Monitor, 18(14). *jamestown.org.* https://jamestown.org/program/year-2020-in-review-kazakhstan-struggling-with-structural-reform-amid-covid-19-crisis (Date of access: 20.04.2021).

World Health Organization (WHO) (2022). Kazakhstan. *covid19.who.int.* https://covid19.who.int/region/euro/country/kz (Date of access: 21.07.2022).

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COVID-19-дың Қазақстан экономикасына әсері

Аңдатпа

Мақсаты: Осы талдамалық мақалада пандемия кезеңіндегі Қазақстандағы экономикалық жағдайға қатысты материалдар ұсынылған. COVID-19 пандемиясы жалпы экономикаға әсер ететін жаһандық экономикалық салдарға әкелді. Алайда, осы салада өзекті зерттеулер іс жүзінде жоқ. Осылайша, зерттеудің мақсаты COVID-19 індетінің Қазақстан экономикасына әсерін талдау, оң және теріс факторларды анықтау, сондай-ақ осы саладағы жетекші сарапшылардың пікірлері негізінде экономиканы одан әрі дамыту және дағдарыстан шығу үшін ұсынымдар беру болып табылады.

Әдістері: Зерттеу тақырыбы бойынша ғылыми әдебиеттерге теориялық шолу.

Нәтижелер: 2020–2021 жылдардың жарияланымдарына негізделген ғылыми талдау арқылы ресми ақпараттық ресурстардың статистикалық деректері Қазақстан экономикасын дамытудың негізгі бағыттары баяндалды; экономикалық зерттеулер саласындағы жағдайға талдау жүргізілді. Экономикалық еркіндік индексі мен бизнес-орта рейтингісінің көрсеткіштері ұсынылған.

Қорытынды: Қазақстанның экономикалық жағдайын бағалау және болжау әртүрлі өлшемдер мен әдістемелер бойынша жүзеге асырылады, бұл қазіргі экономикалық кеңістікте болып жатқан үдерістерден туындайтын әлеуметтік-экономикалық қауіптердің айқын көрінісін алуға мүмкіндік бермейді. Соған қарамастан, экономикалық көрсеткіштерге жүргізілген талдау нәтижелері бойынша елдің экономикалық жағдайы қанағаттанарлық болып көрінеді, Қазақстанның көптеген салаларда одан әрі дамуының жақсы перспективалары бар. Пандемиядан туындаған дағдарыстан шығу үшін елдің экономикалық саясатындағы инвестициялық секторға жаңа тәсілдер қажет. Авторлар реттеуші саясаттың базалық тәсілдерін өзгертуді ұсынады, қазіргі экономикалық сынқатерлерді ескере отырып, кешенді және тиімді реттеу қағидаттары тұжырымдалған.

Кілт сөздер: Қазақстан, COVID-19, экономикалық дағдарыс, пандемия, сарапшылардың пікірлері, экономикалық бостандық индексі, іскерлік ортаның рейтингісі.

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Воздействие COVID–19 на экономику Казахстана

Аннотация:

Цель: В данной аналитической статье представлены материалы, касающиеся экономической ситуации в Казахстане в период пандемии. Пандемия COVID–19 вызвала глобальные экономические последствия, которые повлияли на экономику, в целом. Однако практически отсутствуют актуальные исследования в данной области. Таким образом, цель исследования состоит в анализе влияния вспышки COVID–19 на экономику Казахстана, выявлении позитивных и негативных факторов, а также представлении рекомендаций для дальнейшего развития экономики и выхода из кризиса на основании мнений ведущих экспертов в данной области.

Методы: Теоретический обзор научной литературы по теме исследования.

Результаты: Посредством научного анализа, основанного на публикациях 2020–2021 гг., статистических данных официальных информационных ресурсов изложены основные направления развития казахстанской экономики; проведен анализ положения в сфере экономических исследований. Представлены показатели индекса экономической свободы и рейтинга бизнес-среды.

Выводы: Оценка и прогнозирование экономического состояния Казахстана осуществляются по различным критериям и методикам, что не позволяет получить однозначную картину социально-экономических угроз, обусловленных процессами, протекающими в современном экономическом пространстве. Тем не менее, по результатам произведенного анализа экономических показателей, экономическое состояние страны представляется удовлетворительным, Казахстан имеет хорошие перспективы дальнейшего развития во многих сферах. Для выхода из кризиса, вызванного пандемией, необходимы новые подходы к инвестиционному сектору в экономической политике страны. Авторами предложены некоторые изменения в базовых подходах к регуляторной политике, сформулированы принципы комплексного и эффективного регулирования с учетом современных экономических вызовов.

Ключевые слова: Казахстан, COVID–19, экономический кризис, пандемия, экспертное мнение, индекс экономической свободы, рейтинг бизнес-среды.

References

Aliefendioğlu Y., Tanrivermis H., Salami M. A. House price index (HPI) and Covid-19 pandemic shocks: evidence from Turkey and Kazakhstan // *International Journal of Housing Markets and Analysis*. — 2021. — Препринт. — С. 1–19.

Asahi K., Undurraga E. A., Valdés R., Wagner R. The effect of COVID-19 on the economy: evidence from an early adopter of localized lockdowns // *Journal of Global Health*. — 2021. — Т. 11. — С. 1–11.

Aum S., Lee S. Y. T., Shin Y. COVID-19 doesn't need lockdowns to destroy jobs: The effect of local outbreaks in Korea // *National Bureau of Economic Research*. — 2020. — № w27264. — С. 1–19.

Brzezinski A., Kecht V., Van Dijcke D. The cost of staying open: voluntary social distancing and lockdowns in the US // *Economics Series Working Papers Oxford*. — 2020. — Т. 910. — С. 1–38.

Egger D., Miguel E., Warren S. S., Shenoy A., Collins E., Karlan D.,... Vernot C. Falling living standards during the COVID-19 crisis: Quantitative evidence from nine developing countries // *Science Advances*. — 2021. — Т. 7. — № 6. — С. 1–12.

French N. Property valuation in the UK: material uncertainty and COVID-19. Journal of Property Investment and Finance. — 2020. — Т. 38. — № 5. — С. 463–470.

Kazakhstan — Business: Business environment. The Economist — Business Environment Rankings [Электрон. ресурс] — URL: https://www.economist.com/ (дата обращения: 15.04.2021)

Kazakhstan Economy: Population, GDP, Inflation, Business. Heritage Foundation [Электрон. ресурс] — URL: https://www.heritage.org/ (Дата обращения: 28.04.2021).

Kazakhstan: Economic and Political Overview. NORDEA [Электрон. ресурс] — URL: https://www.nordeatrade.com/en/explore-new-market/kazakhstan/economical-context (дата обращения: 28.04.2021)

Major macroeconomic indicators from Kazakhstan. COFACE for trade [Электрон. ресурс] — URL: https://www.coface.com/Economic-Studies-and-Country-Risks/Kazakhstan (дата обращения: 28.04.2021)

National bank of Kazakhstan. Nationalbank.kz [Электрон. ресурс] — URL: https://www.nationalbank.kz/en (Дата обращения: 20.04.2021).

Ongdash A. и др. Methods of influencing the exchange rate: problems of currency regulation and ways to overcome them // *The Journal of Economic Research & Business Administration*. — 2020. — Т. 4. — № 134. — С. 54–65.

Policy Responses to COVID–19. IMF.org [Электронный ресурс] — URL: https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#K (дата обращения: 18.04.2021)

Straka W., Kondragunta S., Wei Z., Zhang H., Miller S. D., Watts A. Examining the Economic and Environmental Impacts of COVID-19 Using Earth Observation Data // *Remote Sensing*. — 2021. — Т. 13. — № 1. — С. 1–30.

Stubbs T., Kring W., Laskaridis C., Kentikelenis A., Gallagher K. Whatever it takes? The global financial safety net, Covid-19, and developing countries // *World Development*. — 2020. — T. 137 — C. 1–8.

Voloshin G. Year 2020 in Review: Kazakhstan struggling with structural reform amid COVID-19 Crisis // Eurasia Daily Monitor. — 2021. — T. 18. — № 14. — [Электрон. ресурс] — URL: https://jamestown.org/program/year-2020-in-review-kazakhstan-struggling-with-structural-reform-amid-covid-19-crisis (дата обращения: 20.04.2021)

World Health Organization. WHO (COVID-19) Homepage [Электрон. ресурс] — URL: https://covid19.who.int/region/euro/country/kz (дата обращения: 31.05.2021)

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NEET-youth in Kazakhstan: features of regional differentiation

Abstract

Object: The purpose of this research is to study trends in indicators in the regional context of young people in the NEET category.

Methods: Methods of system, dynamic, structural and correlation analysis, the spatial autocorrelation of indicators that characterize NEET-youth was evaluated based on the global Moran index.

Results: The results of calculating the Global Moran Index of regional indicators of NEET-youth and youth unemployment using the boundary matrix showed that there is a spatial correlation in the period under consideration, however, it differs in time intervals.

Conclusions: As a result of the study, the material was obtained, the analysis of which allowed us to conclude that the indicators of NEET youth and youth unemployment have a strong relationship for many regions. At the same time, the analysis revealed the importance of taking into account regional differentiation in policies and government programs developed and implemented to reduce youth unemployment, effectively use their labor potential and increase economic activity.

Keywords: youth of the NEET categories, youth, youth employment, regional differentiation, economic activity, youth unemployment, NEET indicators.

Introduction

Currently, the youth is an active component of civil society and the main object of the innovation process. We should say that the competitiveness of the state is directly linked to the growth of human capital, especially the younger generation, as the most vulnerable part of society to innovation. It is important to understand that the youth is a heterogeneous group, whose representatives occupy different places in society: students (schools, colleges, universities), working youth, the unemployed, etc. At the same time, NEET youth is one of the most socially vulnerable categories (Ilina, 2018).

It is advisable to begin the analysis of the NEET group by examining its scale and dynamics (Figure 1). Globally, there has been an increase in the involvement of the population in this group, with women being more likely to experience vulnerability than men.

In Kazakhstan, over the past 20 years, the proportion of youth in the NEET category has declined from 18.6% to 6.9%, including a number of state programs and projects that have contributed to this process. In the world rankings, Kazakhstan is in the category of countries with the lowest proportion of NEET youth at 1–9.9% (Azerbaev et al., 2021).

In addition, there is also a decrease in youth unemployment between 2001 and 2021, i.e., from 16.6% in 2001 to 3.8% in 2021.

The relevance of the research topic is related to the emphasis on the problem concerning youth, which presents certain difficulties today.

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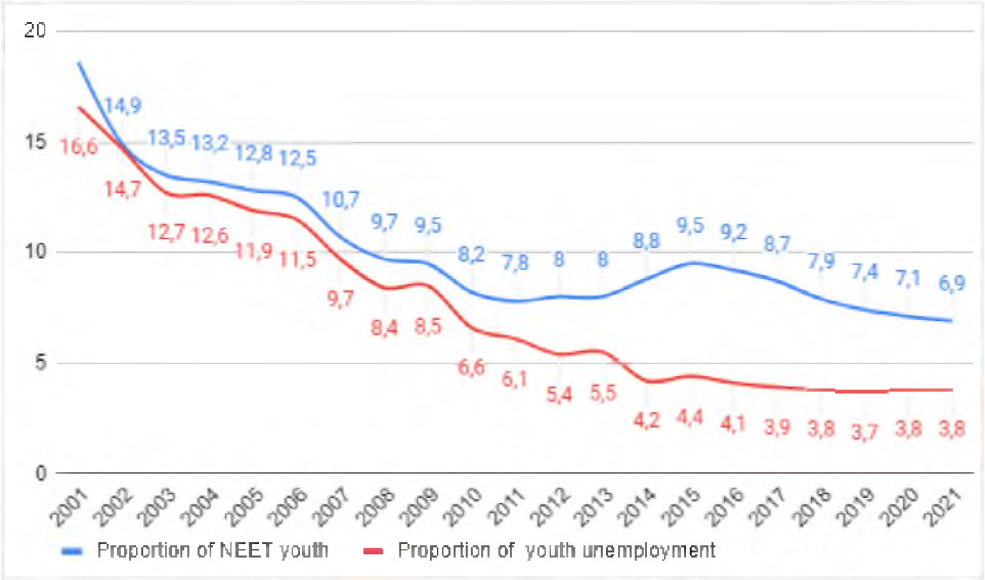

Figure 1. Proportion of NEET youth and youth unemployment in the Republic of Kazakhstan for 2001–2021, (%)

Note – Compiled by the authors on the basis of https://stat.gov.kz/official/industry/25/statistic/7

Literature Review

In recent years, there has been increasing interest in the academic community of youth studies in the category of NEET youth in international practice.

NEET youth is a specific social group, which has formed as a result of a variety of objective and subjective changes in modern society. The number, structure, and condition of NEET youth depend on the socio-economic and cultural features of each country, but the appearance of such a group is always a concern to society because of the threat of their marginalization, poverty, and social exclusion (Bulanova & Artamonova, 2020).

This group first became the focus of specific research by British scientists in the late 1980s, during the period when many unemployed youths who refused to participate in vocational training programs because of the revision of the conditions for receiving unemployment compensation in Great Britain were denied the right to register as unemployed and receive the corresponding benefit. As a result, they were excluded from both employment and training and retraining. In the early 2000s, the category "NEET" is widely used in the scientific literature, as well as in analytical and program documents of international organizations to describe and analyze the condition of youth (Varshavskaya & Stuken, 2017).

Many reasons for the transformation of young people into the NEET category are highlighted by the team of authors (Henderson, Hawke, & Chaim, 2017). Some young people face barriers to entering the labor market, such as poor labor market conditions, lack of job skills, or psycho-social problems, while others are temporarily suspended but plan to return to school (e.g., a "gap year"), and others show no interest in either school or the labor market.

Being a heterogeneous group, NEET youth are distinguished into two groups: the unemployed and the economically non-active (Varshavskaya, 2016). The term "unemployed" refers to young people who are looking for work but cannot find work, and instead (a) inactive youth are defined as young people who express a willingness to work despite not actively looking for work, and young people who work but are not immediately available for work (i.e. the NEET "potential workforce" subgroup) and (b) youth who are not looking for work and are not available for work (i.e. the NEET "unavailable workforce" subgroup). The inactive group NEETs include people with various motives for not working, such as young mothers who are caring for their kids, young people who are on disability pensions, or who are unable to work (Amendola, 2021). Thus, the NEET group includes people with different characteristics, experiences, and needs (Yates & Payne, 2006).

Eurostat currently offers a classification consisting of seven groups that clearly indicate the reasons for joining the ranks of NEET youth: "returning", short-term unemployed, long-term unemployed, economically inactive because of illness and disability, economically inactive because of family responsibilities, hopeless

young people who have stopped the active search, other non-active. In addition, Bulanova M.V. also included in the list the eighth group "those who voluntarily chose this lifestyle" (Bulanova, 2019).

Methods

The empirical analysis conducted in this paper covered the period from 2001 to 2021. The sample includes 14 regions. The main data for the analysis were the official statistics of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. The logic of the study consisted of several stages.

The spatial autocorrelation of indicators characterizing NEET youth (the share of NEET youth and the level of youth unemployment in the Republic of Kazakhstan by region) was assessed in the first stage. The presence of spatial dependence is the main criterion for the possibility of constructing spatial models. The assessment was conducted by calculating one of the most popular methods, the Moran Global Index (Timiryanova, 2020). The Moran Global Index measures spatial autocorrelation using data on the location of objects and values of the analyzed indicator.

$$I = \frac{N}{\sum_{i=1}^{n}\sum_{j=1}^{n} W_{ij}} \frac{\sum\sum(Y_i-\bar{Y})(Y_j-\bar{Y})}{\sum(Y_i-\bar{Y})^2}, \quad (1)$$

where, N – number of objects (regions) (in the paper N=14, according to the number of regions in 2001-2021.); Y – value of the analyzed indicator; $\bar{Y}$ - average value of the indicator; W_{ij} – the value of the matrix of spatial Scales (Pavlov & Koroleva, 2014).

The matrix of scales is in the form of a square. The columns of the spatial scales matrix show the scales reflecting the influence of each region on that region. The values on the main diagonal are zero. Thus, the matrix takes into account the influence of regions on each other but excludes the influence of the region itself. Consequently, the measurement matrix elements describe the spatial proximity of objects i and j. The boundary matrix was used for calculating the Moran index, i.e., in the boundary matrix, the element is either equal to one (if there is a common boundary) or equal to zero (in the opposite case). The definition of the boundary matrix resulted in Wij=52.

Qualitative characteristics of spatial autocorrelation are analyzed by calculating the expected value of the Moran Index (Balash, 2012):

$$E(I) = -\frac{1}{N-1} \quad (2)$$

If I>EI, there is positive spatial autocorrelation (i.e. values in neighboring regions are similar), and if I<EI, there is negative autocorrelation (i.e. values in neighboring regions are different), if I=EI, there is no autocorrelation (values are randomly located) (Makarova, 2021).

The presence of spatial autocorrelation and its character (positive or negative) are determined by testing the hypothesis of the significance of the Moran Global Index using z-statistics:

$$z = \frac{I-E(I)}{SD(I)} \quad (3)$$

If the neutral hypothesis is not accepted, then $z > 0$ shows positive spatial autocorrelation, and $z < 0$-negative (Nevzorova, Kireenko, & Majburov, 2020).

In the second stage, a correlation analysis was conducted between NEET youth and youth unemployment indicators to determine the regional differentiation of NEET unemployment. In addition, the paper used analytical, search, comparative, statistical, and other methods.

Results

2001–2021 against the background of the average Kazakhstani NEET youth indicators, there are a number of differences between the regions. Thus, over 20 years, the lowest value was characteristic of West Kazakhstan and Aktobe regions, and the highest value was shown by the Kyzylorda region (Figure 3).

The coefficient of variation of the share of NEET-youth of Kazakhstan regions was 0.299536. According to the interregional differentiation of the NEET level, Shymkent had the lowest (0.138571), and the highest was in the West Kazakhstan region (0.654308).

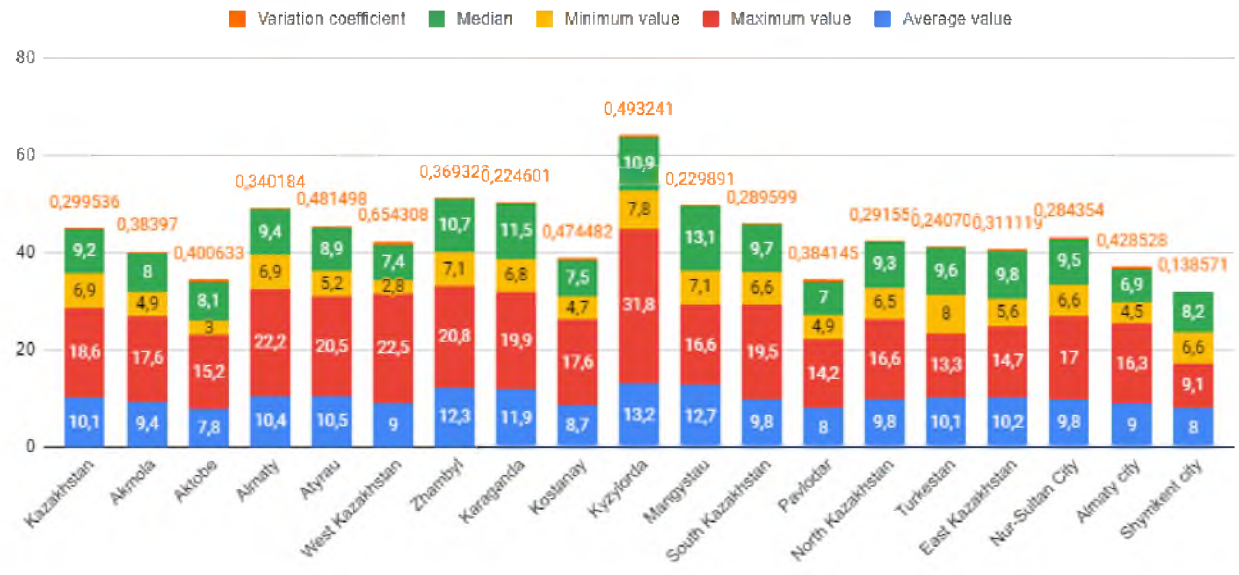

Figure 3. Regional differentiation of NEET-Youth indicators 2001–2021, %

Note – Compiled by the authors on the basis of https://stat.gov.kz/official/industry/25/statistic/7

The global Moran index was calculated using the border Matrix based on data on NEET-youth and youth unemployment by regions for 2001, 2011, and 2021 (Table 1).

Table 1. Moran's global index indicators for NEET youth and youth unemployment by boundary matrix

Years	I	E(I)	z	Spatial autocorrelation
the proportion of NEET youth				
2001	-0,02283	-0,07	-0,31219	negative
2011	-0,39737	-0,07	0,51933	positive
2021	0,070767	-0,07	-0,52916	negative
In the rate of youth unemployment between the ages of 15–28 years				
2001	0,171436	-0,07	0,58311	positive
2011	-0,53572	-0,07	0,63629	positive
2021	-0,20818	-0,07	0,30285	positive
Note – Compiled by the authors on the basis of https://stat.gov.kz/official/industry/25/statistic/7				

Moran's index as a whole indicates a positive statistically significant relationship between regional levels of NEET youth, which is characteristic only of the 2021 indicator of the NEET youth proportion in the Republic of Kazakhstan and the 2001 youth unemployment rate from 15 to 28. Consequently, this means that during these periods the regions of Kazakhstan were surrounded by other regions similar in value to NEET and unemployment rates. Analysis of z-statistics values allowed us to draw a conclusion about the non-random nature of the spatial distribution of values for the share of NEET youth in the regions, and on the contrary the level of youth unemployment. Comparing I with the threshold value E(I) indicates the presence of negative spatial autocorrelation. This suggests that there are statistically significant differences in the values of the indicator NEET youth in neighboring regions. Thus, there is an asymmetry in the region in terms of NEET youth.

To determine NEET unemployment by region, a correlation analysis was conducted between the NEET level of youth and the share of youth unemployment by region of Kazakhstan (Figures 2, 3).

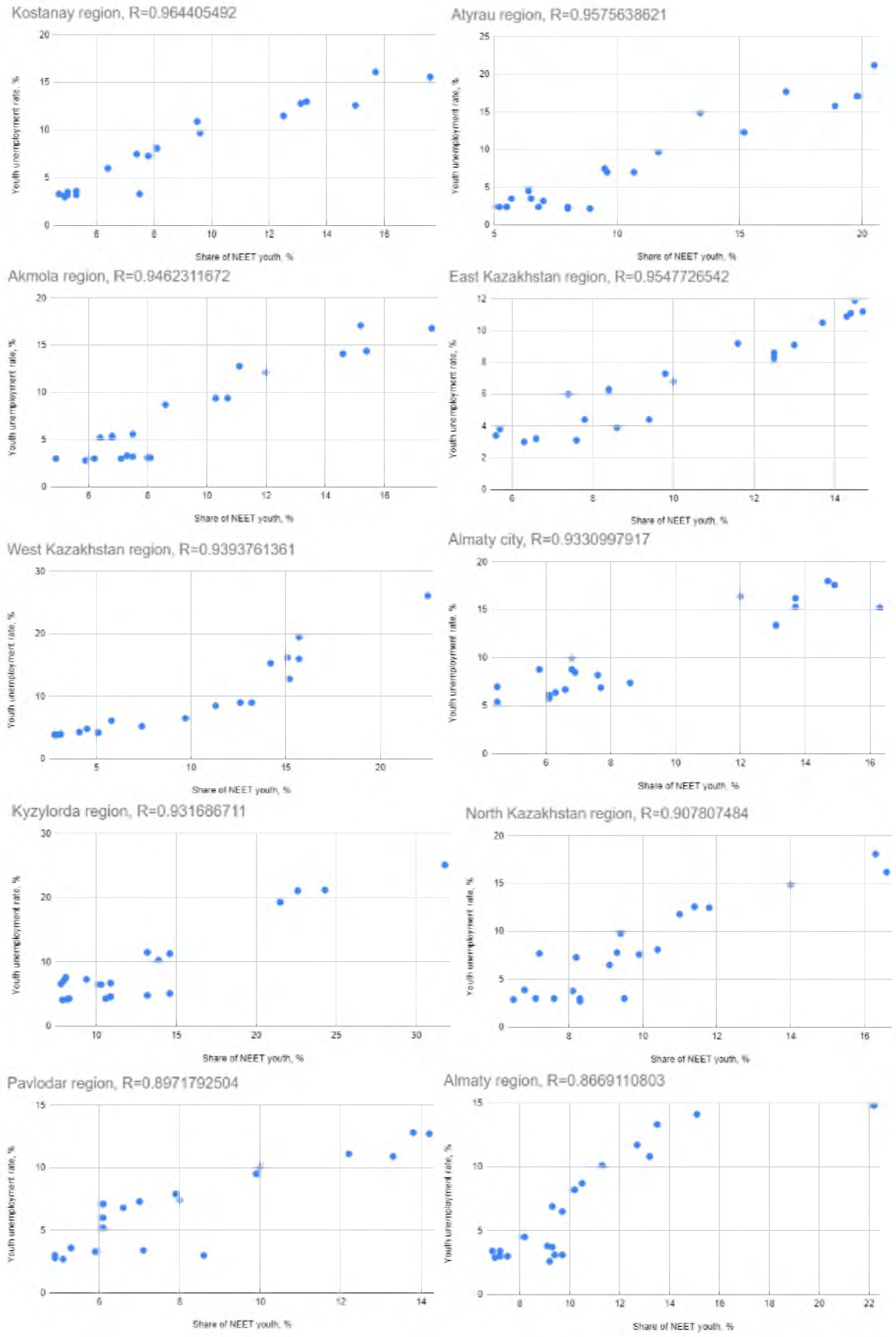

Figure 2. Correlation between youth unemployment among NEET youth by regions

Note – Compiled by the authors on the basis of https://stat.gov.kz/official/industry/25/statistic/7

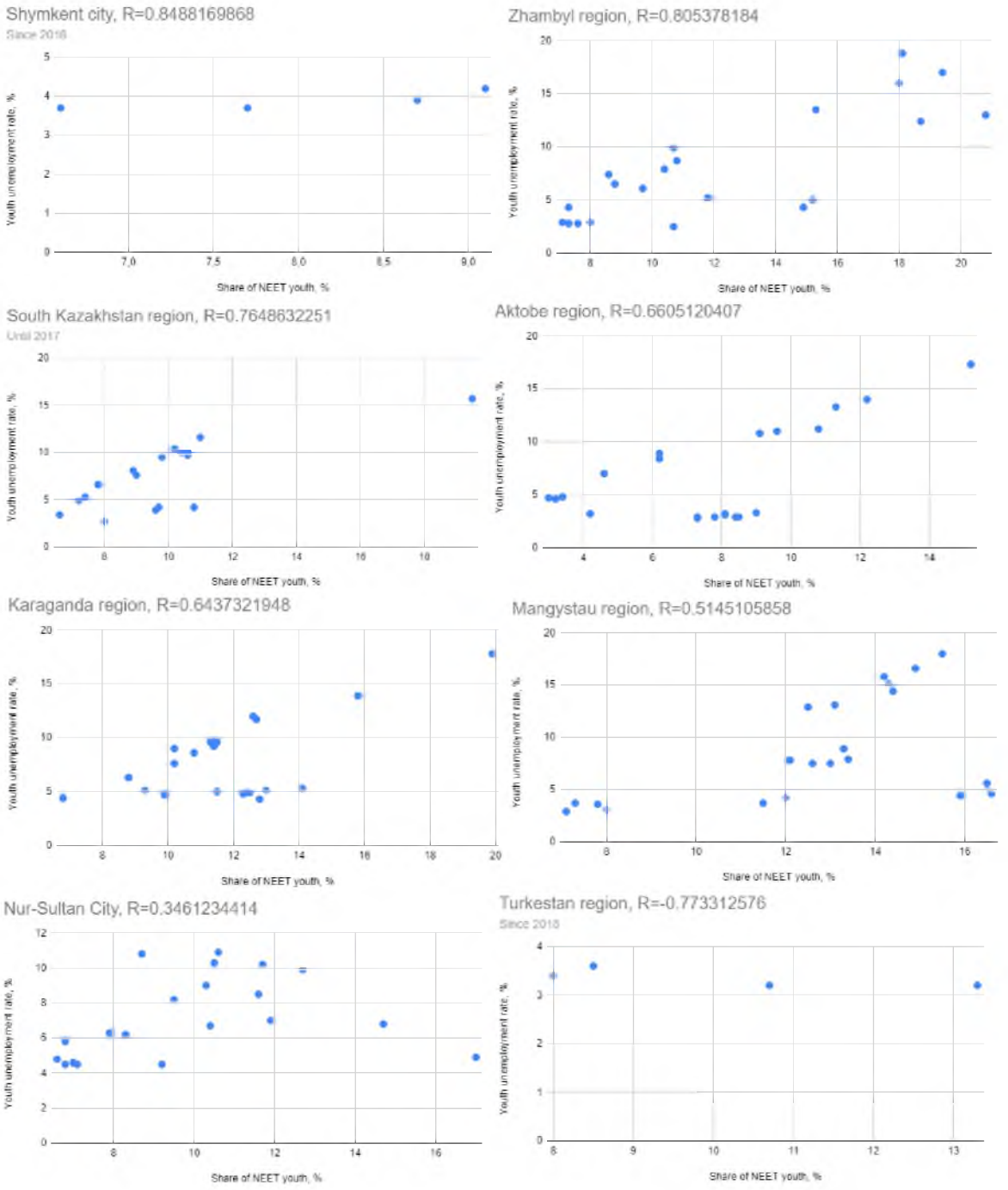

Figure 3. Correlation between youth unemployment among NEET youth by regions

Note – Compiled by the authors on the basis of https://stat.gov.kz/official/industry/25/statistic/7

As a result of the analysis, there is a close correlation between youth unemployment and NEET youth by regions. A group of regions with a high correlation coefficient can be highlighted: Kostanay, Atyrau, Akmola, East Kazakhstan, West Kazakhstan regions, Almaty city and Kyzylorda, North Kazakhstan regions. Consequently, there is a high correlation between youth unemployment and NEET youth, and we can say that NEET unemployment is characteristic of these regions. A weak correlation is observed in Nur-Sultan. Turkestan region stood out in this analysis, where there was an inverse correlation.

Discussions

Faced with the problem of the inclusion and integration of youth in work, education or vocational training, it is necessary to recognize, demonstrate, and understand the characteristics of this problem with its heterogeneity of contexts, characteristics, needs, risks, and consequences to develop strategical actions,

concerted efforts to facilitate the transition between the education, or training system and the labor market (Frias, Alcoforado, & Cordeiro, 2020). Despite different characteristics, NEET youths may face similar problems as they transition from adolescence to adulthood and may be at risk for negative consequences, such as continued NEET status in their future lives, unemployment, dissatisfaction, and problems in life (Baggio et al., 2015).

Conclusions

This study reveals different regional trends in NEET group indicators in Kazakhstan over 20 years. Based on the calculation of the Moran Global Index of regional NEET youth and youth unemployment by the boundary matrix the existence of spatial correlation is shown in the period under consideration. However, this criterion differs from year to year in two indicators. Thus, for the share of NEET youth in the Republic of Kazakhstan, there is a predominantly negative autocorrelation, and for the level of youth unemployment aged 15 to 28 years, there is a complete positive spatial correlation, which indicates the interrelation of labor markets. At the same time, the correlation analysis conducted between NEET youth and youth unemployment indicators allowed to identify regions with a high correlation between these indicators (Kostanay, Atyrau, Akmola, East Kazakhstan, West Kazakhstan regions, Almaty city and Kyzylorda, North Kazakhstan regions) as a result of determining the regional differentiation of NEET unemployment.

The findings highlight the importance of a regionally differentiated approach to the development and realization of employment policy, aimed at the effective use of labor potential, reducing youth unemployment and increasing economic activity (Varshavskaya & Stuken, 2017). More detailed attention to NEET subgroups can ensure the development of individualized social support policies that take into account the special characteristics and needs of each subgroup (Lunsing, 2007).

Acknowledgements

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References

Amendola, S. (2021). Trends in rates of NEET (not in education, employment, or training) subgroups among youth aged 15 to 24 in Italy, 2004 — 2019. *J Public Health (Berl.)* https://doi.org/10.1007/s10389–021–01484–3

Azerbaev, A.D., Ashimhanova, D.E., Nashenova, G.B., Nurbaev, Zh.E., Rodionov, A.N., Rystina, I.S., Ahantaeva, S.Zh., Zatilla, N.Zh., Makasheva, A.T., Pauli, E.S., Rudneva, E.A., Sakoshev, A.K., & Tezekbaeva, Z.S. (2021). "Qazaqstan zhastary — 2021: Tauelsizdikke — 30 zhyl" ulttyq bayandamasy. Natsionalnyi doklad "Molodezh Kazakhstana — 2021: 30 let Nezavisimosti". National report "Youth of Kazakhstan – 2021: 30 years of Independence". «Zhastar» gylymi-zertteu ortalygy – "Youth" Scientific and Research Center. Retrieved from https://eljastary.kz/upload/iblock/0e6/ lxtjt7dlq0xu1a7hjm540sw3fxzdhycd.pdf [in Kazakh, in Russian, in English].

Baggio, S., Iglesias, K., Deline, S., Studer, J., Henchoz, Y., Mohler-Kuo, M., & Gmel, G. (2015). Not in education, employment, or training status among young Swiss men. Longitudinal associations with mental health and substance use. *J Adolescent Health* 56(2):238–243. https://doi.org/10.1016/j.jadohealth.2014.09.006

Balash, O.S. (2012). Prostranstvennyi analiz konvergentsii regionov Rossii [Spatial analysis of convergence of Russian regions]. *Izvestiia Saratovskogo universiteta — Reports of the Saratov University*, 4 (12), 45–52 [in Russian].

Bulanova, M.B., & Artamonova, E.A. (2020). NEET-molodezh: Evropeiskii kontekst i rossiiskie realii [NEET-youth: The European Context and Russian Realities]. *Vestnik Rossiiskogo universiteta druzhby narodov. Seriia Sotsiologiia — Bulletin of the Peoples' Friendship University of Russia. Sociology series,* 20 (1), 64–72 [in Russian].

Bulanova, M.B. (2019). Neet-molodezh: metody i podkhody k izucheniyu [Neet-youth: methods and approaches to learning]. *Kultura, lichnost, obshchestvo v sovremennom mire: metodologiya, opyt empiricheskogo issledovaniya – Culture, personality, society in the modern world: methodology, empirical research experience.* Ekaterinburg, 13–22. Retrieved from https://elar.urfu.ru/bitstream/10995/80453/1/978–5-91256–440–6_2019_003.pdf [in Russian].

Frias, M., Alcoforado, L., & Cordeiro, A.R. (2020). O Caso Dos Jovens Nem Nem: Novas Trajetórias, Novos Desafios. *Práxis Educacional,* [S. l.], v.16, n. 42, p. 186–216. https://doi.org/10.22481/praxisedu.v16i42.7348

Henderson, J., Hawke, L., & Chaim, G. (2017). Not in employment, education or training: Mental health, substance use, and disengagement in a multi-sectoral sample of service-seeking Canadian youth. *Children and Youth Services Review,* 75, 138–145. https://doi.org/10.1016/j.childyouth.2017.02.024.

Ilina, V.A. (2018). Sotsialnaya uyazvimost v regionalnom soobshchestve: eksklyuziya i sovremennye mekhanizmy ee preodoleniya: monografiya [Social vulnerability in the regional community: exclusivity and modern mechanisms of its overcoming: monograph]. Kollektiv avtorov pod rukovodstvom V.A. Ilinoi. Vologda: Vologodskii nauchnyi tsentr Rossiiskoi akademii nauk, 340 [in Russian].

Lunsing, W. (2007). The creation of the social category of NEET (not in education, employment or training): do NEET need this? *Soc Sci Jpn J* 10(1):105–110. https://doi.org/10.1093/ssjj/jym016

Makarova, M.N. (2021). Modelirovanie sotsialno-demograficheskoi asimmetrii territorialnogo razvitiya [Modeling of socio-demographic asymmetry of territorial development]. *Ekonomicheskie i sotsialnye peremeny: fakty, tendentsii, prognoz — Economic and social changes: facts, trends, forecast*, 14 (2), 29–42. https://doi.org/10.15838/esc.2021.2.74.2 [in Russian].

Nevzorova, E.N., Kireenko, A.P., & Majburov, I.A. (2020). Prostranstvennye vzaimosvyazi i zakonomernosti rasprostraneniya tenevoi ekonomiki v Rossii [Spatial relationships and patterns of the spread of the shadow economy in Russia]. *Ekonomika regiona — Economy of the region*, 16 (2), 464–478 [in Russian].

Pavlov, Yu.V., & Koroleva, E.N. (2014). Prostranstvennye vzaimodeistviya: otsenka na osnove globalnogo i lokalnogo indeksov Morana [Spatial interactions: assessment based on global and local Moran indices]. *Prostranstvennaia ekonomika — Spatial economics,* (3), 95–110 [in Russian].

Timiryanova, V.M. (2020). Otsenka prostranstvennoi zavisimosti obema otgruzhennoi produktsii v dinamike [Estimation of spatial dependence of the volume of shipped products in dynamics]. *Statistika i ekonomika — Statistics and economics,* (5), 49–58 [in Russian].

Varshavskaya, E.Ya. (2016). Rossiiskaya NEET-molodezh: kharakteristiki i tipologiya [Russian NEET-youth: characteristics and typology]. *Sotsiologicheskie issledovaniia — Sociological research*, 9, 31–39 [in Russian].

Varshavskaya, E.Ya., & Stuken, T.Yu. (2017). Rossiiskaya molodezh vne sfery zanyatosti i obrazovaniya: analiz regionalnoi differentsiatsii [Russian youth outside the sphere of employment and education: analysis of regional differentiation]. *Region: ekonomika i sotsiologiia — Region: Economics and Sociology,* 1 (93), 121–141 [in Russian].

Yates, S., & Payne, M. (2006). Not so NEET? A critique of the use of 'NEET' in setting targets for interventions with young people. *J Youth Stud* 9(3):329–344. https://doi.org/10.1080/13676260600805671

Ж.С. Хусаинова, М.Р. Газизова, Е.А. Вечкинзова

Қазақстандағы NEET-жастары: өңірлік сараланудың ерекшеліктері

Аңдатпа

Мақсаты: Зерттеудің мақсаты NEET санатындағы жастардың аймақтық контексіндегі көрсеткіштердің тенденцияларын зерттеу.

Әдісі: Жүйелік, динамикалық, құрылымдық және корреляциялық талдау, сондай-ақ Моран жаһандық индексі негізінде NEET-жастарды сипаттайтын көрсеткіштердің кеңістіктік автокорреляциясы бағаланды.

Қорытынды: Шекаралық матрица бойынша NEET-жастардың және жастар жұмыссыздығының өңірлік көрсеткіштерін Моран жаһандық индексін есептеу негізінде қарастырылған кезең аралығында кеңістіктік корреляцияның бар екенін, дегенмен жылдар аралығында ерекшелінетінін көрсетті.

Тұжырымдама: Зерттеу нәтижесінде мынадай материал алынды, оның талдауы NEET жастар мен жастар жұмыссыздығының көрсеткіштері көптеген өңірлер үшін өзара тығыз байланысты деген қорытындыға келді. Сонымен бірге, жүргізілген талдау жастар арасындағы жұмыссыздықты азайту, олардың еңбек әлеуетін тиімді пайдалану және экономикалық белсенділігін арттыру мақсатында әзірленетін және жүзеге асырылатын саясат пен мемлекеттік бағдарламаларда өңірлік саралауды ескерудің маңыздылығын анықтады.

Кілт сөздер: NEET санатындағы жастар, жастар, жастардың жұмыспен қамтылуы, өңірлік саралау, экономикалық белсенді қызмет, жастардың жұмыссыздығы, NEET деңгейі.

Ж.С. Хусаинова, М.Р. Газизова, Е.А. Вечкинзова

NEET-молодежь в Казахстане: особенности региональной дифференциации

Аннотация:

Цель: Целью настоящего исследования является изучение тенденций показателей в региональном контексте молодежи категории NEET.

Методы: Использованы методы системного, динамического, структурного и корреляционного анализа, а также на основе Глобального индекса Морана была оценена пространственная автокорреляция показателей, характеризующих NEET-молодежь.

Результаты: Результаты расчета Глобального индекса Морана региональных показателей NEET-молодежи и молодежной безработицы по граничной матрице показали, что в рассматриваемом периоде существует пространственная корреляция, однако она отличается по временным промежуткам.

Выводы: В результате исследования был получен материал, анализ которого позволил заключить, что показатели NEET молодежи и молодежной безработицы имеют сильную взаимосвязь для многих регионов. Вместе с тем проведенный анализ выявил важность учета региональной дифференциации в политике и государственных программах, разрабатываемых и реализуемых в целях снижения безработицы среди молодежи, эффективного использования их трудового потенциала и повышения экономической активности.

Ключевые слова: молодежь категории NEET, молодежь, молодежная занятость, региональная дифференциация, экономическая активная деятельность, молодежная безработица, показатели NEET.

References

Amendola S. Trends in rates of NEET (not in education, employment, or training) subgroups among youth aged 15 to 24 in Italy, 2004 — 2019 / S. Amendola // J Public Health (Berl.). — 2021. DOI: 10.1007/s10389–021–01484–3

Baggio S. Not in education, employment, or training status among young Swiss men. Longitudinal associations with mental health and substance use / S. Baggio, K. Iglesias, S. Deline, J. Studer, Y. Henchoz, M. Mohler-Kuo, G. Gmel // J Adolescent Health. — 2015. — 56(2):238–243. DOI: 10.1016/j.jadohealth.2014.09.006

Frias M. O Caso Dos Jovens Nem Nem: Novas Trajetórias, Novos Desafios / M. Frias, L. Alcoforado, A.R. Cordeiro // Práxis Educacional. — 2020. — [S. l.], v.16, n. 42, p. 186–216, DOI: 10.22481/praxisedu.v16i42.7348

Henderson J. Not in employment, education or training: Mental health, substance use, and disengagement in a multisectoral sample of service-seeking Canadian youth / J. Henderson, L. Hawke, G. Chaim // Children and Youth Services Review. — 2017. — Vol. 75. — Pp. 138–145. DOI: 10.1016/j.childyouth.2017.02.024

Lunsing W. The creation of the social category of NEET (not in education, employment or training): do NEET need this? / W. Lunsing // Soc Sci Jpn J. — 2007. — 10(1):105–110. DOI: 10.1093/ssjj/jym016

Yates S. Not so NEET? A critique of the use of 'NEET' in setting targets for interventions with young people / S. Yates, M. Payne // J Youth Stud. — 2006. — 9(3):329–344. DOI: 10.1080/13676260600805671

«Қазақстан жастары — 2021: Тәуелсіздікке — 30 жыл» ұлттық баяндамасы. Национальный доклад «Молодежь Казахстана – 2021: 30 лет Независимости». National report «Youth of Kazakhstan – 2021: 30 years of Independence». Авторлар ұжымы: Азербаев А.Д., Ашимханова Д.Э., Нашенова Г.Б., Нурбаев Ж.Е., Родионов А.Н., Рыстина И.С., Ахантаева С.Ж., Затилла Н.Ж., Макашева А.Т., Паули Э.С., Руднева Е.А., Сакошев А.К., Тезекбаева З.С. «Жастар» ғылыми-зерттеу орталығы, 2021 [Электрондық ресурс] // https://eljastary.kz/upload/iblock/0e6/ lxtjt7dlq0xu1a7hjm540sw3fxzdhycd.pdf.

«Қазақстан жастары – 2021: Тәуелсіздікке – 30 жыл» ұлттық баяндамасы. Авторлар ұжымы: Азерб

Балаш О.С. Пространственный анализ конвергенции регионов России / О.С. Балаш // Изв. Саратов. ун-та. — 2012. — Т. 12. — № 4. — С. 45–52.

Буланова М.Б. NEET-молодежь: Европейский контекст и российские реалии / М.Б. Буланова, Е.А. Артамонова // Вестн. Рос. ун-та дружбы народов. Сер. Социология. — 2020. — № 20 (1). — С. 64–72.

Буланова М.Б. Neet-молодежь: методы и подходы к изучению / М.Б. Буланова // Культура, личность, общество в современном мире: методология, опыт эмпирического исследования. — Екатеринбург, 2019.. С. 13–22. URL: https://elar.urfu.ru/bitstream/10995/80453/1/978–5-91256–440–6_2019_003.pdf (Дата обращения: 24.01.2022).

Варшавская Е.Я. (2016). Российская NEET-молодежь: характеристики и типология / Е.Я. Варшавская // Социологические исследования. № 9. С. 31–39.

Варшавская Е.Я. Российская молодежь вне сферы занятости и образования: анализ региональной дифференциации / Е.Я. Варшавская, Т.Ю. Стукен // Регион: экономика и социология. — 2017. — № 1 (93). — С. 121–141.

Ильина В.А. Социальная уязвимость в региональном сообществе: эксклюзия и современные механизмы ее преодоления: моногр. /Колл. авт. под рук. В.А. Ильиной. — Вологда: ФГБУН ВолНЦ РАН, 2018. — 340 с.

Макарова М.Н. Моделирование социально-демографической асимметрии территориального развития / М.Н. Макарова // Экономические и социальные перемены: факты, тенденции, прогноз. — 2021. — Т. 14, № 2. — С. 29–42. DOI: 10.15838/esc.2021.2.74.2.

Невзорова Е.Н. Пространственные взаимосвязи и закономерности распространения теневой экономики в России / Е.Н. Невзорова, А.П. Киреенко, И.А. Майбуров // Экономика региона. — 2020. — Т.16, Вып. 2. — С. 464–478.

Павлов Ю.В. Пространственные взаимодействия: оценка на основе глобального и локального индексов Морана / Ю.В. Павлов, Е.Н. Королева // Пространственная экономика. — 2014. — № 3. — С. 95–110.

Тимирьянова В.М. Оценка пространственной зависимости объема отгруженной продукции в динамике / В.М. Тимирьянова // Статистика и экономика. — 2020. — № 5. — С. 49–58.

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Key aspects of digital transformation of logistics companies in Kazakhstan

Abstract

Object: Identification of key aspects of using digital technologies by logistics companies in Kazakhstan.

Methods: the method of content analysis, the features of using the ICT in logistics, an analysis method, a method of graphical interpretation.

Results: The features of digitalization of business processes of logistics companies in Kazakhstan at the present stage were studied. The degree of application of digital technologies by transport and warehousing organizations and cost structure for ICT logistics companies were analyzed. The prospects and problems of using digital technologies such as blockchain, the IoT, cloud services, big data analysis technologies, robots, RFID, 3D printing in logistics and SCM were identified. The global trends in the development of digital logistics were outlined.

Conclusions: The results obtained made it possible to assess the level of digitalization of logistics processes in Kazakhstan, to identify the breadth and frequency of using ICT in logistics, to identify certain problems in the field of digital logistics of transport and warehousing enterprises.

Keywords: digitalization of logistics processes, digital technologies, ICT, Big data, RFID, Cloud logistics, Blockchain, Internet of Things.

Introduction

Recently, digital solutions have already gone beyond ICT and contributed to the emergence of new business models, types of operations, and services. The digital transformation of manufacturing and e-commerce has affected many industries, including logistics. The COVID-19 pandemic has demonstrated many challenges in transport logistics and has accelerated the automation of logistics processes.

The global digital logistics market will grow at 10.3% annually until 2028, according to the Global Market Vision report. As a result, the transition to digital logistics involves the unification of market participants within the framework of end-to-end solutions - platforms that will allow companies to link together all logistics processes on one digital platform. All developed markets are moving along this path with greater or lesser success. However, to come to digital logistics in Kazakhstan, it is important to start right now with the basic things - electronic document management, robotization of business processes, organization of transport monitoring and using of digital services.

The main research question is to identify the features of the digitalization of logistics activities in the Republic of Kazakhstan, as well as the specifics of its transformation in the context of widespread globalization and the construction of digital economies.

Literature Review

Currently, the world academic and business community pays great attention to the issues of digitalization of logistics. The use of digital technologies in the supply chain allows companies to achieve strategic competitive advantages, resulting in improved sales system efficiency (Facchini et al., 2020; Mikl et al., 2020; Szymczak, 2019; Yang & Wu, 2007; Bag et al., 2020; Edirisuriya et al., 2018). However, the introduction of digital technologies is associated not only with positive effects but also with risks (Bekmurzaev et al., 2019; Domanski, 2019; Kodym et al., 2020).

Many studies are devoted to the prospects and problems of using digital technologies such as blockchain, the IoT, big data analysis technologies, robotics, drones, self-driving cars, 3D printing in logistics and

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supply chain management (Barreto et al., 2017; Capocasale et al. 2021; Cimini et al. 2020; Efthymiou & Ponis 2021; Jagtap et al. 2021; Kozma et al., 2019; Saniuk et al., 2018; Silva et al., 2021).

A key role in the digitalization of certain processes in logistics companies is occupied not only by digital technologies but also by the level of competence of its employees. Often, the capabilities of the applied digital technologies are far from being fully used, which is due either to an insufficient level of knowledge and competencies of the personnel or the complexity of the technical implementation. Of interest is the study conducted by Gupta A., the purpose of which was to identify factors and calculate the index of readiness of employees for the digitalization of logistics processes in an enterprise based on the matrix approach of graph theory. The study showed that organizational factors, in contrast to behavioral and technological ones, have a strong influence on the digitalization readiness index. Sub-factors such as providing proper training for the development of functional skills, support from top management, as well as organizational culture, are the most important for the formation of employee competencies in the field of logistics (Gupta et al., 2022). The need to transform e-learning approaches, taking into account the new requirements of the labor market for training specialists in the field of digital logistics and acquiring relevant skills, such as active learning, coordination, negotiation skills, information literacy, and others, is evidenced by the results of a study by Korepin V.N. Dorozhkin E.M. Mikhaylova A.V., Davydova N.N. (Korepin et al., 2020).

Methods

The research used general scientific methods, including the content analysis method, which made it possible to reveal and structure the main scientific research related to the research of digitalization of logistics processes, the features of using the ICT in logistics; an analysis method that made it possible to assess the current state of digitalization of business processes of logistics companies in Kazakhstan; a generalization method aimed at establishing the existing relationships between the considered economic objects and phenomena; a method of graphical interpretation, which made it possible to visualize the results obtained: the main directions and systems of using ICT by organizations in the field of transport and warehousing, etc.

Results

According to statistics, the number of enterprises in the field of transport and warehousing in Kazakhstan with access to the Internet in 2021 amounted to 5333 units, an increase of 30 units compared to the previous year. It should be noted the low level of manufacturability of logistics organizations, as evidenced by the data below: only 9 enterprises use robotics, 84 organizations use digital technologies in the production process.

The analysis and accounting of big data are necessary for logistics, as it allows us to have better supply chain management, plan competently, and have a real, factual picture of the current situation at any given time. Considering the research conducted by Big Data Executive, the use of Big Data in logistics will lead to new knowledge in the field of demand forecasting, route optimization, risk management, and predictive logistics, which will reduce enterprise costs by 49.2% and stimulate innovation by 44.3%. However, in Kazakhstan, the use and analysis of big data are still at a low level. As of 2021, less than 1% of transport and warehousing enterprises (51 organizations) conduct big data analysis.

Against the backdrop of economic recovery after lockdowns and growing customer confidence, companies have become more active in entering long-term contracts with cloud providers. Thus, over the past year, the use of cloud IT services by domestic companies has increased; in 2021, 864 transport organizations used them (Figure 1).

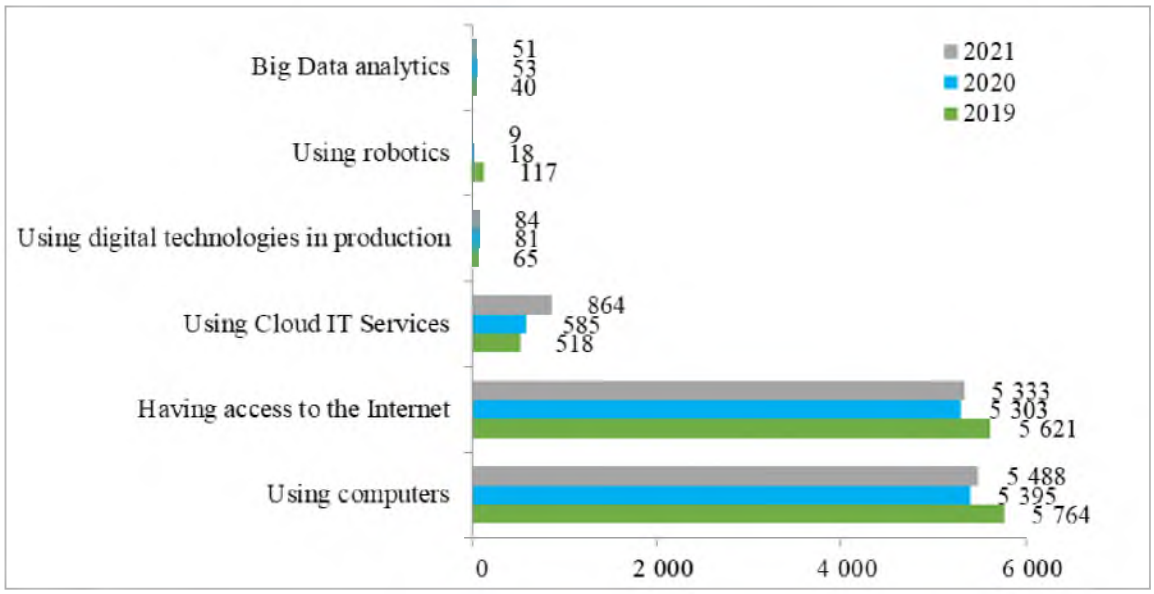

Figure 1. Main areas of ICT using by transport and warehousing organizations, units

Note – Compiled by the authors on the basis of the Bureau of National Statistics[*]

The increase in demand for cloud services is not accidental: cloud technologies allow any business, regardless of its size, to quickly deploy the necessary IT infrastructure and use their resources efficiently. Among the numerous advantages of using cloud solutions, the following can be noted: they do not require capital expenditures; allow to increase the speed and accuracy of the implementation of logistics business processes; it is possible to create a single platform for carriers and cargo owners; availability of complete, reliable and up-to-date information on all commodity and material flows in the supply chain. Thus, domestic companies are increasingly moving to a service model and moving their workspaces to the cloud.

Almost all transport and warehousing companies in Kazakhstan use electronic invoices (Figure 2).

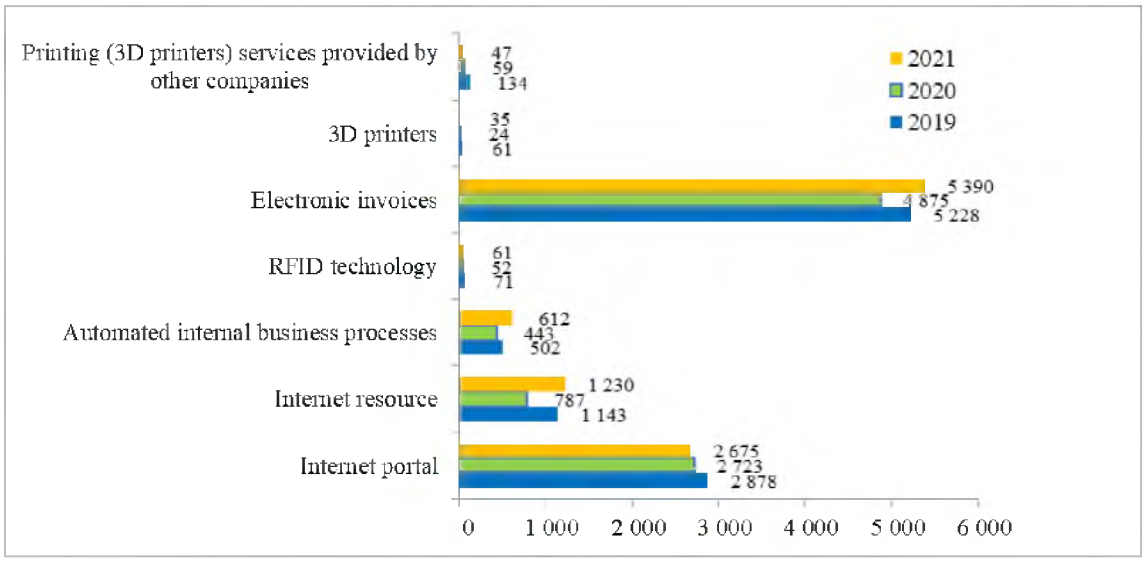

Figure 2. Use of information technology systems by transport and warehousing organizations, units (number of organizations)

Note – Compiled by the authors on the basis of the Bureau of National Statistics[†]

According to experts, the traditional supply chain will be significantly reformatted in the future due to the development of 3D Printing. Currently, about 80 logistics companies use 3D Printing technology in Kazakhstan.

[*] https://stat.gov.kz/
[†] https://stat.gov.kz/

There are many tools and technologies for managing and optimizing inventory control. One such technology is radio frequency identification technology or RFID (Radio Frequency Identification). Owing to fundamentally new possibilities for identifying and tracking cargo using RFID technology, the entire life cycle of cargo can be significantly optimized. Unfortunately, despite such benefits from the use of RFID technology in supply chains as increased transparency of the supply chain, reduced costs and increased speed of turnover, improved data collection process, improved supply chain, in Kazakhstan so far only a small proportion of logistics companies use this technology – no more than 70 companies.

Even though companies are aware of the need to use digital technologies in supply chains, the level of digitalization of logistics remains at a consistently low level. As statistics show, most domestic companies use the usual channels of communication with customers and business partners: social networks. A low share of companies integrated into international Internet booking systems (Figure 3).

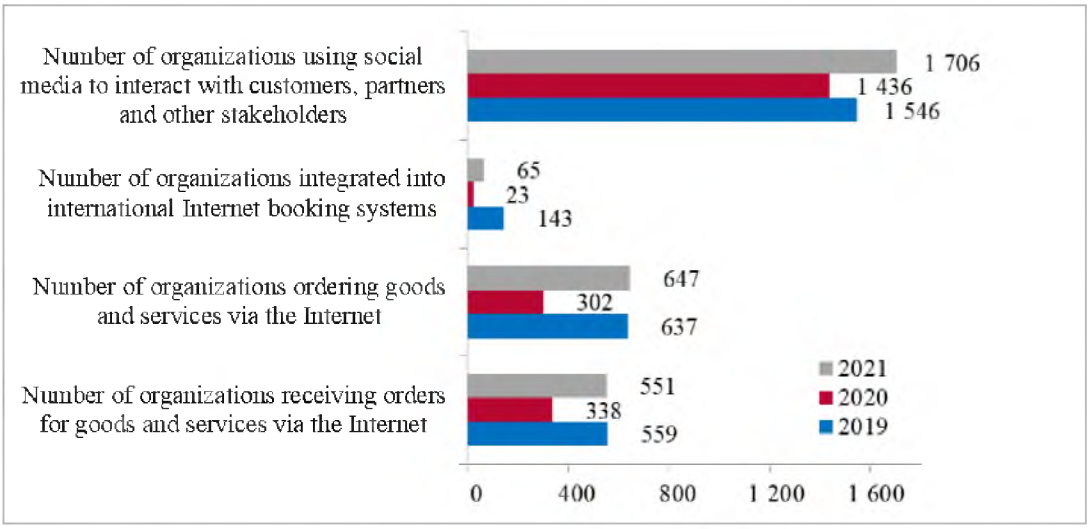

Figure 3. Using of the Internet by transport and warehouse organizations, units

*Note – Compiled by the authors on the basis of the Bureau of National Statistics**

In general, transport and warehousing enterprises in the Republic of Kazakhstan annually spend about 28–37 billion tenge on the digitalization of business processes (in 2019 – 37 billion tenge, in 2020 – 32 billion tenge, in 2021 – 28.5 billion tenge). The cost structure for ICT of logistics companies is as follows: acquisition of software used based on a license agreement – 21.4%; independent software development within the organization – 0.5%; employee training related to the development and use of ICT – 0.4%; payment for services of third-party organizations and specialists related to information technology (except for communication and training services) – 44.9%; other expenses – 32.8%. It should be noted that companies spend almost half of their total costs on attracting third-party organizations and IT specialists. There is a shortage of qualified IT personnel in logistics. Thus, according to statistics, Kazakhstani transport and warehousing companies are in constant need of IT specialists: in 2021 the companies needed 254 specialists.

In the near future, the logistics industry is expected to experience a huge increase in digitalization with the following new technologies:

1. e-AWB is a standardized digital version of the existing paper air waybill that follows the shipment from the shipper until delivery. e-AWB significantly improves the efficiency of cargo tracking and processing, as well as increases transparency, improves security, reduces costs and delays. Figure 4 shows the percentage of countries using e-AWB.

* https://stat.gov.kz/

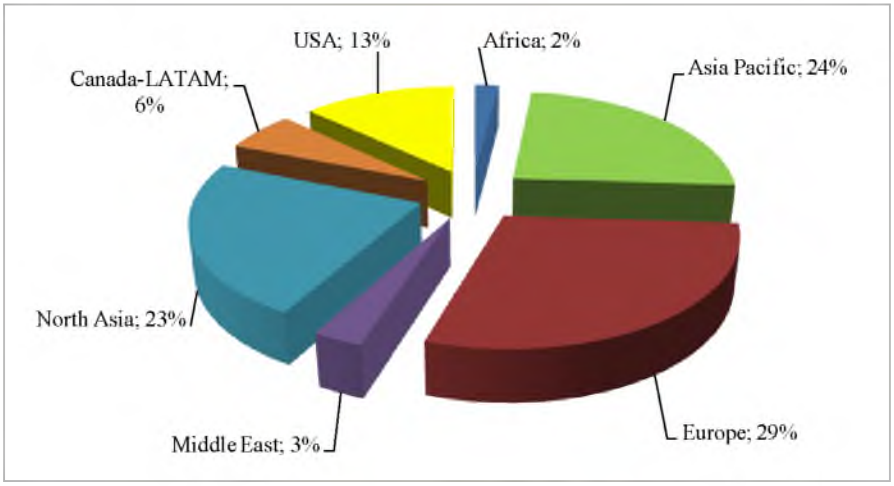

Figure 4. Users of electronic air waybills*

IATA announced the e-AWB as its default transportation contract in early 2020. Major airlines, such as Lufthansa and Emirates, Delta Airlines, and United Airlines, have already implemented it.

Kazakhstan demonstrates progress in implementing e-AWB among the EAEU countries. The e-Freight implementation project was included in the Digital Kazakhstan 2020 program to speed up the process of handling air cargo. The e-Freight information system is designed to replace the currently existing paper documents with the corresponding electronic documents and messages in the preparation, processing, and execution of the carriage of goods by air. The implementation of the project will improve the efficiency of documentation for air cargo transportation, reduce the processing time for cargo operations and increase the attractiveness of air cargo transportation, and transit through the territory of the Republic of Kazakhstan. The international standard for air cargo transportation e-Freight is currently being successfully applied at the International Airport of Almaty, Nur-Sultan with the connection of Turkish Airlines and Air Astana, the freight forwarder Asia-freight. In 2020, 84738 electronic air waybills were processed in the system, 17 airlines and 15 airports were connected, work was carried out to add new and update the existing functionality of the system†.

The information system according to the e-Freight standard unites all airlines, airports, freight forwarders into a single process of air cargo transportation in the Republic of Kazakhstan, which includes import, export, transit operations, and all domestic flights to the EAEU. The air waybill confirms the contract between the carrier and the consignor for the carriage of goods and confirms the acceptance of the goods by the air carrier. Naturally, in this process, problems such as the loss of documents, confusion in copies (their number reaches from 8 to 30, the first 3 of them are originals) may arise. To prevent losses in case of loss of documents, search for the necessary cargo, and to prevent the suspension of the work of carriers and ground services, it was decided to transfer air waybills to electronic form. The benefits of e-AWB include paper savings; acceleration of cargo handling processes due to single data entry; improving the quality of transmitted information; improving the quality of the cargo tracking service.

2. Big data and machine learning will make a huge contribution to the development of logistics. Big data technology allows us to efficiently receive, integrate, store, and use data generated by supply chain agents. Modern big data analytics technology can be divided into four important elements: 1) data storage; 2) data processing; 3) data visualization; 4) data analytics for decision-making.

Big Data models reveal new opportunities for improving the efficiency of decision-making, for example, improving relationships with suppliers and preventing possible supply problems, their active use in modeling new autonomous business models to increase the level of integration of business processes throughout the supply chain, while managing risks in supply chains, and to accelerate and improve decision making across all business processes in the supply chain. At the same time, more attention is paid to barriers to the availability and processing of data, which are becoming key for the further development of companies. It is also worth noting that a significant proportion of research concerns route optimization using large data-

* Angel Mitev. Five key technologies for immediate digital transformation in logistics /Электронный ресурс /URL: https://www.itproportal.com/features/five-key-technologies-for-immediate-digital-transformation-in-logistics/

† https://www.gov.kz/memleket/entities/miid/press/news/details/153034?lang=ru

base analytics technology. In this case, traffic data, weather conditions, geolocation, etc. are analyzed. Finally, the analytics of large databases has a positive effect on the resilience of supply chains.

3. Cloud logistics. Cloud logistics technology is being implemented quickly, already 50% of logistics service providers use cloud services, and another 20% plan to implement it. Cloud technologies make it possible to conduct a tender among contractors; build optimal routes; plan and manage delivery; store and process all transportation data in the cloud.

All supply chain information will be stored in the cloud, creating a single integrated global overview. All enterprises and transport companies are united in a single system that allows us to find each other, control the delivery process and evaluate work efficiency. The use of cloud solutions in transport (WMS-systems) and warehouse (YMS-systems) logistics is promising, which allowed Amazon (AWS) to increase its revenues by 43%.

4. The Internet of Things (IoT) will allow almost any object to be connected to the Internet, wherever it is, which means complete transparency from sender to delivery. Intelligent connected trucks will collect data on their movements and downtime for dynamic route planning and maximum fleet utilization, as well as reducing maintenance costs by monitoring the condition of vehicles.

5. Blockchain. Blockchain technology has huge potential. Distributed database technology decentralizes data, increasing transparency and traceability, providing each participant in the chain with keys to vital information about the product journey. By reducing complexity and removing trade barriers, this could lead to a 5 percent increase in global GDP and a 15 percent increase in world trade.

According to the research by Deloitte, 59% of surveyed companies believe that blockchain technology can transform the economy and business processes of an organization. 52% of respondents are ready to implement this technology in their activities*.

Discussions

Logistics is one of the most conservative sectors of the Republic of Kazakhstan, and the level of digitalization here is significantly lower than, for example, in the banking sector. However, in the opinion of many analysts, Kazakhstani business is beginning to cautiously experiment with IT technologies. While the projects are limited to the automation of individual processes, the fact that implemented cases appear on the market and there are more of them is a positive thing. For example, Kazpost JSC is piloting an ecosystem of digital services, which will allow in the future to digitize all the company's services - from parcel delivery to payment acceptance. Digitalization departments appear in large logistics companies. There are startups developing solutions for logistics. Further research will be aimed at studying the ecosystems of digital services of large logistics companies in Kazakhstan.

Conclusions

The study results made it possible to assess the level of digitalization of logistics processes in Kazakhstan, to identify the breadth and frequency of using the information and communication technologies in logistics and certain problems in the field of digital logistics of transport and warehousing enterprises. In general, the changes caused by IT technologies dictate the inevitable digitalization of logistics processes, and this, in turn, and creates strategic importance for the development of the infrastructure of the digital economy of our country. However, the country has a low level of technological effectiveness of logistics organizations, a small proportion of companies use digital technologies such as Big Data, RFID, Blockchain, 3D Printing, there is a clear lack of qualified IT personnel in logistics.

References

Bag, S., Gupta, S., & Luo, Z.W. (2020). Examining the role of logistics 4.0 enabled dynamic capabilities on firm performance. *International Journal of Logistics Management*, *31*(3), 607–628. https://doi.org/10.1108/ijlm-11–2019–0311

Barreto, L., Amaral, A., & Pereira, T. (2017, Jun 28–30). Industry 4.0 implications in logistics: an overview. *Procedia Manufacturing. 7th Manufacturing-Engineering-Society International Conference (MESIC),* Vigo, Spain.

Bekmurzaev, I., Kurbanov, A., Kurbanov, T., Plotnikov, V., Ushakova, E., & Publishing, I.O.P. (2019, Nov 21–22). Digital technologies of marketing logistics and risks of their implementation in supply chain. *IOP Conference Series-Materials Science and Engineering. International Scientific Conference on Digital Transformation on Manufacturing, Infrastructure and Service (DTMIS),* St. Petersburg, Russia.

* Top 5 blockchain projects in the field of logistics. Analytical material Digital forest blog / Electronic resource /URL: https://digiforest.io/blog/blockchain-in-logistics

Capocasale, V., Gotta, D., Musso, S., & Perboli, G. (2021, Jul 12–16). A Blockchain, 5G and IoT-based transaction management system for Smart Logistics: an Hyperledger framework. *Proceedings International Computer Software and Applications Conference. 45th Annual International IEEE-Computer-Society Computers, Software, and Applications Conference (COMPSAC),* Electr Network.

Cimini, C., Lagorio, A., Romero, D., Cavalieri, S., & Stahre, J. (2020, Jul 11–17). Smart Logistics and The Logistics Operator 4.0. *21st IFAC World Congress on Automatic Control — Meeting Societal Challenges,* Electr Network.

Domanski, R. (2019, Oct 10–11). logistics 4.0 in Warehousing — current state and trends. *Proceedings of International Scientific Conference Business Logistics in Modern Management. 19th International Scientific Conference on Business Logistics in Modern Management,* Osijek, Croatia.

Edirisuriya, A., Weerabahu, S., Wickramarachchi, R., & Ieee. (2018). Applicability of Lean and Green Concepts in Logistics 4.0: A Systematic Review of Literature. *2018 International Conference on Production and Operations Management Society (Poms).*

Efthymiou, O. K., & Ponis, S. T. (2021). Industry 4.0 Technologies and Their Impact in Contemporary Logistics: A Systematic Literature Review. *Sustainability*, *13*(21), Article 11643. https://doi.org/10.3390/su132111643

Facchini, F., Oleskow-Szlapka, J., Ranieri, L., & Urbinati, A. (2020). A Maturity Model for Logistics 4.0: An Empirical Analysis and a Roadmap for Future Research. *Sustainability*, *12*(1), 18, Article 86. https://doi.org/10.3390/su12010086

Gupta, A., Singh, R. K., & Gupta, S. Developing human resource for the digitization of logistics operations: readiness index framework. *International Journal of Manpower*, 25. https://doi.org/10.1108/ijm-03–2021–0175

Jagtap, S., Bader, F., Garcia-Garcia, G., Trollman, H., Fadiji, T., & Salonitis, K. (2021). Food Logistics 4.0: Opportunities and Challenges. *Logistics-Basel*, *5*(1), Article 2. https://doi.org/10.3390/logistics5010002

Kodym, O., Kubac, L., & Kavka, L. (2020). Risks associated with Logistics 4.0 and their minimization using Blockchain. *Open Engineering*, *10*(1), 74–85. https://doi.org/10.1515/eng-2020–0017

Korepin, V. N., Dorozhkin, E. M., Mikhaylova, A. V., & Davydova, N. N. (2020). Digital Economy and Digital Logistics as New Area of Study in Higher Education. *International Journal of Emerging Technologies in Learning*, *15*(13), 137–154. https://doi.org/10.3991/ijet.v15i13.14885

Kozma, D., Varga, P., Hegedus, C., & Ieee. (2019, Mar 02–04). Supply Chain Management and Logistics 4.0-A Study on Arrowhead Framework Integration. *8th International Conference on Industrial Technology and Management (ICITM),* Cambridge, England.

Mikl, J., Herold, D. M., Cwiklicki, M., & Kummer, S. (2020). The impact of digital logistics start-ups on incumbent firms: a business model perspective. *International Journal of Logistics Management*, *32*(4), 1461–1480. https://doi.org/10.1108/ijlm-04–2020–0155

Oran, I. B., & Cezayirlioglu, H. R. (2021). AI — robotic applications in logistics industry and savings calculation. *Journal of Organizational Behavior Research*, *6*(1), 148–165. https://doi.org/10.51847/jUXQmvCvqf

Radivojevic, G., & Milosavljevic, L. (2019, May 23–25). The concept of Logistics 4.0. *4th Logistics International Conference (LOGIC)*, Belgrade, Serbia.

Samir, T., Abdelsamad, C., ElAlami, J., & Acm. (2019, Oct 02–04). Big Data analysis from the Smart-Logistics for Smart-Cities. *4th International Conference on Smart City Applications (SCA),* Casablanca, Morocco.

Saniuk, S., Graczyk, M., Kulyk, P., & Ltd, T. (2018, Dec 03–05). Challenges of logistics in the concept of industry 4.0. *8th Carpathian Logistics Congress on Logistics, Distribution, Transport and Management (CLC),* Prague, Czech Republic.

Silva, N., Barros, J., Santos, M. Y., Costa, C., Cortez, P., Carvalho, M. S., & Goncalves, J. N. C. (2021). Advancing Logistics 4.0 with the Implementation of a Big Data Warehouse: A Demonstration Case for the Automotive Industry. *Electronics*, *10*(18), Article 2221. https://doi.org/10.3390/electronics10182221

Szymczak, M. (2019, Jun 27–29). Digital smart logistics. Managing supply chain 4.0: concepts, components and strategic perspective. *European Proceedings of Social and Behavioural Sciences. 15th International Strategic Management Conference (ISMC),* Poznan, Poland.

Yang, A. M., & Wu, J. P. (2007). The study and design of digital logistics system. *Proceedings of the 4th International Conference on Innovation & Management, Vols I and Ii*, 1584–1587.

Д.Г. Мамраева, А.В. Бабкин, Л.В. Ташенова, Б.Ш. Кульжамбекова

Қазақстандағы логистикалық компаниялардың цифрлық трансформациясының негізгі аспектілері

Аңдатпа

Мақсаты: Қазақстандағы логистикалық компаниялардың цифрлық технологияларды қолдануының негізгі аспектілерін анықтау.

Әдісі: Зерттеу мақсатына жету үшін мына әдістер қолданылды: логистикалық процестерді цифрландыруды, логистикадағы ақпараттық-коммуникациялық технологияларды пайдалану ерекшеліктерін зерттеуге байланысты негізгі ғылыми зерттеулерді ұйымдастыруға және құрылымдауға мүмкіндік берген мазмұнды–талдау әдісі; Қазақстандағы логистикалық компаниялардың бизнес-процестерін цифрландырудың ағымдағы жағдайын бағалауға мүмкіндік берген талдау әдісі; алынған нәтижелерді визуализациялауға мүмкіндік беретін графикалық интерпретация әдісі.

Қорытынды: Қазіргі кезеңдегі Қазақстандағы логистикалық компаниялардың бизнес-процестерін цифрландырудың ерекшеліктері зерттелді. Көлік және қойма ұйымдарының цифрлық технологияларды қолдану дәрежесі; логистикалық компаниялардың АКТ үшін шығындар құрылымы талданды. Логистикада және жеткізу тізбегін басқаруда блокчейн, интернет заттары, бұлттық сервистер, үлкен деректерді талдау технологиялары, роботтар, RFID, 3D басып шығару сияқты цифрлық технологияларды қолданудың келешегі мен мәселелері айқындалды. Цифрлық логистиканы дамытудың жаһандық тенденциялары көрсетілген.

Тұжырымдама: Алынған нәтижелер Қазақстандағы логистикалық процестерді цифрландыру деңгейін бағалауға, логистикада ақпараттық-коммуникациялық технологияларды қолданудың ауқымы мен жиілігін анықтауға, көлік және қойма кәсіпорындарының цифрлық логистикасы саласындағы жекелеген проблемаларды анықтауға мүмкіндік берді.

Кілт сөздер: логистикалық процестерді цифрландыру, цифрлық технологиялар, АКТ, Big data, RFID, Cloud logistics, Blockchain, интернет заттары.

Д.Г. Мамраева, А.В. Бабкин, Л.В. Ташенова, Б.Ш. Кульжамбекова

Ключевые аспекты цифровой трансформации логистических компаний Казахстана

Аннотация:

Цель: Выявление ключевых аспектов применения цифровых технологий логистическими компаниями Казахстана.

Методы: Для достижения цели исследования использованы следующие методы: метод контент-анализа, который раскрыл и структурировал основные научные исследования, связанные с изучением цифровизации логистических процессов, особенностей применения информационно-коммуникационных технологий в логистике; метод анализа, давший возможность оценить современное состояние цифровизации бизнес-процессов логистических компаний в Казахстане; метод графической интерпретации, позволивший наглядно представить получаемые результаты.

Результаты: Рассмотрены особенности цифровизации бизнес-процессов логистических компаний в Казахстане на современном этапе. Проанализирована степень применения цифровых технологий организациями транспорта и складирования; структура затрат на ИКТ логистических компаний. Выявлены перспективы и проблемы применения в логистике и управлении цепями поставок таких цифровых технологий, как блокчейн, Интернет вещей, облачные сервисы, технологии анализа больших данных, роботы, RFID, 3D-печать. Обозначены глобальные тренды развития цифровой логистики.

Выводы: Полученные результаты позволили дать оценку уровню цифровизации логистических процессов в Казахстане, выявить широту и частоту применения информационно-коммуникационных технологий в логистике, обозначить те или иные проблемы в сфере цифровой логистики предприятий транспорта и складирования.

Ключевые слова: цифровизация логистических процессов, цифровые технологии, ИКТ, Big data, RFID, Cloud logistics, Blockchain, Интернет вещей.

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Educational tourism as an economic category and a tool for increasing the competitiveness of the tourism industry: conceptual framework and classification

Abstract

Object: The object of research is the essence and content of educational tourism.

Methods: Bibliographic analysis and classification method.

Results: The article studies the approach to the definition of "educational tourism", including economic, activity, program-oriented, need-oriented, and combined. Based on the bibliographic analysis in the scientometric database Web of Science, an array of publications was studied and key scientific directions on the scientific problem under consideration were identified. The existing classification of educational tourism is given. The author's definition of the concept of "educational tourism" is given and classification of the types of educational tourism is obtained based on the distinguished features of the grouping.

Conclusions: At present, there is still no single approach to the definition and classification of educational tourism due to its interdisciplinarity, characterized by the relationship of economic, pedagogical, geographical, historical, behavioral, and many other sciences. Within the framework of this scientific article, we have identified 16 classification features of educational tourism, given the authors' definition, including aspects of digitalization, which have become an integral component of the modern process of learning and cognition.

Keywords: educational tourism, bibliographic analysis, approaches to definition, classification and types, components of educational tourism.

Introduction

From the side of the market every year there is a steady demand for specialists of a new formation, who not only have professional knowledge, but also have communicative, advanced cognitive, creative abilities, which can be fully realized through the implementation of educational tourism in the educational process, characterized by a pronounced interdisciplinary component (relationship with disciplines that mediate the study of languages, the development of communication, organizational skills, developing creativity, and a constant desire to learn something new (including within the framework of the concept of lifelong education) contributing to the growth of professional competencies in terms of using the possibilities of the ICT sphere, and many others) and providing for implementation through the active involvement of the student in the educational process, travel to tourist, as well as various objects of display and story, which have attractiveness and practice-oriented content.

Educational tourism is a progressive educational technology that allows not only to develop students' soft skills within the framework of interdisciplinary student-oriented learning, but also to create prerequisites for the sustainable development of education. To date, educational tourism is actively being introduced into the trajectory of higher education students in several foreign countries, ensuring their involvement in the educational process, as well as contributing to the realization of the possibility of diversifying educational products as part of creating a new offer, including a customized one.

In Kazakhstan, there are all opportunities to study this progressive, actively developing educational technology; successful introduction of educational tourism into the higher education system: the experience of the teaching staff, determined both from the position of the pedagogical and tourist components, relative flexibility in terms of the possibilities for making changes to working curricula, their compliance with international educational standards; rich cultural, natural, and historical heritage, represented by various objects of tourist display and story, tourist destinations.

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There is a need for fundamental research of innovative solutions related to the implementation of educational tourism in the learning environment of higher education students in Kazakhstan, as well as their practical testing and proposal as a unified ready-made methodological solution for other universities in the country.

Considering all the above, it should be noted that the *purpose of the article* is to study approaches to the definition of "educational tourism" in the context of its consideration as an interdisciplinary integrated component of education, as well as to highlight the classification features of the types of educational tourism.

The following tasks are defined: conducting a scientometric analysis for the search queries "education tourism" in the Web of Science database (Clarivate Analytics); formation of homogeneous groups of types of educational tourism.

The working hypothesis of the study: 1. The presence in educational tourism of two mandatory interrelated components – "education" and "tourism" is uneven and varies depending on the purpose of the trip or tour or understanding of the concept itself.

Literature Review

Analyzing the array of publications presented in the scientometric database Web of Science, as one of the most authoritative platforms containing the deepest array of information (since 1975), it should be noted that 162 works are identified on the scientific issue under consideration ("education tourism"), 102 of them are scientific articles, the rest are conference materials. It should be noted that, since 2016, there has been a noticeable increase in the number of published works devoted to the development of effective models for the implementation of educational tourism in the system of school, secondary and higher education, their use and effective implementation in different countries of the world.

In general, the following key scientific areas formed over the past 6 years can be distinguished:

1. studying the theoretical aspects of educational tourism, including from the perspective of a new modern paradigm of pedagogical and economic science, in particular: approaches to determining its essence and structure (Dembovska et al., 2016; Zatsepina et al., 2020; Lebedev, 2016), management issues, relationship with the process of active learning and cognition, acquiring professional skills and developing language competencies (Arcodia et al., 2021; Arredondo et al., 2017), motivational factors (from the perspective of all market participants) (Harazneh et al., 2018), correlation with the development of ecological and rural tourism as an important component of fostering responsibility and involving students in the cognitive process (Petroman et al., 2016; Chen et al., 2020);

2. study of the specifics of the development of models of educational tourism and their implementation in the learning process (Musthofa et al., 2017; Seow et al., 2021; McGladdery et al., 2017), including based on understanding the role of the innovative component, which is an indispensable part modern approaches to student-centered learning;

3. analysis of international experience of successful implementation of educational tourism in the learning environment in different countries of the world: UAE (Antiado et al., 2016), Ecuador (Bastidas-Andrade et al., 2020), ASEAN countries (Maga et al., 2018; Wijayanti et al., 2017; Matahir et al., 2017; Megawati, 2018), Spain (Lua et al., 2019), South Africa (McGladdery et al., 2017), Japan (Nagai et al., 2018), United Kingdom (Si et al., 2019), Lithuania (Zaleckiene et al., 2019), and others;

4. assessing the impact of educational tourism on the economic growth of regions (Tang, 2021) and the development of tourist destinations (Tomasi et al., 2020);

5. studying the role of using modern information and communication technologies in the implementation of educational tourism areas, including, for example, smart audio guides, digital pedagogical and tourism platforms, unified digital ecosystems (Manolitsis et al., 2020).

At the same time, no scientific articles by Kazakhstani authors were found, while the country has the opportunities to research this progressive, actively developing educational technology; successful introduction of educational tourism into the higher education system: the experience of the teaching staff, which is determined both from the position of the pedagogical and tourist components, relative flexibility in terms of the possibilities for making changes to working curricula, their compliance with international educational standards; rich cultural, natural and historical heritage, represented by various objects of tourist display and story, tourist destinations.

Methods

The following methods were used as research methods:

– *bibliographic analysis,* which made it possible to update information on publication activity within the framework of the scientific problem under consideration, through the creation and analysis of the search query "education tourism"; the depth of the massif was 47 years (from 1975 to 2022);

– *classification method,* which made it possible to obtain a classification of types of educational tourism based on the identified features of the grouping.

Results and Discussions

Approaches to the definition of "educational tourism"

It is important to note that so far in the scientific literature there is no single approach to the definition of the concept of "educational tourism" due to its multilevel, multidimensional, and interdisciplinarity. In a broad sense, this type of tourism, as a rule, is understood as a certain type of economic activity of subjects traveling outside their permanent residence for the purpose of obtaining education, new experiences and visiting tourist destinations; in the narrow sense, this type of tourism is correlated with the processes of cognition, self-realization, including through the prism of visiting the objects of display and story. Approaches to the definition and interpretation of the concept under consideration are presented in Table 1.

Table 1. Approaches to the definition of "educational tourism"

Approaches	Definition	Authors
Economic	"educational tourism as an economic category implies a system of relations that reflects the processes associated with the production, distribution, and consumption of an educational tourism product"	A.R. Lebedev
Activity-based	"educational tourism is considered as a form of tourism, covering various types of tourism related to the motivation of people to travel and engage in themselves in the processes of learning, self-improvement, intellectual growth and development of various skills. Educational tourism represents a wide range of products and services related to scientific research, the acquisition of skills during holidays and vacations, school trips, sports training, career development courses, language courses, etc."	UNWTO
Need-Based	"educational tourism can be considered an integrative product that includes a direct tourist component and an educational component and takes a wide variety of forms"	I.I. Gorlova
	"the satisfaction of cognitive interests is considered as the goal of educational tourism"	I.V. Zorin, V.A. Kvartalnov
	"tourist trips, which are trips to places of temporary residence in order to obtain additional knowledge, education and qualifications, which are carried out outside the permanent place of residence for two to three months"	S.Yu. Zhiteneva
Combined	"a type of recreation, the main or secondary purpose of which is the study of foreign languages, culinary or other disciplines (economics, management, marketing, etc.), as well as the satisfaction of curiosity, advanced training and the acquisition of new experience in a particular field of activity"	A. Shcherbinina

Note – Compiled by the authors

Classification features and types of educational tourism

The following scientific approaches help to highlight certain classification features fully revealing the essence of educational tourism as an economic and pedagogical category: economic; software-oriented; need-oriented; territorial; activity; innovative; student-centered; complex.

It is also important to emphasize the principles on which it is necessary to rely when compiling an extended classification of the scientific discipline in question:

1. the principle of multilevelness;
2. the principle of multidimensionality;
3. the principle of interdisciplinarity;
4. the principle of customer orientation;
5. the principle of time limitation;
6. the principle of consistency;
7. the principle of adaptability;
8. the principle of complexity;
9. the principle of innovation;
10. the principle of creativity;
11. the principle of humanistic pedagogy;
12. the principle of student-centered learning;
13. the principle of continuous learning.

In general, an extended classification of educational tourism, considering the proposed approaches and principles, the allocation of new classification features, different from those already existing in the scientific literature, are presented in Figure 1.

Unfortunately, in the Law of the Republic of Kazakhstan dated June 13, 2001, No. 211-II "On tourism activities in the Republic of Kazakhstan", the concept of "educational tourism" is absent, despite the fact that the terms "tourism" and "education" (Law of the Republic of Kazakhstan "On Education" with amendments and additions as of February 21, 2019) are defined.

1. Tourism is a journey of individuals lasting from 24 hours to one year or less than 24 hours, but with an overnight stay for purposes not related to paid activities in the country (place) of temporary residence.

2. Education is a continuous process of education and training, carried out for the purpose of moral, intellectual, cultural, physical development, and the formation of professional competence.

Based on the analysis, we provide our definition of the concept: "*Educational tourism* is a type of activity based on an integrative nature, expressed in the mutual connectivity of the educational and tourist components (the primary or secondary nature of which can be determined by the purpose of the activity of a subject who is interested in learning, training, development), characterized by a long (more than 24 hours) or temporary stay (less than 24 hours: as a form of excursion activity) in the territory of a tourist destination other than a permanent place of residence, in order to receive education (of different levels, including in the structure of the concept "lifelong learning"), professional development, language courses, creative development, as well as within the framework of a one-time inspection of individual attractions, display and story objects that have pronounced characteristics that form a sustainable tourist interest; *also a form of digital knowledge* of reality and virtual visits to tourist sites, through the widespread using of a variety of information and communication technologies (VR/AR technologies; super applications; voice assistants; chatbots; Sharing Economy tools; online reviews, peer reviews and content generated by tourists, etc.) and unified digital platforms created to ensure connectivity between the subject (student, tourist) and components / structures of tourist interest.

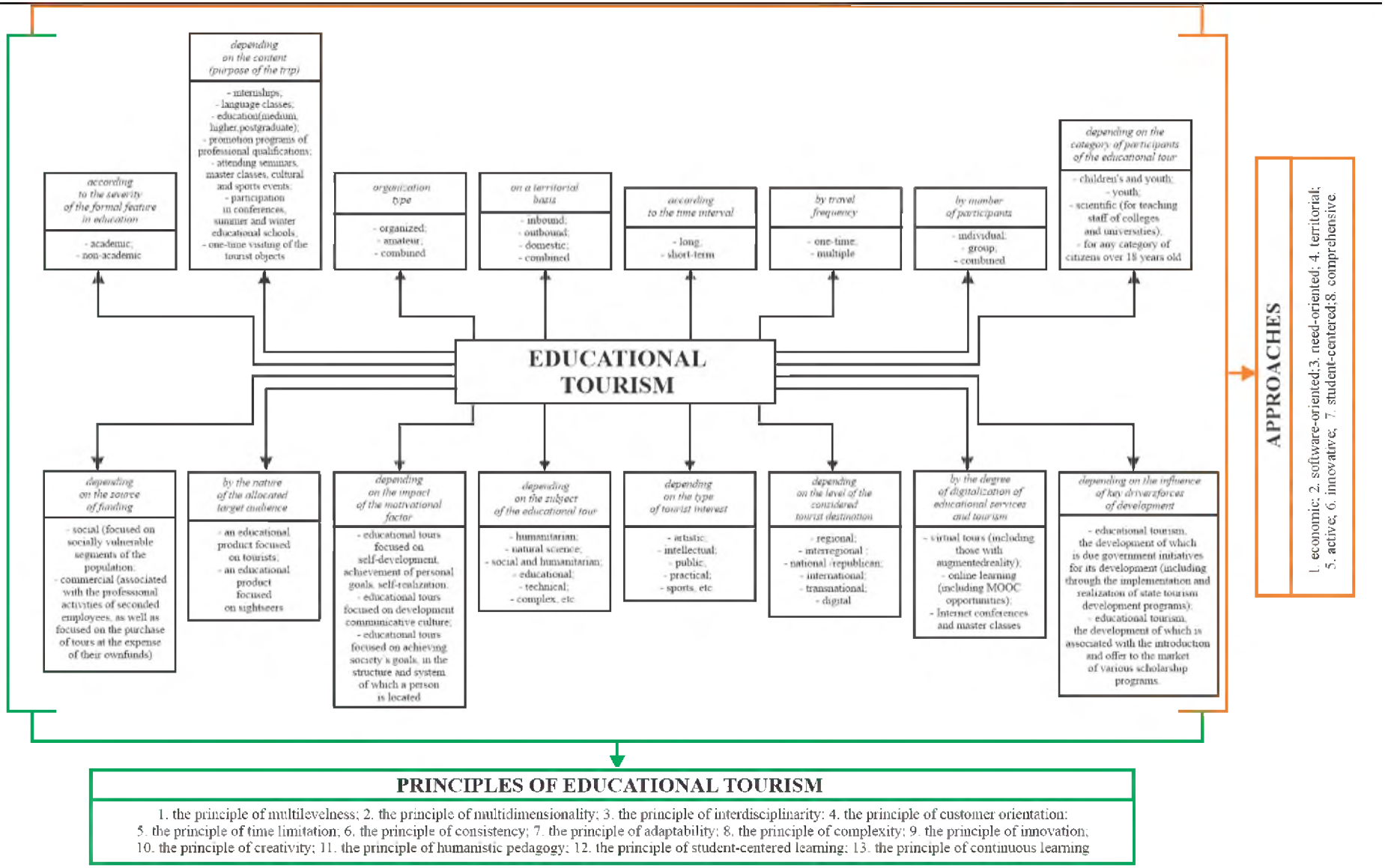

Figure 1. Classification of educational tourism

Note – Compiled by the authors

Conclusions

Educational tourism today is of particular relevance, combining at the same time the satisfaction of cognitive, educational, and recreational needs.

Nevertheless, the results of the scientometric analysis and the analysis of the array of articles published since 1975 on the issues under consideration show that there is still no consensus on the definition of educational tourism and the allocation of the leading components that form it: tourism or education. In our opinion, in many respects this aspect will be determined by motivational factors and goals of the subjects planning their trip. In general, educational tourism is a kind of "locomotive" of the modern process of knowledge, learning and the most important aspect of the formation of tourist interest.

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References

Antiado, D.F., Castillo, F.G., & Tawadrous, M.I. (2016, Apr 20-22). Educational Tourism in Dubai: The Global Higher Education Hub Across Culture. *Springer Proceedings in Business and Economics*. International Conference on Leadership, Innovation and Entrepreneurship (ICLIE), Canadian Univ Dubai, Dubai, United Arab Emirates.

Arcodia, C., Novais, M.A., Cavlek, N., & Humpe, A. (2021). Educational tourism and experiential learning: students' perceptions of field trips. *Tourism Review*, *76(1)*, 241-254. https://doi.org/10.1108/tr-05-2019-0155

Arredondo, M. I. C., Zapatero, M. I. R., & Lopez-Guzman, T. (2017). The important role of the international college students as a motor for promotion and development of international educational tourism as modality within the language tourism. *Pasos-Revista De Turismo Y Patrimonio Cultural*, *15(2),* 471-480. https://doi.org/10.25145/j.pasos.2017.15.030

Bastidas-Andrade, M.I., Lazo-Serrano, C.A., & Rojas-Encalada, M.A. (2020, Mar 02-04). Educational Tourism and Cultural Heritage: an analysis from two high Schools in an Ecuadorian Province. *INTED Proceedings*. 14th International Technology, Education and Development Conference (INTED), Valencia, Spain.

Chen, T.P., Lee, K.Y., Kabre, P.M., & Hsieh, C.M. (2020). Impacts of Educational Agritourism on Students' Future Career Intentions: Evidence from Agricultural Exchange Programs. *Sustainability*, *12(22),* Article 9507. https://doi.org/10.3390/su12229507

Dembovska, I., Silicka, I., Lubkina, V., & Rezekne Higher Educ, I. (2016, May 27-28). Educational Tourism in the training of future tourism professionals. *Sabiedriba Integracija Izglitiba-Society Integration Education*. International Scientific Conference on Society, Integration, Education, Rezekne, Latvia.

Harazneh, I., Al-Tall, R. M., Al-Zyoud, M. F., & Abubakar, A. M. (2018). Motivational factors for educational tourism: marketing insights. *Management & Marketing-Challenges for the Knowledge Society*, *13(1),* 796-811. https://doi.org/10.2478/mmcks-2018-0006

Lebedev, A., & Sgem. (2016, Aug 24-30). The economic essence of inbound educational tourism. *International Multidisciplinary Scientific Conferences on Social Sciences and Arts*. 3rd International Multidisciplinary Scientific Conference on Social Sciences and Arts, SGEM 2016, Albena, Bulgaria.

Lua, M.C., & Seric, M. (2019). Support services for international students as a driver of educational tourism: a cross-cultural study in the city of Valencia. *Gran Tour (19),* 103-123.

Maga, A.A., & Nicolau, P.E. (2018). Conceptualizing Educational Tourism and the Educational Tourism Potential (evidence from ASEAN countries). *Proceedings of the International Scientific Conference Competitive, Sustainable and Secure Development of the Regional Economy: Response to Global Challenges*, *39*, 343-348.

Manolitsis, C., Pappa, D., Makropoulos, C., & Pitsilis, V. (2020, Mar 02-04). The Cloudledge platform for educational tourism. *INTED Proceedings*. 14th International Technology, Education and Development Conference (INTED), Valencia, Spain.

Matahir, H., & Tang, C. F. (2017). Educational tourism and its implications on economic growth in Malaysia. *Asia Pacific Journal of Tourism Research*, *22(11),* 1110-1123. https://doi.org/10.1080/10941665.2017.1373684

McGladdery, C. A., & Lubbe, B. A. (2017a). International educational tourism: Does it foster global learning? A survey of South African high school learners. *Tourism Management*, *62*, 292-301. https://doi.org/10.1016/j.tourman.2017.05.004

McGladdery, C. A., & Lubbe, B. A. (2017). Rethinking educational tourism: proposing a new model and future directions. *Tourism Review*, *72(3),* 319-329. https://doi.org/10.1108/tr-03-2017-0055

Megawati, V. (2018, Mar 01). Educational Tourism as the conceptual age in the University of Surabaya. *Advances in Social Science Education and Humanities Research*. 15th International Symposium on Management (INSYMA), Tokai Univ, Chonburi, Thailand.

Musthofa, M. M., Muchlis, A. F., & Kurniawaty, P. (2017). Implementation of Structural Morphology as a Theme for Educational Tourism Design. *Pertanika Journal of Social Science and Humanities*, *25*, 173-185.

Nagai, H., & Kashiwagi, S. (2018). Japanese Students on Educational Tourism: Current Trends and Challenges. In C. KhooLattimore & E. C. L. Yang (Eds.), *Asian Youth Travellers: Insights and Implications* (pp. 117-134). https://doi.org/10.1007/978-981-10-8539-0_7

Petroman, C., Mirea, A., Lozici, A., Constantin, E.C., Marin, D., & Merce, I. (2016). The Rural Educational Tourism at the Farm. *3rd Global Conference on Business, Economics, Management and Tourism*, *39*, 88-93. https://doi.org/10.1016/s2212-5671(16)30245-3

Seow, A.N., & Choong, Y.O. (2021). The effects of implementation intentions on educational tourism: a protection motivation theory approach. *Journal of Teaching in Travel & Tourism, 22(2),* 163-178. https://doi.org/10.1080/15313220.2021.1950102

Si, Y.Q., Zeng, Y.F., Wang, J.W., Wang, H.Q., & Yang, F. (2019, May 25-27). Characteristics and Implications of British Educational Tourism. *Advances in Social Science Education and Humanities Research*. 2nd International Seminar on Education Research and Social Science (ISERSS), Kuala Lumpur, Malaysia.

Tang, C.F. (2021). The threshold effects of educational tourism on economic growth. *Current Issues in Tourism*, *24(1),* 33-48. https://doi.org/10.1080/13683500.2019.1694869

Tomasi, S., Paviotti, G., & Cavicchi, A. (2020). Educational Tourism and Local Development: The Role of Universities. *Sustainability*, *12(17),* Article 6766. https://doi.org/10.3390/su12176766

Wijayanti, A., Damanik, J., Fandeli, C., & Sudarmadji. (2017). Analysis of Supply and Demand to Enhance Educational Tourism Experience in the Smart Park of Yogyakarta, Indonesia. *Economies*, *5(4),* Article 42. https://doi.org/10.3390/economies5040042

Zaleckiene, J., & Turcinskaite, L. (2019, May 15-17). Development of educational tourism in Lithuanian Rural Areas. *Research for Rural Development*. 25th Annual International Scientific Conference on Research for Rural Development, Latvia Univ Life Sci & Technologies, Jelgava, Latvia.

Zatsepina, M.B., Kriskovets, T.N., Vorobyev, V.K., Kolobova, L.V., Grigor'eva, N.V., Fedulov, V.I., & Stolyarova, A.N. (2020). Educational Tourism: Tribute to Fashion or New Educational Opportunities? *Propositos Y Representaciones*, *8*, Article 642. https://doi.org/10.20511/pyr2020.v8nSPE2.642

Д.Г. Мамраева, Л.В. Ташенова

Білім беру туризмі экономикалық категория және туристік саланың бәсекеге қабілеттілігін арттыру құралы ретінде: тұжырымдамалық негіздер және жіктелуі

Аңдатпа

Мақсаты: Зерттеу нысаны ретінде білім беру туризмінің мәні мен мазмұны алынған.

Әдісі: Негізгі ғылыми әдістер ретінде қарастырылған ғылыми мәселе аясындағы жарияланымдық белсенділік бойынша мәліметтерді «education tourism» іздеу сұранысын қалыптастыру және талдау арқылы өзектендіруге бағытталған *библиографиялық талдау*; массивтің ауқымдылығы 47 жыл (1975 жылдан 2022 жылға дейін); топтастырудың анықталған белгілері негізінде білім беру туризмінің түрлерінің жіктемесін алуға мүмкіндік берген *жіктеме әдісі* алынды.

Қорытынды: Мақалада экономикалық, әрекеттік, бағдарламалық-бағдарлы, қажеттілікке бағытталған және біріктірілген «білім беру туризмі» анықтамасының тұғырлары зерттелген. Web of Science ғылыми-метриялық деректер қорындағы библиографиялық талдау негізінде басылымдар массиві зерттеліп, қарастырылып отырған ғылыми мәселе бойынша негізгі ғылыми бағыттар анықталды. Білім беру туризмінің қолданыстағы жіктемесі келтірілген. «Білім беру туризмі» ұғымына авторлардың анықтамасы беріліп, топтастырудың ерекше белгілері негізінде білім беру туризмінің түрлерінің жіктемесі алынған.

Тұжырымдама: Қазіргі уақытта экономикалық, педагогикалық, географиялық, тарихи, мінез-құлық және басқа да көптеген ғылымдардың өзара байланысымен сипатталатын пәнаралық болуына байланысты білім беру туризмін анықтау мен жіктеуге бірыңғай көзқарас әлі де жоқ; осы мақала аясында біз қазіргі оқыту мен таным процесінің ажырамас құрамдас бөлігіне айналған цифрландыру аспектілерін қамтитын авторлардың анықтамасын ескере отырып, білім беру туризмінің 16 классификациялық ерекшеліктерін анықтадық.

Кілт сөздер: білім беру туризмі, библиографиялық талдау, анықтамалық тұғырлар, жіктеме мен түрлері, білім беру туризмінің құраушылары.

Д.Г. Мамраева, Л.В. Ташенова

Образовательный туризм как экономическая категория и инструмент повышения конкурентоспособности туристской отрасли: концептуальные основы и классификация

Аннотация:

Цель: В качестве объекта исследования выступают сущность и содержание образовательного туризма.

Методы: Основными методами исследованиями выступили библиографический анализ, который позволил актуализировать сведения относительно публикационной активности в рамках рассматриваемой научной проблематики, посредством создания и анализа поисковоґо запроса «education tourism», ґлубина массива соста-

вила 47 лет (с 1975 по 2022 гг.); метод классификации, давший возможность получить классификацию видов образовательного туризма на основе выделенных признаков группировки.

Результаты: В статье изучены подходы к определению «образовательный туризм», среди которых экономический, деятельностный, программно-ориентированный, потребностно-ориентированный и комбинированный. На основе библиографического анализа в наукометрической базе данных Web of Science исследован массив публикаций и выделены ключевые научные направления по рассматриваемой научной проблематике. Приведена существующая классификация образовательного туризма. Дано авторское определение понятию «образовательный туризм» и получена классификация видов образовательного туризма на основе выделенных признаков группировки.

Выводы: В настоящее время до сих пор нет единого подхода в определении и классификации образовательного туризма в силу его междисциплинарности, характеризующейся взаимосвязью экономической, педагогической, географической, исторической, поведенческой и многих других наук; в рамках данной научной статьи нами было выделено 16 классификационных признаков образовательного туризма, дано авторское определение, включающее в том числе и аспекты цифровизации, ставшие неотъемлемой компонентой современного процесса обучения и познания.

Ключевые слова: образовательный туризм, библиографический анализ, подходы к определению, классификация и виды, компоненты образовательного туризма.

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Analysis of investment solutions allocated for the development of the construction industry in the Republic of Kazakhstan

Abstract

Object: The construction industry is not only one of the most important sectors of Kazakhstan's economy but also one of the attractive investment areas. The purpose of the study is to analyse investment in housing by region and consider the conditions of housing.

Methods: Analysis of data from the National Bureau of Statistics of the Republic of Kazakhstan.

Results: Analysis results show that the largest volume of investments in housing is allocated to the main cities of the country Nur-Sultan and Almaty.

Conclusions: The article analyzed the volume of investments of the Republic of Kazakhstan in housing construction for the period from 2013 to 2019. As a result of the analysis, a trend line was drawn on the volume of investment and a forecast was made for future years. In general, 48.9 billion tenge was invested in the construction industry in 2020, which is 41.5 percent less than in 2019. The situation at the global level also affected the construction industry in 2020, 2021.

Keywords: construction industry, investment volume, analysis, trend, forecast.

Introduction

Currently, one of the main keys to the development of the construction industry of the country is the allocation of investment from the state, the introduction of innovative technologies, attracting big investors, training of highly-qualified specialists, and increasing the level of their educational exchange. Housing construction is recognized as one of the priority directions of Kazakhstan's development strategy till 2050 and is one of the most important tasks of nationwide character. Real estate is always in demand, which means that it is an excellent tool for investing funds.

The economy of Kazakhstan has a great impact on increasing the integration of the world economy and increasing the level of openness, unitarity of the domestic economy, the influence of external environment factors on the efficiency of enterprises in general, ensuring the competitiveness of manufactured products.

The construction industry is one of the most important sectors of Kazakhstan's economy, as well as one of the attractive investment areas. The building industry makes up 5.6 % of the GDP and the volume of construction works increases annually on average by 10–15 %.

In the construction sector, competitiveness has recently been gaining momentum (Toppinen et al., 2019).

Today, Kazakhstan demonstrates rapid development in construction work. Basic in the field of construction analysis and optimization of factors of complex assessment of scientific sound methodology, considering the domestic investment market, can be used to increase the success and sustainability of the company receives (Mekebayeva, 2017).

The construction companies in the country managed to earn a record sum of 983.4 billion tenge for the last 10 years. This ensured the growth of construction works by 14% in 2019. The share of construction in the formation of GDP reached 5.6%. At the same time, owing to the newly created infrastructure, the country's investment activity has increased significantly, its contribution to economic development in the construction sector reached 6.2%.

The country has allocated 1.5 trillion in investments for housing construction. According to the results of 2019, construction works worth 4.4 trillion tenge were carried out, which is 14% more than in 2018. At the same time, there is a development in the main types of activities - the volume of construction and installation works amounted to 11.7%, the growth of capital repair – 20.6%, current repair – 19.6%.

There are many reasons for the stagnation of the construction sector of the economy. The main one is the lack of investment in technology by construction firms. Industry bodies and the government of the coun-

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try should invest in innovation and create incentives. They can play an important role, for example, working with contractors, owners, and "innovative technology players" can allow to identify new standards and technologies, develop pilot projects, and demonstrate successful projects. The government should create grants, bonuses, or subsidies to encourage developers and contractors to use innovative solutions, help them improve their skills and train the next generation (Khrustalev, & Konkin, 2019).

According to international reports on the status of projects in various countries, a significant part of the budget in countries is allocated to the construction industry (World Economic Forum, 2016).

By investment is understood the totality of the costs incurred in industry, construction, agriculture, as well as the economic entity in other sectors of production in the form of property, in kind, as well as cash, i.e. capital, for the further development of the economy. That is to spend available funds, capital for the development of a particular production and to make a profit in the future.

Some research, supported in part by Porter's argument that performance is the true source of competitive advantage, defines competitiveness in terms of performance (Porter, 1990).

Investments are a set of costs that are invested in the form of capital in enterprises of industry, construction, agriculture, and other sectors of the economy. In addition, investments are investments and investments (Asilova, 2019).

Investments are new technologies, materials, and the costs of increasing and updating production associated with the introduction of other tools of labor.

In addition, investment is the investment of money for income or profit, as well as property purchased for income or profit. The purpose of investment is income and profit. Investments are used in two ways. These are financial and real investments. In general, housing investments are included in real investments.

Like any other financial instrument, real estate investments have their pros and cons.

Among the advantages of this type of investment are:

– unchanging returns over the long term, for example, by renting out a purchased property, it is possible to make a profit over many years;
– relative availability of contributions;
– real estate has high liquidity (under certain conditions);
– a wide choice of investments.

Despite the significant advantages of real estate investments, they also have their dangerous sides, like all existing investments.

The main disadvantages of such investments are:

– demand for real estate, in general, depends significantly on the economic situation in the country and in a particular region;
– real estate prices are high;
– in small towns, the demand for real estate is at a low level;
– high additional expenses-utility services, repair works, taxes.

In the context of globalization, the efficiency of the enterprise's activities depends on the quality of its products and competitiveness in comparison with international enterprises advantages of financial stability, material and other resources it is subject to rational use (Mekebayeva, 2019).

The investment policy of Kazakhstan in the last five years has significantly strengthened the investment climate in the country. Attraction of investment funds will become a stimulus for development of the construction industry. Thus, with an increase of the share of foreign direct investment by 1%, forming GDP will increase its share up to 0,2%, and growth of investment in housing construction will provide growth of GDP by 0,1%. That is, with an increase in the inflow of investment in this industry, for example, compared with the level of 2014, the contribution of construction in the formation of GDP increased to 6.2%.

Methodology and results of the study

The analysis of the volume of investments in housing construction of the Republic of Kazakhstan for 2013–2019 was carried out.

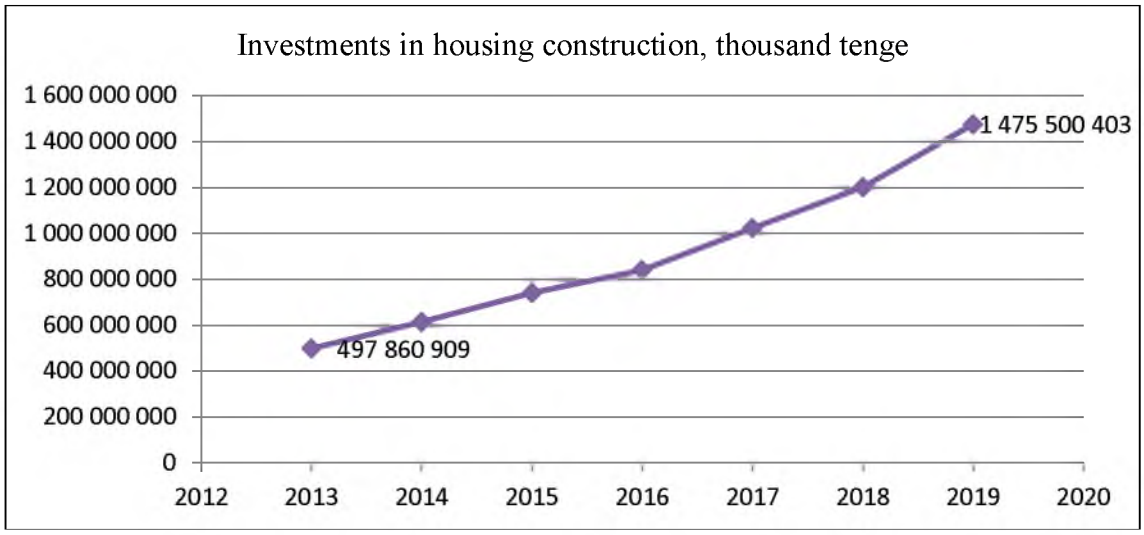

Figure 1. Investments in housing construction in the Republic of Kazakhstan (2013–2019).

Note – Compiled by the author on the basis of Bureau of National Statistics

Figure 1 demonstrates a gradual growth in the volume of investment in housing construction from year to year. Particularly, it can be seen that, in 2013, 497,860,909 thousand tenge was invested in housing construction, then in 2019, the investment amounted to 475,500,403 thousand tenge. That is, the investment in this sector increased 2.96 times.

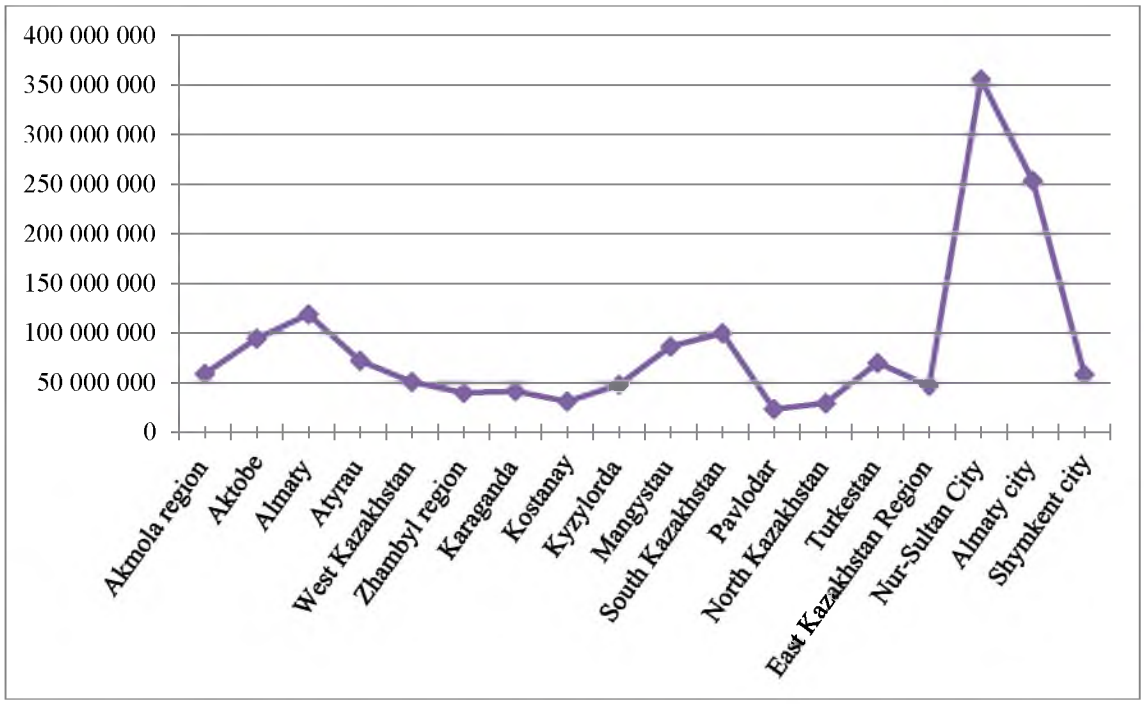

Figure 2. Volume of investments in housing construction by regions (2019)

Note – Compiled by the author on the basis of Bureau of National Statistics

According to Figure 2, the city of Nur-Sultan gains a leading position in the investment value in housing construction in Kazakhstan in 2019 by investing 355 605 262 thousand tenge. Further, we can see that 253 246 897 thousand tenge is invested in Almaty city and 99508457 thousand tenge in South Kazakhstan region. Minimum investments in housing construction are invested in the Kostanay region in the amount of 30 756 161 thousand tenge and Pavlodar region in the amount of 231 701 72 thousand tenge.

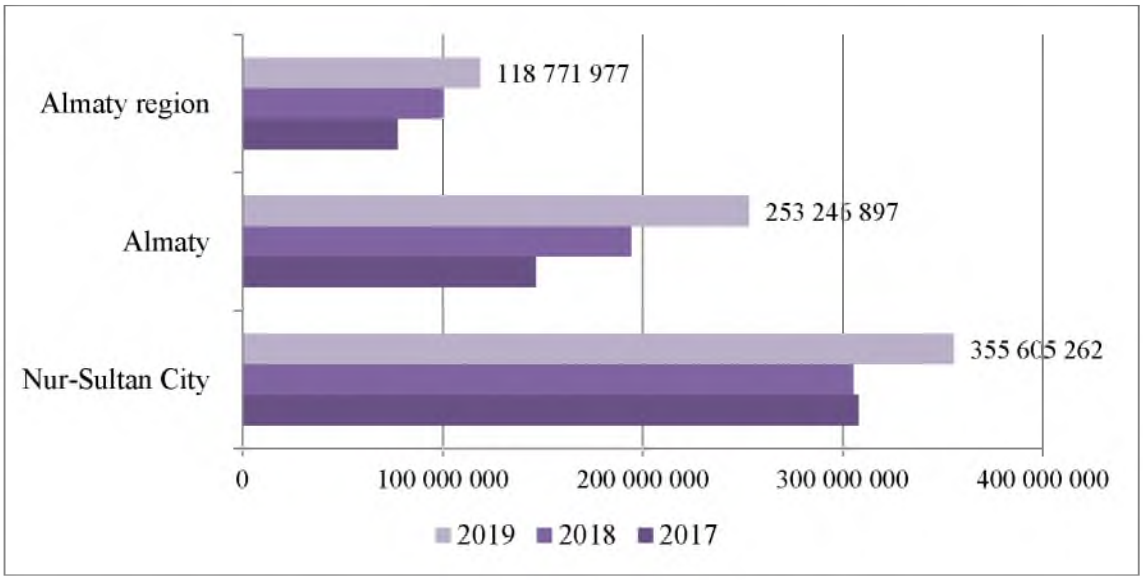

Figure 3. Volume of investments in housing construction (2017–2019)

Note – Compiled by the author on the basis of Bureau of National Statistics

According to Figure 3, the city of Nur-Sultan is a leader in the investment volume in housing construction for 2017–2019. In 2019, 355605262 thousand tenge was allocated in the city of Nur-Sultan. Investments in Almaty city amounted to 253246897 thousand tenge, in Almaty region 118771977 thousand tenge.

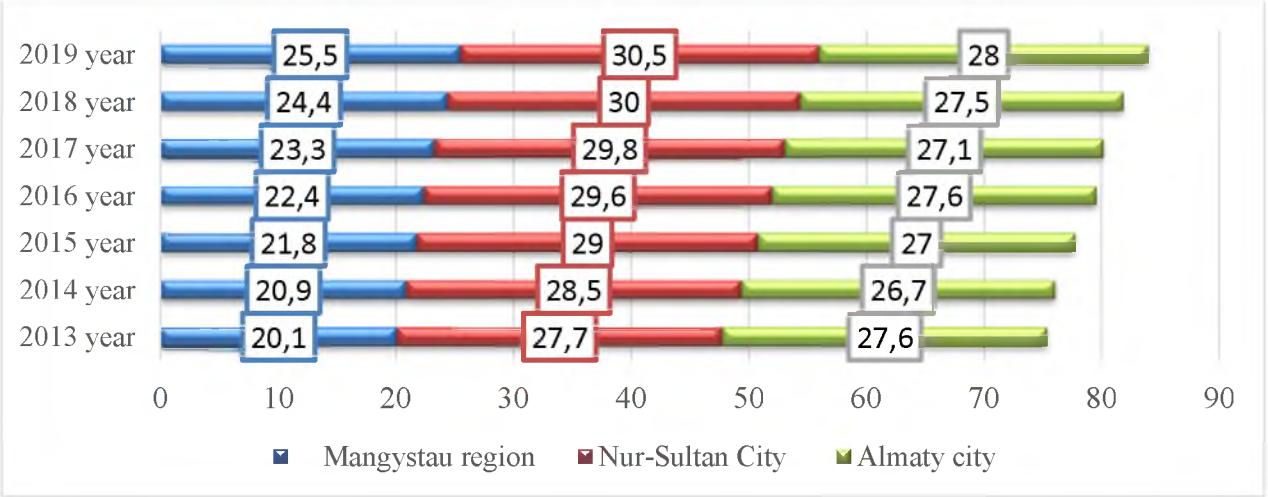

Figure 4. Provision of housing in the Republic of Kazakhstan (2013–2019).

Note – Compiled by the author

Figure 4 considers the provision of housing per person (sq.m.) Nur-Sultan, Almaty cities and the Mangistau region in the period from 2013 to 2019, living in the Republic of Kazakhstan. It can be seen that the provision of housing for residents of Nur-Sultan in 2019 was 30.5 square meters while the residents of the city of Almaty had 28 square meters. The lowest indicator was in the Mangistau region – 25.5 square meters.

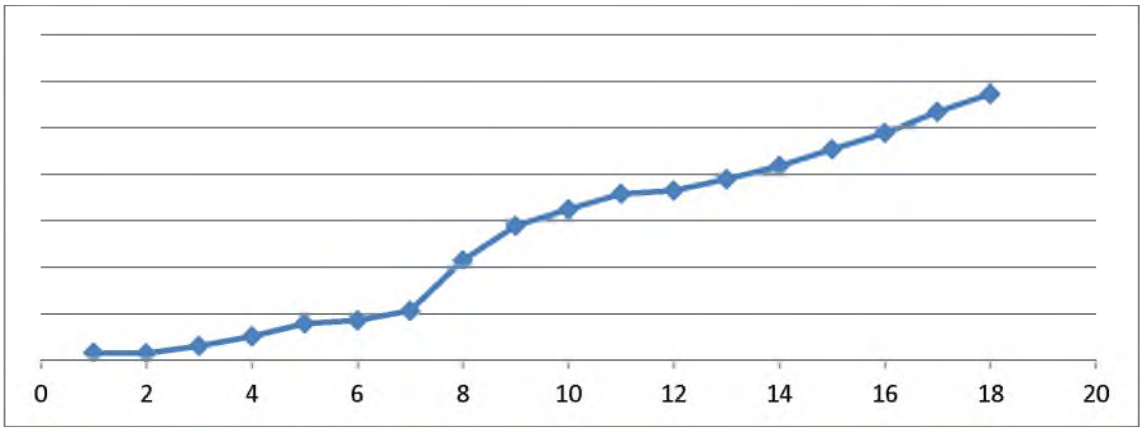

Figure 5. Volume dynamics of construction works of the Republic of Kazakhstan in the period 2004–2021

Note – Compiled by the author

Figure 5 illustrates the volume of construction works in Kazakhstan in the period 2004–2021. In comparison with 2004, in 2021, it can be observed that the volume of construction works in our country has increased rapidly. It should be recalled that the Head of State, at an expanded meeting of the Government in January 2021, instructed to increase the share of local content in housing construction. Until 2025, the country plans to build 103 million square meters of housing.

It should be noted that in 2020, 15.3 million square meters of housing were built in the country. More than 140 thousand houses were put into operation. Investments in housing construction increased by 33.6% compared to 2019 and amounted to 2 trillion tenge.

Recall that over the years of Independence in Kazakhstan, more than 1.6 million square meters of new housing have been built, more than 1.6 million people have been provided with housing.

Also, according to the Government of the Republic of Kazakhstan, it is planned to allocate funds in the amount of 817 million tenge for the digitization of state standards in the field of architecture, urban planning and construction for 2021-2023.

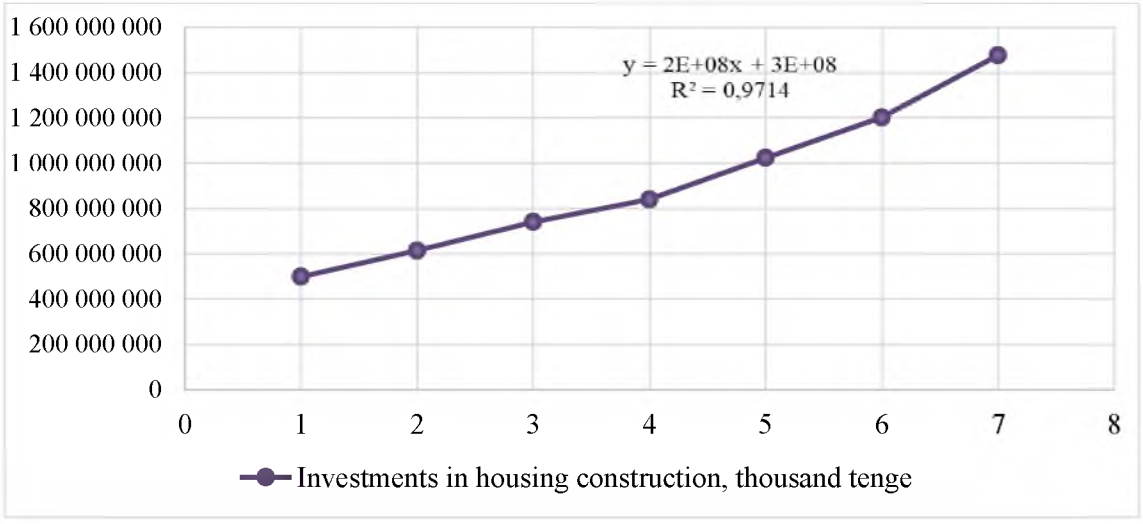

Figure 6. Predicting the volume of investment

Note – Compiled by the author

We make a prediction using a regression equation (Rakhmetova, 2016). The system of linear equations has been predicted Y=2E+08x+3E+08, R^2=0.97 for the following years. According to the results of forecast, the volume of investments in 2020 is expected to be 1.9 trillion tenge, in 2021 - 2.1 trillion tenge, in 2022 - 2.3 trillion tenge. It is predicted that from 2020 to 2022 the volume of investments will increase 1.1 times.

The introduction of modern technologies requires serious capital investments. In 2017–2020, there was a gradual increase in investment in fixed assets in construction. According to the study, the average annual growth rate in this period was 24%. In 2020, due to the coronavirus pandemic, the amount of capital

investments expectedly decreased by 35.6%, to 80.1 billion tenge (124.4 billion tenge a year earlier). At the same time, already in the first month of 2021, investments increased by 2.3 times compared to last year, to 4.5 billion tenge.

Conclusions

In conclusion, one of the important areas of social policy in Kazakhstan is to provide citizens with affordable and quality housing. As well as providing the majority of the population with their own housing conditions. Reducing the cost of housing construction is one of the most important tasks in construction. For this purpose it is necessary to find effective planning and technological solutions to reduce the cost of a square meter of housing. The competitiveness of the construction industry on the domestic market depends, above all, on their quality.

The increase in demand for residential apartments indicates that the standard of living of the population of Almaty is higher than in other regions (Mekebayeva, 2018).

During the analysis, one can notice that the largest volume of investments in housing is allocated to the main cities of the country Nur-Sultan and Almaty. In 2020, 48.9 billion tenge was invested in the construction industry. However, this is 41.5 percent less than in 2019. The situation at the global level also affected the construction industry in 2020, 2021.

References

Amirbekuly E. (2014). Firmanyn basekege qabilettiligi [Flexibility of the firm]. Almaty: Evero.

Asilova, A.S. (2019). Investitsiya negizderi [Fundamentals of investment]. Almaty: Master Print Publishing House [in Kazakh].

Khrustalev, B.B., & Konkin, A.N (2019). Faktory, vliyayushchie na innovatsionno-investitsionnuyu deyatelnost v stroitelnoi otrasli [Factors affecting innovation and investment activity in construction]. *International Agricultural Journal,* 4, 219–227 [in Russian].

Mekebayeva, Zh.A. (2017). Qurylys zhumystarynyn oryndaly kolemine taldau [Analysis of the volume of construction works]. *Qazakhstan Respublikasy Ulttyq gylym akademiiasynyn khabarshysy — Bulletin of the National Academy of Sciences of the Republic of Kazakhstan, 6 (316), 192–196* [in Kazakh].

Mekebayeva, Zh., & Zhunisbekova, G. (2017). QR qurylys zhumystarynyn oryndalu kolemine taldau [Analysis of the implementation of the volume of construction work]. News of the national acadeny of sciences of the Republic of Kazakhstan. Series of social and human sciences. Volume 6, Number 316, 192–195 p.

Mekebayeva, Zh.A. (2018). Qurylys salasy narygyndagy basekege qabilettilikti qamtamasyz etetin negizgi faktorlardy ekomomikalyq-matematikalyq turgydan taldau [Economic–mathematical analysis of the main factors of providing the competetiveness of the construction industry market]. *Central Asian Economic Review*, 5–6 (123), 73–83 [in Kazakh].

Mekebayeva, Zh.A. (2019). Economic mechanisms to improve the competitiveness of the industry, construction industry in the context of globalization. Bulletin of the National Engineering Academy of the Republic of Kazakhstan. Almaty, 3 (73), 179–185.

Porter, M.E. (1990). The Competitive Advantage of Nations, Free Press, New York/Collier Macmillan, London.

Qazakhstan Respublikasy Strategiialyq zhosparlau zhane reformalar agenttigi. Ulttyq statistika biurosy [Agency for Strategic planning and reforms of the Republic of Kazakhstan. Bureau of National statistics]. https://stat.gov.kz/ [in Kazakh].

Qazakhstan Respublikasynyn Ulttyq Bankinin resmi saity [Official websites of the National Bank of the Republic of Kazakhstan]. https://www.nationalbank.kz/ [in Kazakh].

Rakhmetova, R.O. (2016). Ekonometrika [Econometrics]. Almaty: Economics [in Kazakh].

Strategiya razvitiya promyshlennosti stroitelnykh materialov na period do 2020 goda i dalneishuyu perspektivu do 2030 g. [Strategy of building materials industry development for the period till 2020 and for the perspective till 2030]. http:// http://minpromtorg.gov.ru [in Russian].

Toppinen, A., Sauru, M., Pätäri, S., Lähtinen, K., & Tuppura, A. (2019). Internal and external factors of competitiveness shaping the future of wooden multistory construction in Finland and Sweden. Construction Management and Economics 37(4): 201–16.

World Economic Forum (2016). Shaping the Future of Construction A Breakthrough in Mindset and Technology, World Economic Forum (WEF), Geneva.

Ж.А. Мекебаева

Қазақстан Республикасындағы құрылыс индустриясын дамытуға бөлінген инвестициялық шешімдерді талдау

Аңдатпа

Мақсаты: Құрылыс саласы Қазақстан экономикасының маңызды салаларының бірі болып қана қоймай, инвестицияландырудың да тартымды бағыттарының бірі. Зерттеудің мақсаты Қазақстан Республикасының аймақтары бойынша тұрғын үй құрылысына салынған инвестициялар көлемін талдау. Сонымен қатар тұрғын үймен қамтамасыз етілу жағдайын қарастыру.

Әдісі: Мақалада Қазақстан Республикасының Ұлттық статистика бюросының нақты статистикалық мәліметтер көлемі қолданылды. Тұрғын үй құрылысына салынған инвестиция көлеміне аймақтар бойынша мониторинг жасалынды. Сонымен қатар тұрғын үй құрылысына салынған инвестициялар көлеміне тренд сызығы сызылып, алдағы жылдарға болжам жасалынды.

Нәтижелері: Талдау барысында, тұрғын үйге салынатын инвестициялардың ең ауқымды көлемі еліміздің басты қалалары Астана мен Алматы қалаларына көп бөлінетінін байқауға болады.

Қорытындылары: Мақалада Қазақстан Республикасының 2013 жылдар мен 2019 жылдар арасындағы тұрғын үй құрылысына салынған инвестициялар көлеміне талдау жүргізілген. Сонымен қатар аймақтар бойынша 2019 жылғы инвестиция көлемі қарастырылды. Талдау нәтижесінде инвестиция көлеміне тренд сызығы сызылып, алдағы жылдарға болжам жасалынды. Қорыта келе, 2020 жылы құрылыс саласына 48,9 млрд теңге көлемінде қаржы шығындалған. Бірақ бұл 2019 жылмен салыстырғанда 41,5 пайызға аз. Әлемдік деңгейде болған ахуал 2020, 2021 жылдары құрылыс саласына да өзіндік әсерін тигізді.

Кілт сөздер: құрылыс саласы, инвестиция көлемі, талдау, тренд, болжам.

Ж.А. Мекебаева

Анализ инвестиционных решений, выделенных на развитие строительной индустрии в Республике Казахстан

Аннотация:

Цель: Целью исследования является анализ объемов инвестиций в жилищное строительство по регионам Республики Казахстан. А также рассмотрение условий обеспечения жильем.

Методы: В статье использован объем фактических статистических данных Национального бюро статистики РК, проведена линия тренда на объем инвестиций в жилищное строительство, и дан прогноз на следующие годы.

Результаты: В ходе анализа можно заметить, что самый большой объем инвестиций в жилищное строительство больше всего выделяется главным городам страны Нур-Султан и Алматы.

Выводы: В статье проведен анализ объема инвестиций Республики Казахстан в жилищное строительство за период с 2013 по 2019 гг. Был рассмотрен объем инвестиций по регионам в 2019 г. В результате анализа проведена линия тренда на объем инвестиций, и составлен прогноз на будущие периоды.

Ключевые слова: строительная отрасль, объем инвестиций, анализ, тренд, прогноз, жилищное строительство.

References

Toppinen A. Internal and external factors of competitiveness shaping the future of wooden multistory construction in Finland and Sweden / A. Toppinen, M. Sauru, S. Pätäri, K. Lähtinen, A. Tuppura // Construction Management and Economics. — 2019. — 37(4): 201–16.

Мекебаева Ж.А. Құрылыс жұмыстарының орындалу көлеміне талдау / Ж.А. Мекебаева // Қазақстан Республикасы Ұлттық ғылым академиясының хабаршысы. — 2017. — № 6 (316), қараша-желтоқсан. — Б. 192–196.

Хрусталев Б.Б. Факторы, влияющие на инновационно-инвестиционную деятельность в строительной отрасли / Б.Б. Хрусталев, А.Н. Конкин // International agricultural journal. — 2019. — № 4. — С. 219–227.

Porter M.E. The Competitive Advantage of Nations / M.E. Porter // Free Press. New York/Collier Macmillan, London. — 1990.

Асилова А.С. Инвестиция негіздері: оқулық. / А.С. Асилова. — Алматы: «Master Print» баспасы, 2019.

Всемирный экономический форум. Формирование будущего строительства, прорыв в мышлении и технологиях. — Женева, 2016.

Mekebayeva Zh. Economic mechanisms to improve the competitiveness of the industry, construction industry in the context of globalization / Zh. Mekebayeva // Bulletin of the National Engineering Academy of the Republic of Kazakhstan. — 2019. — No. 3 (73). — P. 179–185.

Қазақстан Республикасы Стратегиялық жоспарлау және реформалар агенттігі. Ұлттық статистика бюросы. https://stat.gov.kz/

Рахметова Р.Ө. Эконометрика. –Алматы: Экономика, 2016. — 206 б.

Мекебаева Ж.А. Құрылыс саласы нарығындағы бәсекеге қабілеттілікті қамтамасыз ететін негізгі факторларды экономикалық-математикалық тұрғыдан талдау / Ж.А. Мекебаева // Central Asian Economic Review. — 2018. —№ 5–6 (123). — Б. 73–83.

Қазақстан Республикасының Ұлттық Банкінің ресми сайты. (https://www.nationalbank.kz/)

Әмірбекұлы Е. Фирманың бәсекеге қабілеттілігі: оқу құралы / Е. Әмірбекұлы. — Алматы: Эверо, 2014. — 114б.

Mekebayeva Zh.A. Economic mechanisms to improve the competitiveness of the industry, construction industry in the context of globalization / Zh.A. Mekebayeva // Bulletin of the National Engineering Academy of the Republic of Kazakhstan. Almaty. — 2019. — 3 (73). — P. 179–185.

Стратегия развития промышленности строительных материалов на период до 2020 года и дальнейшую перспективу до 2030 г. [Электронный ресурс] http:// http://minpromtorg.gov.ru.

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International market entry strategy industrial enterprises in the context of the globalization of the economy

Abstract

Object: The purpose is to develop methodological foundations for the formation of strategies for entering the international market in the context of analyzing the motives, factors, and barriers that affect the foreign economic activity of Kazakhstani industrial enterprises to ensure competitiveness in the face of increased competition.

Methods: General scientific methods, the method of literature review and monographic, analysis of statistical indicators, absolute and relative values.

Results: The role of the exit strategy of industrial enterprises was determined in the framework of the analysis of the main approaches to the entry of enterprises into the international market, taking into account the competitive advantages of engineering enterprises; the analysis of the state and development of export potential, investment and innovation activity of domestic industrial enterprises of mechanical engineering was carried out. Internal and external factors and motives that encourage the development of a strategy for entering the foreign market of enterprises in the engineering industry, as well as determinants of their entry into the international market, were identified. Methodological approaches were developed to improve targeted strategies for entering the international market of enterprises of the machine-building industry of Kazakhstan.

Conclusions: We conclude that industrial enterprises are based on developing their own strategy for entering the international market, justifying the assessment of their own strategic potential based on an analysis of motives, internal and external factors and barriers that affect the foreign economic activity in engineering enterprises Kazakhstan.

Keywords: industrial enterprises, exit strategy, world market, internationalization and externalization, globalization.

Introduction

The globalization of the world economy is observed in the expansion of the geography of foreign economic activity of industrial enterprises of Kazakhstan. Development of innovations, new technologies, intellectual capital, and investments in the foreign economic activity of domestic industrial enterprises. Increasing the effectiveness of economic activity in the foreign market and competitive positions in the foreign market.

The expansion of business activity of domestic engineering enterprises at the international level is associated with the complexity of the technological process in this industry. The production of complex machines of great importance has an impact on the participation and costs of its qualitative diversification. For example, the creation of one job in mechanical engineering automatically creates jobs in five adjacent structures. In connection with this, mechanical engineering was identified as a priority direction for the development of the industry in Kazakhstan (Strategy 2050, 2020). Therefore, the study of the competitive development strategy of domestic industrial enterprises at the level of international business is an important factor in sustainable development in modern conditions.

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The new challenges of the world economy for the industrial production of Kazakhstan have revealed problems associated with insufficient investment, a decrease in the level of profitability of production and a shortage of qualified personnel. A strategic vision in solving the problems of mechanical engineering enterprises is possible based on the application and technical re-equipment of the production process based on its use and the introduction of digital technologies, which is their economic benefit in the world market. Of great importance is the role of state support, which is associated with the regulation of production processes and the financial turnover of engineering enterprises.

Industrial enterprises of the machine-building industry of Kazakhstan are large business entities that ensure a continuous and high-quality production process and are aimed at updating the structure of the main and reverse sides of another economy. At the same time, the indicators of the country's economy also depend on the broad development and reliable management of the engineering industry in the foreign market. Therefore, the determination of statistical results based on the methods of internationalization and externalization of domestic producers allows for obtaining competitive advantages in the context of the globalization of the economy.

Literature review

The open industrial policy and investment climate of Kazakhstan create favorable conditions for foreign industrial enterprises to expand their business activities. However, the activities of domestic industrial enterprises in the international market are developing in other conditions, where sufficiently developed competition based on the production potentials of foreign companies does not allow for determining the positions of domestic enterprises at a sufficient level. In 2020, despite the tough measures associated with the COVID-19 pandemic, the foreign trade turnover indicator is characterized by positive dynamics. The indicator of exports from Kazakhstan in 2021 increased by 26.9% and in monetary terms amounted to 60.3 billion dollars, while imports increased in 2021 by 5.8% and amounted to 41.9 billion dollars. There is an increase in exports and imports. The volume of exports from Kazakhstan exceeded the volume of imports by $7,443,919.7 million. The volume of exports of products of engineering enterprises in 2021 amounted to 513,359.2 thousand dollars, a change compared to 2019 occurred by 94.4% (exports of products in 2019 amounted to 527,179.5 thousand dollars), in general, decreased by - 2.6%. The structure of exports of the main types of science-intensive products is represented by the production of machinery, equipment and mechanisms, electrical equipment, etc. The total volume of imports in 2021 increased by 3.7% or by 1,397,488.1 thousand US dollars. The greatest growth was demonstrated by machinery and equipment, electrical equipment, and their parts (Kekchebaev, Zhakupova, & Suleimenov, 2021). Therefore, domestic industrial enterprises should choose the most effective strategies for entering foreign markets, considering the organizational and economic characteristics of their activities, types and range of products and services (Pushkareva, Zakharov, & Klimenko, 2020).

Modern models of entering the international market are characterized, first, by the definition of internal and external factors (Krayushkina & Kuskov, 2021) the content of which affects the foreign economic activity of industrial enterprises. According to S. Hollensen, there are two reasons for entering the international market: proactive, that is, focused on the application of unique competencies, such as specific technological experience, and reactive focused on the use of general competencies (as a reaction to pressure in the domestic market) (Hollensen, 2004). At the same time, attention should be focused on the influence of motives, factors, and barriers on the foreign economic activity of enterprises, which will allow companies to determine the optimal strategy for entering the international market.

Several scientific results revealed that the majority of domestic industrial enterprises are of particular interest in the international market in the transfer of industrial technologies and innovations (Drogovoz & Paskhina, 2011), the use of R&D results to increase production potential to ensure the optimal choice of effective strategies for entering the world market (Drogovoz & Yusufova, 2017).

Most scientists determine the rationality of developing a strategy for industrial enterprises to enter the foreign market and consider the problem of reducing the level of obstacles and barriers (Nalbandyan, 2022). At the same time, world practice testifies to the use of integration (Pospelov et al., 2018) and export strategies for entering international business (Brouthers, Brouthers, & Werner, 2008; Dubrov, 2020) in the foreign economic activity of domestic industrial enterprises to adapt the business activity of large business entities in various market situations on a global scale. Considering the current context of economic dynamics and technological prospects, questions arise that, on the one hand, are purely theoretical, and on the other hand, have significant applied significance, which is included in the category of innovations, to what extent innovations

are related to high-tech products and what characteristics they should have to make a company competitive in an already mature market (Zhmud, 2017).

According to P. Dixon, in shaping the choice of a company's strategy for the international market, the motive is strategic innovations and international strategic marketing tools (Dixon, 1998), which is expressed in the expansion of the market geography and product-market determinism from the position of domestic enterprises in the world market.

Methods

To achieve the main goal and solve the problems posed in the framework of this article, the authors structured an algorithm for using research methods.

The initial stage of the study was aimed at obtaining qualitative information about theoretical approaches to the strategy for entering the international market for enterprises and based on the use of the literary review method and the monographic method of scientific publications, identified possible ways to enter the foreign market of industrial enterprises - internationalization and externalization.

In a comparative aspect, the main issues related to internal and external factors that stimulate entry into the market, as well as barriers preventing the entry of domestic industrial enterprises into the international market, despite the created conditions for the availability and openness of the world market for goods and services, were considered.

Analysis results of statistical data from reliable sources on exports and imports of products a study of the relationship between the use of innovative technologies and investment in the industry were presented. The source of information was statistical data on world trade trends prepared by WTO experts over the past three years, including the activities of industrial enterprises in the context of the COVID-19 pandemic.

The next stage of qualitative research was the study of the issues of modeling innovation processes, technology transfer and investment development in the context of the EAEU countries, which made it possible to determine the share of high-tech products in Kazakhstan in the total share of GDP in the economies of the EAEU countries.

A promising research method was the development of a model for entering the foreign market of domestic industrial enterprises in the context of ensuring the competitiveness of the country's economy.

Results

Modern economic theory has studied the models of enterprises entering international business, the economic essence, which is determined by the level of internationalization of enterprises expressed in the motivation of market entities to make strategic decisions about further development and growth opportunities in international markets. The views of scientists agreed that the level of internationalization of enterprises is not a quantitative indicator, and there are no methods for measuring it, but there are models of behavior of enterprises that describe the step-by-step process of internationalization of enterprises, which makes it possible to compare its levels and use them as an assessment tool.

A specific feature of engineering enterprises in Kazakhstan is the production of science-intensive and high-tech products: machinery, equipment and mechanisms, instruments, and electrical equipment for other sectors of the economy. Consequently, the volume of domestic production of the machine-building industry of Kazakhstan in 2020 amounted to 1.2 trillion tenge, having increased by 32.7% compared to 2019. However, in the structure of engineering products, there was a decrease in the production of equipment for mining engineering, which amounted to 11%. An important indicator of the development of this industry is investment and innovation. The volume of investments in fixed capital of the machine-building industry in 2020 amounted to 41.8 billion tenge, which is 46% higher than in the same period in 2019 (28.6 billion tenge).

The machine-building industry is represented by large business entities, and the features of their development are characterized by the fact that enterprises:

- gives a significant impetus to the development of advanced technologies;
- in terms of the number of employees and the value of manufactured products, mechanical engineering occupies a leading place among other sectors of the world industry: it accounts for about 28% of the value of world production and about 30% of those employed in industry;
- mechanical engineering is characterized by large enterprises (1100 people on average compared to 820 in industry as a whole);
- the level of development of mechanical engineering depends on the material intensity, energy intensity of the gross domestic product (GDP), industrial safety and the defense capability of the state (in developed countries, mechanical engineering is 25–35% of GDP) (Shumeiko, Kasenov, & Abishev, 2019).

The practical significance of the model for entering the international market for enterprises is characterized by the fact that, after successfully mastering the segments of the domestic market, enterprises develop a strategy for expanding their market share through foreign economic activity.

The effectiveness of foreign economic activity of domestic industrial enterprises of mechanical engineering is determined by the results of participation in international trade. The introduction of restrictions on international trade caused by the COVID-19 pandemic had a strong impact on the Balance of Payments balance and on an annualized basis in 2020 led to an 8% reduction in trade in goods and a reduction in trade in commercial services by 21% in the global market. At the same time, in 2020, global exports of manufactured goods decreased by 5.2%, while total exports of goods decreased by 7.7% overall. Such a drop is observed precisely with the introduction of new working conditions at industrial enterprises, including in the machine-building industry. International economic relations of large business entities are aimed not only at the implementation of the results of the production process in the form of finished products on the market, but also at the transfer of services in the field of innovations, technologies, R&D results and investments, qualitative characteristics, which are collectively reflected in export and import.

Table 1. Macroeconomic indicators of the economy of Kazakhstan for 2019–2021

Indicators	2019	2020	2021	Changing indicators			
				2020–2019		2021–2020	
				Absolute growth	Growth rate %	Absolute growth	Growth rate %
GDP, in billion tenge	68 639,4	69 134,1	73 237, 2	6 819,9	2,4	1494,7	2,3
Export volume in billion tenge	61111,2	52390,1	46 949,7	- 8 721,1	-14,3	-5 440,4	-10,3
Import volume in billion tenge	138642,3	139748,9	143627,2	116,6	1,01	3878,3	1,03
Trade balance in billion tenge	27454,5	18099,7	9 225,7	-9353,0	-34,1	-8 874,1	-49,0

Note – Compiled by authors on the basis of (Economy of Kazakhstan 2020)

An analysis of statistical data (Table 1) revealed that Kazakhstan's GDP tends to grow and increased by 3.8% in 2021, after falling by 2.6% in 2020. Statistics on indicators of Kazakhstan's exports, as well as imports in the period under review, have an unstable trend. As a result, Kazakhstan's trade balance decreased from $27,454.5 million in 2019 to $9,225.7 million in 2021. The share in the total volume of exports of products of the engineering industry in 2021 amounted to 2.2% and increased by 0.3 % compared to 2019.

The success of the implementation of a particular strategy for industrial enterprises to enter the international market depends on factors that increase or decrease their business activity in foreign economic activity (Figure 1). In terms of their structure and content, internal factors are more significant in the external market since they consider the specifics and assessment of the potential of the activity of engineering enterprises. External factors affect the degree of penetration of business activity of industrial enterprises into the foreign market and determine the level of creation of favorable conditions in international markets. Favorable conditions are associated with the level of development of the country's economy, innovation potential and R&D, technology transfer, competition in the market, the culture of potential consumers and the degree of demand for high technology products, international legislation, external market infrastructure, environmental situation and possible risks and methods of their management.

The study results confirm the following that the exit strategy of engineering enterprises is determined primarily by institutional, sectoral, and internal factors, namely the level of state support and infrastructure for the development of the engineering industry, which affect the type of strategy for entering foreign markets.

State support was provided as part of the program for the industrialization of the engineering industry, which implemented 114 investment and innovation projects worth 276 billion tenge and created about 11 thousand jobs. As a result of these projects, new types of engineering products appeared: locomotives, transformers, communication equipment, optical devices, production of electronic parts, production of electric lighting equipment. The automotive industry and railway engineering have been actively developed, the branches of agricultural, electrical engineering, mining and oil and gas engineering have been significantly updated and strengthened.

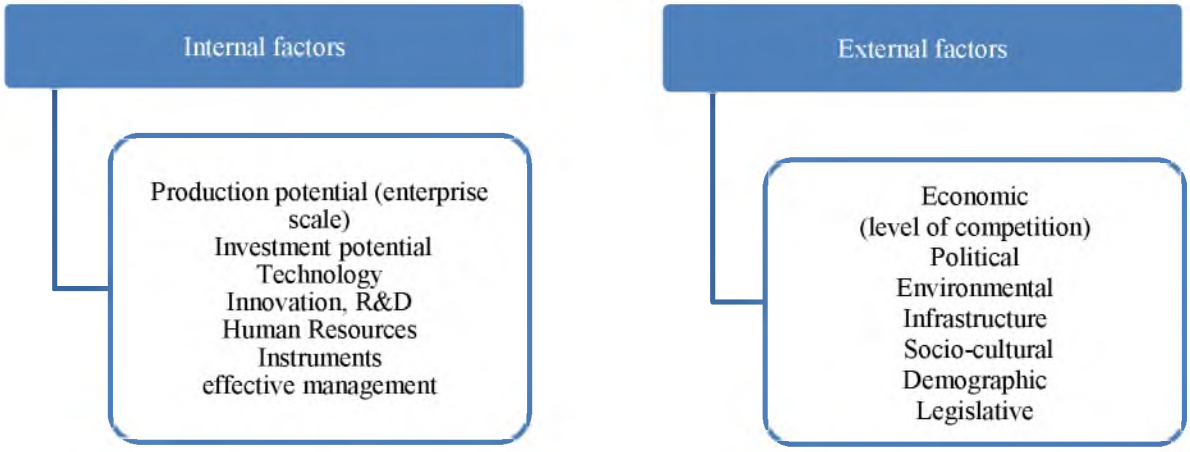

Figure 1. Internal and external factors influencing the strategy for entering the external market

The effectiveness of the chosen strategies for entering a foreign market is determined in the process of foreign economic activity and largely depends on the motives for entering foreign markets. The motives that encourage the entry into foreign markets of the machine-building enterprises of Kazakhstan are determined by considering the selection and analysis of the strategic mission of two large enterprises in East Kazakhstan:

– globalization of the economy, openness, and accessibility of the engineering market;

– roadmap (comprehensive plan) for the development of mechanical engineering for 2019–2024 as a mechanism for state support and development of mechanical engineering;

– coverage of the machine-building market of the EAEU countries, while in aggregate, domestic machine-building enterprises provide products (machinery and equipment) for about 27% of the market of the oil industry of the Russian Federation;

– segmentation of the market according to the geographical principle, aimed at the international expansion of the market;

– increasing the competitiveness of science-intensive products through exports and development of technology transfer and innovation in the engineering industry;

– increasing the competence of the labor potential (at the same time, more than 2115 people are employed in the two large business objects under study);

– development of information and communication technologies;

– attraction n of foreign investments and growth of investment attractiveness in the machine-building industry;

– reduction of possible country risks, in the event of adverse (external factors) conditions in the foreign market in one country, it is possible to compensate for the costs due to favorable factors in the market of another country.

A characteristic feature of engineering enterprises is their sensitivity to innovative processes. Therefore, it is important to determine the relationship between strategic innovation and foreign trade expansion (export) of science-intensive products of engineering enterprises in Kazakhstan.

Based on the analysis of the statistics of industrial American firms at the macro- and micro-level, scientists have built a model showing the relationship between technological efficiency and exports; it has been revealed that enterprises are prone to export due to their technological efficiency and, as a result, are more productive due to export activities (Fayazova, 2020). It should be noted that technological efficiency is determined by the level of innovation processes and is continuously associated with the development of R&D at enterprises, therefore, the relationship between R&D and innovation costs has a certain impact on the firm's export activity, depending on the industry (Fayazova, 2020). The results of the analysis of statistical data in the country are characterized by a decrease in the dynamics of innovation development: the share of R&D costs in the structure of GDP decreased from 0.3% to 0.13% (2021), the number of innovative patents decreased from 478 to 1 unit over three years (2019–2021).

Table 2. Export and innovation activity indicators for 2019–2021

Years	Export (in billion tenge)	Volume of innovative products (in billion tenge)	Financing innovation (In billion tenge)	Domestic spending on R&D (In billion tenge)	Number of innovatively active enterprises
2019	61111,2	1 113,6	35 966, 2	44 513,3	1622
2020	52390,1	1127,8	36 635,5	50 928,4	1774
2021	46 949,7	1172, 4	38 543, 7	61 672,7	1940

Note – Compiled by authors on the basis of (Shumeiko, Kasenov, & Abishev, 2019)

The results of data analysis (Table 2) confirm that there is a positive relationship between the innovative capabilities of enterprises and product exports, R&D expenditures reflect the positive dynamics of the impact on foreign economic activity of domestic engineering enterprises. Compared to 2020, in 2021 the volume of innovative products in Kazakhstan increased by 3.9% and amounted to 1,172.4 billion tenge, while its share in total GDP is 1.99%.

Compared to foreign companies, industrial enterprises in Kazakhstan face certain barriers that hinder the process of adapting an entry strategy to a foreign market. Consequently, these barriers are connected, firstly, by the fact that domestic engineering enterprises have a lower level of innovative potential compared to competitors in the world market. Secondly, it is necessary to develop threshold strategic capabilities that are not sufficiently developed among Kazakh enterprises to achieve parity with existing competitors - foreign companies in the world market. Thirdly, despite the openness of the market, the international expansion for Kazakhstani engineering enterprises is presented as a phased process of development and entry into the world market of the engineering industry due to the time lag, which is characterized by a lag in time and the development of technological innovation, which complicates the achievement of the strategic goals of internationalization more difficult. Fourthly, the investment activity of Kazakhstani enterprises of the engineering industry is directly related to the development of strategic innovations that require great effort and time to achieve results in international expansion. Fifthly, the gap between the time factor and strategic investments determines the level of competitiveness of the products of Kazakhstani engineering enterprises. Sixthly, the lack of own investments and the lack of qualified labor potential at engineering enterprises hinder the development of internationalization and expansion of the market of the engineering industry in Kazakhstan.

Thus, an analysis of the barriers that hinder the process of entry of Kazakhstani engineering enterprises into the foreign market indicates an average level of innovation potential and investment activity, which leads to limited access to the foreign market. Therefore, when developing a model for a strategy for entering the international market, one should take into account the specifics of the activities of machine-building enterprises in Kazakhstan. It is necessary to apply individual approaches to entering the international market by top managers of the objects under study, based on a managerial analysis of each factor, motive and barriers that contribute to the development of a strategy for a phased entry into the world market of goods and services.

It is possible to structure the strategy for entering the external target market of enterprises in the engineering industry since the formation of the model "strategic innovations - foreign economic activity" as the relationship between these indicators is characterized by the fact that at the initial stages, the introduction of innovations has a negative impact on the efficiency of the enterprise. Over time, firms learn to manage and develop their innovative activities and achieve better results (Nalbandyan, 2004) not only in the domestic market but also in foreign markets.

The gradual adaptation of enterprises of the machine-building industry of Kazakhstan in the foreign market depends on the structure and type of the foreign market. The proposed judgment led to the identification of four types of markets by geography for entering the international business of Kazakhstani engineering enterprises: the Central Asian market, the EAEU market, the EU market, and the "Mature" market. The degree of influence of each type of market on foreign economic activity is determined by the specifics and level of competitiveness of engineering products in a particular type of market and is regulated taking into account the strategic mission of engineering enterprises in Kazakhstan.

To structure the model, it is necessary to provide a methodical approach to the formation of a strategy for a phased entry into the international business of engineering enterprises (Figure 2).

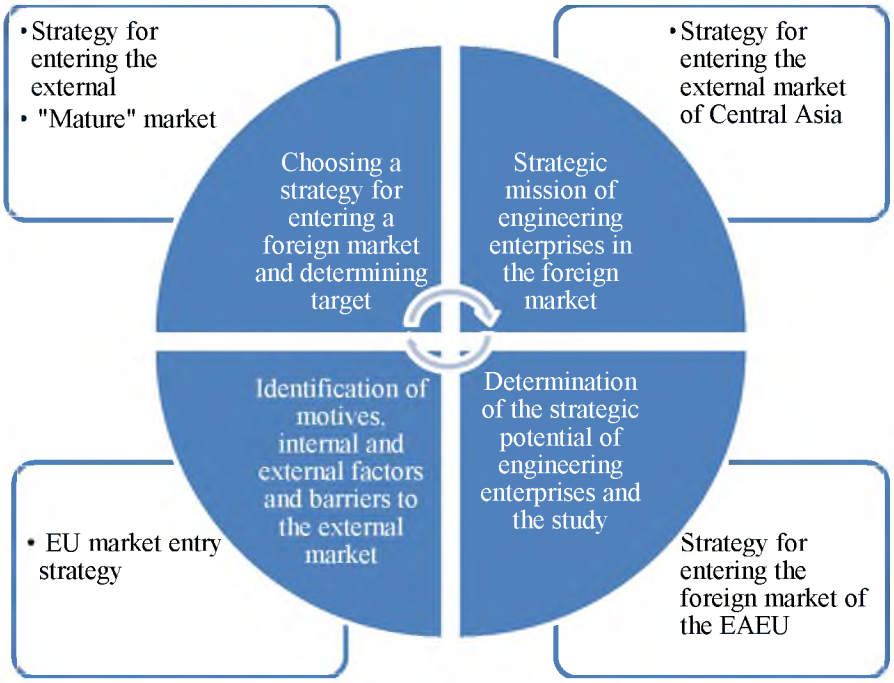

Figure 2. Model of the strategy for entering the foreign market of engineering enterprises

Discussions

The internationalization of engineering enterprises is a rather complicated process due to the specifics of the activity of this industry. The main directions for developing a strategy for entering the four types of market should be focused on the implementation of phased actions:

1. Determination of the strategic mission, which is carried out based on determining the vision of the enterprise in specific types of foreign markets. At the same time, engineering enterprises may have several goals in the foreign market - finding a new market segment for sales, mastering new technologies and knowledge, increasing innovative potential, searching for new sources of investment and their availability in foreign markets.

2. Assessment of the own potential of enterprises, while the feasibility of a qualitative assessment of strategic innovations, taking into account the capabilities of R&D. Determining the level of competence for entering the foreign market of mechanical engineering enterprises, one should study the effectiveness of the knowledge used and the competence of the labor potential and the organization of management of the foreign economic activity of a mechanical engineering enterprise.

3. The next stage of the methodological approach to the formation of a strategy for entering the foreign market of mechanical engineering enterprises is the identification of target segments (potential customers) in the foreign market. According to the structure, the list of proposed engineering products is purposefully designed for specific sectors of the economy, which makes it possible to identify patterns of demand for products, and contributes to the forecast of market demand, using the results of an analysis of external factors of national markets.

4. Determining the motives that encourage entry into the foreign market, as well as barriers that impede the development of foreign economic activity of engineering enterprises. It is important to correctly assess these motives and factors to model the process of managing possible risks and their impact on the strategy for entering a foreign market. Factors that encourage Kazakhstani engineering enterprises to enter the foreign market are investments, new technologies and growth in the size of the market.

5. The final stage is the selection of target market segments and business partners, focus on the success of the implementation and effectiveness of the strategic goal in the foreign market. Thus, the optimal choice of a strategy for entering the foreign market for engineering enterprises is determined considering the criteria for assessing the strategic planning of obligations for economic resources and costs, the degree of control and contractual relations that affect the efficiency of the development of the engineering industry in Kazakhstan.

Conclusions

As a result of the study, it should be emphasized that the entry into the foreign market of engineering enterprises is a key condition for the expansion and growth of domestic industries in the context of the globalization of the economy.

International markets allow engineering enterprises to build strategies for entering a foreign market, considering their own production potential and assets, which allows them to expand market opportunities by gaining access to the economic and social resources of foreign companies.

The proposed algorithm (methodological approach) for entering the international market by the type of internationalization strategy and export orientation allows, helps to increase the business activity of Kazakhstani engineering enterprises in foreign trade activities of industrial sectors.

According to the results of the analysis of the trade balance, there is an increase in imports of engineering products from Kazakhstan, which is necessary to stimulate the production of engineering products, considering innovative factors. Since it was found that there is a direct positive relationship between exports and the innovative capabilities of enterprises in the engineering industry.

The importance of partners (potential customers) in foreign markets is substantiated, which softens the development of a strategy for entering enterprises into a foreign market and allows top managers to use effective tools for organizing strategic management.

Thus, the developed methodological approach to the formation of a strategy for Kazakhstani engineering enterprises to enter foreign markets factoring both the key contributing factors of foreign economic activity and the barriers inherent in such activity.

References

Brouthers, K.D., Brouthers, L.E., & Werner, S. (2008). Resource-based advantages in an international context. Journal of management, 34(2), 189–217.

Dixon, P. (1998). Marketing Management. Binom.

Drogovoz, P.A., & Paskhina, O.M. (2011). Natsionalnye innovatsionnye sistemy v mashinostroenii: zarubezhnyi opyt [National innovation systems in mechanical engineering: foreign experience]. *Vestnik moskovskogo gosudarstvennogo tekhnicheskogo universiteta im. N.E. Baumana. Seriya: Mashinostroenie – Bulletin of the Moscow State Technical University named after N.E. Bauman. Mechanical Engineering series,* 4, 45–59 [in Russian].

Drogovoz, P.A., & Yusufova, O.M. (2017). Analiz zarubezhnoi praktiki gosudarstvennogo regulirovaniya realizatsii NIOKR pri sozdanii innovatsionnoi produktsii [Analysis of foreign practice of state regulation of the implementation of R&D in the creation of innovative products]. *Economics and Entrepreneurship*, 3, 200–205 [in Russian].

Dubrov, G.Yu. (2020). Strategii vykhoda kompanii na mezhdunarodnyi rynok [Strategies for entering the international market]. Young scientist, 21 (311), 109–112. Retrieved from https://moluch.ru/archive/311/70498/ (Date of access: 02/17/2022) [in Russian].

Economy of Kazakhstan 2020: Results, statistics, analysis https://marketingcenter.kz/20/ economy-kazakhstan-2020.html

Fayazova, S.I. (2020). Influence of innovations on export activity: an empirical analysis of Russian companies. *Strategic decisions and risk management,* 11, 1, 56–69. https://doi.org/10.17747/2618–947X-2020–1-56–69

Hollensen, S. (2004). Global marketing. *New knowledge,* 157.

Kekchebaev, E., Zhakupova, G., & Suleimenov, R. (2021). Ekonomika Kazakhstana 2020. Itogi, statistika, analiz [Economy of Kazakhstan 2020: results, analysis, statistics]. Retrieved from https://marketingcenter.kz/20/economy-kazakhstan-2020.html [in Russian].

Krayushkina, E.A., & Kuskov, A.N. (2021). Modeli vykhoda malykh i srednikh predpriyatii na zarubezhnye rynki [Models for the entry of small and medium-sized enterprises into foreign markets]. *Journal of Economy and Business,* 5–2 (75), 98–101 [in Russian].

Nalbandyan, G.G. (2022). Formirovanie strategii vykhoda na vneshnie rynki promyshlennykh kompanii [Formation of a strategy for entering foreign markets for industrial companies]. *Extended abstract of candidate's thesis.* Moscow [in Russian].

Pushkareva, P.P., Zakharov, G.V., & Klimenko, A.O. (2020). Obzor i klassifikatsiya metodov i strategii vykhoda promyshlennykh kompanii na vneshnie rynki [Review and classification of methods and strategies for industrial companies to enter foreign markets]. *Humanitarian Scientific Bulletin,* 7, 122–130. Retrieved from http://naukavestnik.ru/doc/2020/07/Pushkareva.pdf [in Russian].

Pospelov, V.K., Starodubtseva, E.B., Medvedeva, M.B. et al. (2018). Integratsionnye protsessy v mirovoi ekonomike: osnovnye napravleniya, tendentsii razvitiya [Integration processes in the world economy: main directions and development trends]. Moscow [in Russian].

Shumeiko, I.A., Kasenov, A.Zh., & Abishev, K.K. (2019). Rol mashinostroeniya i osobennosti razvitiya otrasli v Kazakhstane [The role of mechanical engineering and features of the development of the industry in Kazakhstan]. *Science and technology of Kazakhstan*, 4, 81–89 [in Russian].

Strategy 2050 (2020). Mashinostroenie rk: novye realii v usloviyakh pandemii [Mechanical engineering of the Republic of Kazakhstan: new realities in a pandemic]. Retrieved from https://strategy2050.kz/ru/longreads/mashinostroenierknovyereahivusloviyakhpandemii7/ [in Russian].

Zhmud, T.A. (2017). Strategicheskaya innovatsiya: universalizatsiya produkta kak novyi standart razvitiya na zrelykh rynkakh [Strategic innovation: product universalization as a new standard for development in mature markets]. *Naukovedenie — Science Story*, 9, 3. Retrieved from http://naukovedenie.ru/PDF/50EVN317.pdf [in Russian].

Н.Н. Нурмухаметов, Т.К. Куангалиева, Ж.Ж. Габбасова, А.Е. Таласпаева, И. Маслова

Экономиканың жаһандануы жағдайында өнеркәсіптік кәсіпорындардың халықаралық нарыққа шығу стратегиясы

Аңдатпа

Мақсаты: Бәсекелестіктің күшеюі жағдайында бәсекеге қабілеттілікті қамтамасыз ету мақсатында қазақстандық өнеркәсіптік кәсіпорындардың сыртқы экономикалық қызметіне әсер ететін мотивтерді, факторларды және кедергілерді талдау контексінде халықаралық нарыққа шығу стратегияларын қалыптастырудың әдістемелік негіздерін әзірлеу.

Әдісі: Зерттеу барысында жалпы ғылыми әдістер, әдебиеттік шолу әдісі және монографиялық, статистикалық көрсеткіштерді талдау, оның ішінде абсолютті және салыстырмалы мәндер қолданылды.

Қорытынды: Машина жасау кәсіпорындарының бәсекелестік артықшылықтарын ескере отырып, кәсіпорындардың халықаралық нарыққа шығуының негізгі тәсілдерін талдау шеңберінде өнеркәсіптік кәсіпорындардан шығу стратегиясының рөлі анықталды; отандық машина жасау өнеркәсіптік кәсіпорындарының экспорттық әлеуетінің, инвестициялық және инновациялық белсенділігінің жай-күйі мен дамуына талдау жүргізілді. Машина жасау саласы кәсіпорындарының сыртқы нарыққа шығу стратегиясын әзірлеуді ынталандыратын ішкі және сыртқы факторлар мен мотивтер, сондай-ақ олардың халықаралық нарыққа шығуының детерминанттары анықталды. Қазақстанның машина жасау өнеркәсібі кәсіпорындарының халықаралық нарығына шығудың мақсатты стратегияларын әзірлеу үшін әдістемелік тәсілдер әзірленді.

Тұжырымдама: Қазақстандағы машина жасау кәсіпорындарының сыртқы экономикалық қызметіне әсер ететін жалпы, зерттеу нәтижелерін қорытындылай келе, өнеркәсіптік кәсіпорындар халықаралық нарыққа шығудың өзіндік стратегиясын жасауға, мотивтерді, ішкі және сыртқы факторларды және кедергілерді талдау негізінде өзінің стратегиялық әлеуетін бағалауды негіздеуге негізделген деп қорытынды жасауға болады.

Кілт сөздер: өнеркәсіптік кәсіпорындар, шығу стратегиясы, әлемдік нарық, интернационалдандыру және экстернизация, жаһандану.

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Стратегия выхода на международный рынок промышленных предприятий в условиях глобализации экономики

Аннотация:

Цель: Целью является разработка методических основ формирования стратегий выхода предприятий на международный рынок в контексте анализа мотивов, факторов и барьеров, влияющих на внешнеэкономическую деятельность казахстанских промышленных предприятий с целью обеспечения их конкурентоспособности в условиях усиленной конкуренции.

Методы: В процессе исследования были использованы общенаучные методы, метод обзора литературы и монографический, анализ статистических показателей, в том числе абсолютных и относительных величин.

Результаты: Определена роль стратегии выхода промышленных предприятий в рамках анализа основных подходов к выходу предприятий на международный рынок, учитывающий конкурентные преимущества предприятий машиностроения; проведен анализ состояния и развития экспортного потенциала, инвестиционной и инновационной активности отечественных промышленных предприятий машиностроения. Выявлены внутренние и внешние факторы и мотивы, побуждающие к разработке стратегии выхода на внешний рынок предприятий машиностроительной отрасли, а также определены сдерживающие факторы их вхождения на международный рынок. Выработаны методические подходы для разработки целевых стратегии выхода на международный рынок предприятий машиностроительной отрасли Казахстана.

Выводы: В целом, обобщая результаты исследования, можно сделать вывод о том, что промышленные предприятия основаны на выработке собственной стратегии выхода на международный рынок, обосновывая

оценку собственного стратегического потенциала на основе анализа мотивов, внутренних и внешних факторов и барьеров, влияющих на внешнеэкономическую деятельность предприятий машиностроения Казахстана.

***Ключевые слова*:** промышленные предприятия, стратегия выхода, мировой рынок, интернационализация и экстернационализация, глобализация.

References

Машиностроение РК: новые реалии в условиях пандемии. — Режим доступа: https://strategy2050.kz/ru/longreads/mashinostroenierknovyerealiivusloviyakhpandemii7/

Кекчебаев Е. Экономика Казахстана 2020. Итоги, статистика, анализ / Е. Кекчебаев, Г. Жакупова, Р. Сулейменов. — 2021. — Режим доступа: https://marketingcenter.kz/20/economy-kazakhstan-2020.html

Пушкарева П.П. Обзор и классификация методов и стратегий выхода промышленных компаний на внешние рынки / П.П. Пушкарева, Г.В. Захаров, А.О. Клименко // Гуманитарный научный вестник. — 2020. — № 7. — С. 122–130. — Режим доступа: http://naukavestnik.ru/doc/2020/07/Pushkareva.pdf [in Russian].

Краюшкина Е.А. Модели выхода малых и средних предприятий на зарубежные рынки / Е.А. Краюшкина, А.Н. Кусков // Экономика и бизнес: теория и практика. — 2021. — № 5–2 (75). — С. 98–101.

Hollensen S. Global marketing / S. Hollensen // New knowledge, 2004. — P. 157.

Дроговоз П.А. Национальные инновационные системы в машиностроении: зарубежный опыт / П.А. Дроговоз, О.М. Пашкина // Вестник МГТУ им. Н.Э. Баумана. — 2011. — № 4. — С. 45–49.

Дроговоз П.А. Анализ зарубежной практики государственного регулирования реализации НИОКР при создании инновационной продукции / П.А. Дроговоз, О.М. Юсуфова // Экономика и предпринимательство. — 2017. — № 3. — С. 200–205.

Налбандян Г.Г. Формирование стратегии выхода на внешние рынки промышленных компании / Г.Г. Налбандян. — М. — 2022. — с. 167.

Поспелов В.К. Интеграционные процессы в мировой экономике: основные направления, тенденции развития / В.К. Поспелов, Т.В. Сидоренко, М.Б. Медведева и др. — М. — 2018. — 178 с.

Brouthers, K.D. Resource-based advantages in an international context / K.D. Brouthers, L.E. Brouthers, S. Werner // Journal of management. — 2008. — No. 2., Vol., 34. — P. 189–217. — ISSN 1572–9958.

Дубров Г.Ю. Стратегии выхода компании на международный рынок / Г.Ю. Дубров // Молодой учёный. — 2020. — № 21 (331). — С. 109–112. — Режим доступа: https://moluch.ru/archive/311/70498/ (Date of access: 02/17/2022).

Жмудь Т.А. Стратегическая инновация: универсализация продукта как новый стандарт развития на зрелых рынках / Т.А. Жмудь // Науковедение. — 2017. — № 3. — Т. 9.

Dixon P. Marketing Management / P. Dixon. — Binom. — 1998. — 556 p.

Шумейко И.А. Роль машиностроения и особенности развития отрасли в Казахстане / И.А. Шумейко, А.Ж. Касенов, К.К. Абишев // Наука и техника в Казахстане. — 2019. — № 4. — С. 81–89.

Economy of Kazakhstan 2020: Results, statistics, analysis /https://marketingcenter.kz/20/ economy-kazakhstan-2020.html

Fayazova S.I. (2020). Innovation influence on export activities: empirical analysis of Russian companies / S.I. Fayazova // Strategic decisions and risk management. — 2020. — Vol. 11., No. 1. — P. 56–69. DOI: 10.17747/2618–947X-2020–1-56–69

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Clustering by the level of demographic potential of the regions of Kazakhstan based on SPSS

Abstract

Object: Based on a statistical analysis of the demographic development of the regions of Kazakhstan for the period from 1999 to 2020, to group the regions according to the main demographic indicators and conduct a comparative analysis and assessment.

Methods: Correlation-regression analysis, comparative analysis, multivariate statistical and mathematical method, special computer program SPSS.

Results: A comparative dynamic analysis of the regions of Kazakhstan between clusters for the period from 1999 to 2020 was carried out. As a result of the analysis, it was found that the main demographic indicators differ by clusters up to 2-3 times.

Conclusions: In general, the demographic development has been slow throughout the country over the years, and regions have been identified that are oriented towards a regressive way of development. First of all, it is proposed to solve the demographic problem of these regions in order to enter the way of progressive demographic development in the country as a whole.

Keywords: demographic situation, regions, trends, multifactor, grouping, cluster analysis rating.

Introduction

The demographic historical path of Kazakhstan has passed through various stages, and there is a large gap in the birth rate which is a key demographic factor. For example, in 1965, when the total fertility rate was about 35 units, there were 4.5 children per woman of childbearing age, and now this figure is 22 units and, accordingly, an average of 3 children. It corresponds to the cultural, educational, and rural population of the country at that time (66%) and is explained by the high demand for the birth of a child. The economic development of the country brings about changes in this indicator due to the desire of women of childbearing age to study and receive education, involvement in career activities, increasing interest in a residence in a city, increase in the average childbearing age of women, and deterioration in demand to have a child.

The main problem is that the population growth rate has stabilized at an average of 1.2% over the past 15 years, and the main demographic parameter – the total birth rate is limited to 22 units, and there has been a downward trend in recent years (Bureau of National Statistics, 2022).

If we considered this information at the global level, according to 2020 data, Kazakhstan ranks 81st out of 181 countries with a total fertility rate and 98th in terms of mortality rates, and Tajikistan (40; 175), Kyrgyzstan (61; 143), Uzbekistan (74; 145) are among countries with a higher demographic situation, respectively (Knoema, 2020).

Regional demographic development trends in the country especially in urban and rural populations have been identified along with the known data on the current demographic development trends. We also note that the average annual population growth of more than 1% does not indicate the stability of the demographic situation.

Literature Review

The demographic potential level of the regions has to be analyzed to determine their state of social and economic development. Dynamics in demographic processes influence all the directions of the economy: social, economic, and political (Gwiaździńska-Goraj, Pawlewicz, & Jezierska-Thöle, 2020).

Demographic potential identifies the region's attractiveness for citizens and investors, which in turn affect its social and economic development. It has been proven that regions with strong socio-economic devel-

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opment exhibit much more favorable demographic dynamics than weak regions (Porsche, L. Die Zukunft von Kleinstädten gestalten, 2015).

The scientists' opinions characterizing the historical path of demography development are different at the world level. Besides, the thesis about the nature of the multifactorial influence on fertility is the most common in modern demographic science, and the totality of these factors is interpreted by each demographer in different ways. For example, in the article "population" in the Encyclopedia Britannica, the factors influencing the birth rate decline in Europe over the past decade are industrialization, urbanization; raise in the education level of the population; dissemination of the concept of a small family, according to the conclusions of demographers (Teitelbaum, 2021).

As assumed by Lutz, Butz, and K.C. (2014) demographic study and forecasts appear to rely on two main issues: the speed of fertility decreases, and what takes place in the countries where fertility levels fall below a total fertility rate (TFR) (Morosanu, 2016).

As for the works of researchers in the history of economic demography, a close connection is found here between demographic processes and globalization in different historical epochs. It is noted that all globalization eras are associated with a demographic crisis, including in regions closely related to international trade, on the contrary, a decline was not observed in regions not included in the globalization process (Kuzovkov, 2013). The demographic process, accompanied by the process of globalization, provokes the population's migration movement. Coleman and Belanger noted the studies that examined immigration processes in the context of globalising world and its connection with ethno-cultural characteristics (Coleman, 2006; Belanger et al., 2019).

Thus, globalization and demographic cycles historically intersect. According to the World migration report for 2020, confirming the impact of the globalization process on the general demographic movement, including the immigration movement of the countries in the world, 3.6% of the total population are considered migrants (IOM UN Migration, 2021). In our studies, we also note that globalization had an impact on the historical process of demographic development in Kazakhstan.

Besides, world scientists in their studies associate the birth rate with the geographical place of residence and regions (Vasle, David, 2018; Bocquier, Bree, 2018).

They also note a high correlation between fertility and ethnic characteristics and traditions (Jianlin Niu & Yaqiang Qi, 2020).

Modern statisticians such as Myer & Well explain that right statistical tool is important to hypothesis testing, test statistics and research design. Statistical programs such as SYSTAT, SAS, SPSS, POWER, and UCLA are used for experimental research in the behavioral and social sciences. The result of the research will be offered as an option for other scientists to modify accordingly (Myer & Well, 2003). A repeated test of ANOVA is a suitable method for this analysis of socio-economic issues as we are comparing the means for related groups.

Problem statement

The demographic process in Kazakhstan as a whole has a positive trend; the population is growing every year though it has large differences in demographic parameters in the regions. Basically, there is a two-fold difference between the birth and death rates in the southern and northern regions. For example, in the Kostanay region, depopulation has been going on for twenty years which is a great problem.

Birth rates dropped sharply in the first years of independence (1991–2002), including in the northern regions. Subsequently, the improvement of the economic situation in the country increased the birth rate, and it remained at a low level and below the republican level in the northern regions. Compared to the national average of 17 regions, 9 regions have a lower total birth rate (TBR) and a higher total mortality rate (TMR).

The study found a correlation between the intensity of the total birth and death rates in the regions over the past 15 years ($R = -0.91$) which corresponds to a high birth rate and a decrease in the death rate in the regions. It is concluded that the regions, both with a good demographic situation and with a low one, are stably formed by these two main indicators.

Each country's region rating was determined with region classification by demographic indicators and situational analysis. Firstly, grouping according to the current actual demographic situation in the regions of the country and secondly, clustering of regions to determine the future demographic policy of the country was conducted.

Research method

A solution to grouping by complex parameters can be obtained by cluster analysis of multidimensional statistical and mathematical methods with special computer programs (Dubrov, Mkitaryan, & Trpshin, 2011; Rakhmetova & Dubrova, 2011).

The use of multidimensional data clustering methods is conditioned by the need to identify groups of Kazakhstan regions with a similar state of demographic development, to model the demographic space.

In our study, a large number of demographic parameters were summarized and divided into several groups regarding specifics to cover the general current situation based on cluster analysis in full. Coefficients were chosen as parameters to enable us to compare the regions. The data of these parameters for 2009–2020 were analyzed and used to obtain several options based on SPSS applications (Orlova, 2009; Nasledov, 2013) using the cluster analysis method for grouping (clustering) regions depending on the current demographic situation.

Group of parameters:

1. Birth rates:

- crude fertility rate, total fertility rate, fertility rate depending on the age groups of women, the proportion of persons having 3 children in turn, the proportion of persons having 5 children and more in turn;

2. Mortality rates:

- crude mortality rate, infant mortality rate;

3. Reproduction parameters:

- coefficients of natural increase, net reproduction rate;

4. Age structure of the population:

- proportion aged 0-14, proportion aged 15-64, proportion aged 65 and over, demographic burden.

A correlation analysis was performed under the terms of the cluster analysis method to exclude a high dependence between parameters, and parameters were selected to form the optimal number of features (Dubrov, Mkitaryan, & Trpshin, 2011). During the study, the influence of parameters on the prospects for the demographic development of the country and its specific values were taken into account in comparison with previous periods, national specifics (large families), and world countries that have the potential to grow or decrease (in particular, infant mortality is still high). The presence of a close correlation between some parameters prevented to obtain the required groups of parameters to obtain the expected options in the course of a comprehensive study.

As a result, clusterization was performed in six variants with averaged data for 2017–2020. This article provides an analysis of one variant, where clusterization was performed across the country by parameters (features): crude mortality rate (CMR), infant mortality rate (ASMR), demographic burden (DR), the proportion of 5 children born in turn (GFR:OS(5)) and more.

As a result of calculations, 17 regions of the country were divided into 3 clusters: high, medium, and low levels, which corresponded to the task.

It was assumed in the null hypothesis that the current demographic situation in the regions does not have any particular differences. The table results of the analysis of variance (ANOVA) showed that the sample groups and the p-value is small in comparison to the mean values. It follows that the null hypothesis is not fulfilled, justifying the existence of differences in the demographic parameters in the regions divided into three clusters (Table 1).

Table 1. Analysis of variance (ANOVA)

Variable	Analysis of Variance					
	Between SS	df	Within SS	df	F	siqnif. p
Zscore (CMR)	6,005	2	,230	13	26,102	,000
Zscore (ASMR)	2,950	2	,700	13	4,213	,039
Zscore (DR)	5,977	2	,234	13	25,501	,000
Zscore GFR:OS(5)	6,259	2	,191	13	32,794	,000
Note – Compiled by the authors						

Comparative analysis

The first cluster included 6 regions: Akmola, Karaganda, Kostanay, Pavlodar, Northern and Eastern Kazakhstan. The second cluster included 4 regions: Aktobe, Western Kazakhstan, Nur-Sultan and Almaty

city, and the third cluster included Almaty oblast, Atyrau, Zhambyl, Kyzylorda, Mangystau, Turkestan, Shymkent regions (Table 2).

Table 2. Average Values of Parameters by Clusters

No.	Regions	Parameters			
		CMR	ASMR	DR	GFR:OS(5)
1(6)	Akmola, Karaganda, Pavlodar, Kostanay, Northern and Eastern Kazakhstan	10.4	8.2	632	3.4
2(4)	Aktobe, Western Kazakhstan, Nur-Sultan, Almaty city	6.1	6.5	586	3.5
3(7)	Almaty oblast, Zhambyl, Kyzylorda, Mangistau, Atyrau, Turkistan, Shymkent	5.4	8.2	755	9.3
	Total Average	7.6	7.9	664	5.7
Note – Compiled by the authors					

The average value of the total mortality rate of the regions in the first cluster is twice as high as in the other two. Infant mortality is the same in the first and third clusters and lower in the second cluster. Comparison of the demographic burden through average values does not show the situation in full, since the demographic burden in the first cluster - 632 units is formed mainly by people over the age of 65 who make up 65% of the disabled population in the cluster. In the third cluster - 755 units is formed by children under 15 years old (75% in the average cluster), since the region has a high birth rate in the country.

Let us analyze the main parameters of the regions grouped by the demographic development state, for the trends in their change in the period from 2017 to 2020. In general, there has been a downward trend in mortality in the country over the past 20 years due to the current epidemic situation (COVID-19) in 2019-2020, and we included data for 2017 and 2020 in the analysis apart as mortality increased in 2017–2020.

In the regions of the first cluster, the mortality rate increased in 2017 compared to 2009 in four out of 6 regions by 2–11%, after this year there was a slight decrease in all regions, that is, by an average of 14%, while the mortality rate in this cluster is 33% higher than the national average one. Also, there was an increase of 17% in 2020 compared to 2017. In terms of the overall mortality rate in the regions of the first cluster, it is still higher (2017–44%, 2020–41%) (Table 3).

Table 3. Dynamics of Parameters in Clusters

Parameters	Years	Cluster			RK
		1	*2*	*3*	
Mortality growth rate, %	2017/2009	86	98	92	90
	2020/2017	117	133	131	125
TMR intensity, %	2009	133	89	81	100
	2017	144	88	80	100
	2020	141	89	83	100
TBR	1999	11.3	12.5	18.9	14.6
	2009	16.4	21	27.6	22.1
	2020	15.4	22.1	27.9	22.8
TFR	2009	2.3	2.5	12	7
	2020	5.1	6.8	22	13
Note – Compiled by the author					

Mortality rates in the second cluster are also lower than in the northern regions of the first group, but in 2020, one can see an increase in the number of deaths by 33% compared to 2017. The mortality rate in Nur-Sultan was 5 units in 2009 and 3.9 in 2017. It is explained by the fact that it is the city of youth and a high level of medical care, and in 2020 it rose by 1.4 units and amounted to 5.3 units. The two major cities have maintained levels lower than those of the Republic, averaging 20% lower between 2009 and 2020.

In the third cluster, the mortality rate in 6 regions decreased from 8.2 in 2009 to 5.7 in 2017, and it increased by 31% in 2020 compared to 2017. At the same time, the regions of this cluster are on average 20% lower than the republican level in the period from 2009 to 2020. If we compare the development

dynamics of these parameters in the regions included in the cluster with the level in the Republic, then we see the difference between the intensity.

Now we compare the total fertility rate in these clusters for 1999–2020, and in general the difference between the clusters is 5-6 units. Compared to 1999–2009, the dynamics of the total birth rate remained stable for the period 2009–2020. Scientists noted that this is one of the factors hindering the development of demographic processes in the country caused by the impact of the demographic crisis in 1991–2002. This parameter also shows that the first cluster is below the level in the Republic.

In total, there are about 3 children per woman of childbearing age in the country. However, it increases the total population by one or two percent. The proportion of three children per woman in 2019 compared to 2009 is growing in all clusters at a high rate, especially in the second cluster where it is doubled. This is not enough given our natural resources, especially land area. In general, a trend towards an increase in the share of large families has formed in the entire cluster, as evidenced, for example, by the trend of 2017–2020. When a detailed analysis of births of the number of children in turn is made, the tendency for the birth of the 1st and 2nd children in turn is decreased, this is due to a decrease in the number of women of childbearing age. The birth of 3 children in turn of mothers in some regions is also decreasing. Therefore, the main task of demographic policy is to increase the proportion of births of 5 or more children in turn, and this parameter is the main factor to solve the demographic problem. Due to the fact that 90% of the birth of the fifth child occurs in women aged 25-44, TFR, i.e. a special birth rate, for 1000 women aged 25-44 was calculated. When the data in Table 2 are analyzed for this parameter, we see a high difference between the clusters. There is a gap of almost 6 times between the first cluster and the third cluster. General demographic growth is possible only at the expense of a child from 4-5 and above.

For the rating assessment of this grouping of clusters, we calculate their rank total value using the following formulas (Kuvshinov, & Polovtsev, 2007)

$$K_j = \Sigma a_{ij} \tag{1}$$

$$\overline{K_j} = \frac{1}{n}\Sigma a_{ij},\ \mathrm{i} = 1, \ldots, 4;\ \mathrm{j} = 1, \ldots 17 \tag{2}$$

where K_j – the sum of the ranks of the i-th parameter of the j-th region;

a_{ij} – the rank of the i-th parameter of the j-th region;

n – the number of parameters;

j – region number;

$\overline{K_j}$ – the average sum over the cluster.

Here, the rank of the values for the parameters of regions in each cluster is determined and calculated by formula (1). Then the average value of the sum of ranks for clusters was calculated by formula (2). Here, the place of regions in the demographic situation is determined according to this option. The cluster with the lowest sum of ranks has a high ranking, high demographic state, and the cluster with the highest sum of ranks has a low demographic state. As a result, the rating of the 1st cluster was 46, the rating of the 2nd cluster was 34, and the rating of the 3rd cluster was 22 units.

Discussions

Analysis of the study results showed that a downward trend has formed in the demographic situation of 6 regions of the Northern and Central regions. In particular, the depopulation trend has continued in the first cluster in the Kostanay region over the past 10 years, and therefore it is required to take measures at the state level. The demographic situation in the city of Nur-Sultan in the second cluster maintains a stable situation associated with the internal city-village migration movement. The demographic parameter in the city of Almaty is latent, as it turned out because the birth rate is below the republican level, but Almaty with migration attractiveness gives an annual population growth that, one might say, has no demographic contribution to the country.

In addition to the prevailing demographic trends in the country, it became clear that there are differences in its regions, including in urban and rural areas. The average annual population growth of more than one percent does not indicate the stability of the demographic situation.

Conclusions

The regions of the country were grouped according to the distance of their quantitative values for 4 main demographic parameters using computer technology with multidimensional statistical methods. In the course of clustering, seventeen regions were divided into three clusters according to several features that

characterize the demographic situation of the regions in Kazakhstan. The state of demographic development of the regions in each cluster was assessed by the rating method, and the regions belonging to different three groups were identified: high (reproduction), medium (stationary), and low (regressive, variable) type. The following regions are in the process of constant growth: Almaty, Zhambyl, Kyzylorda, Mangystau, Atyrau, Shymkent, Turkestan regions. Demographically stable trends persisted in the Aktobe, Western Kazakhstan, Nur-Sultan and Almaty city. And the regressive or transitional trends include Akmola, Karaganda, Pavlodar, Kostanay, North Kazakhstan and East Kazakhstan regions.

The system of parameters affecting the demographic state of each region made it possible to identify the demographic potential in some regions, and the beginning of depopulation in other regions. Therefore, when fertility and mortality is predicted in the future, it is required to take into account the prospective features of each region (attractiveness, comfort of climatic conditions, infrastructure development, standard of living of the population, ethnic composition, etc.) and trends in the system of parameters characterizing the current demographic situation, determining the type of population reproduction in every region.

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References

Belanger, A., Sabouring, P., Marois, G., Van Hook, J., & Vezina, S. (2019). A Framework for the prospective analysis of ethno-cultural super-deversity. *Demographic Research*, 41, Article 11: 293–330. https://doi.org/10.4054/DemRes.2019.41.11

Bocquier, P., & Bree, S. (2018). A regional perspective on the economic determinant of urban transitional in 19th-century-France. *Demographic Research*, 38, Article 50. https://www.demographic-research.org/volumes/vol38/50/default.htm

Bureau of National Statistics (2022). https://www.stat.gov.kz

Coleman, D. (2006). Immigration and ethnic change in low-fertility countries: A third demographic transition. Population and Development Review, 32(3), 401–446. https://doi.org/10.1111/j.1728–4457.2006.00131.x

Dubrov, A.M. Mkitaryan, V.S., & Troshin, L.I. (2011). Mnogomernye statisticheskie metody dlya ekonomistov i menedzherov [Multidimentional Statistical methods for economists and managers]. Moscow: Finansy i statistika, 352 [in Russian].

Gwiaździńska-Goraj, M., Pawlewicz, K., & Jezierska-Thöle, A. (2020). Differences in the Quantitative Demographic Potential—A Comparative Study of Polish–German and Polish–Lithuanian Transborder Regions. *Sustainability*, *12*, 9414. https://doi.org/10.3390/su12229414

IOM UN Migration (2021). World migration report. https://worldmigrationreport.iom.int/wmr-2020-interactive/

Jianlin Niu &Yaqiang Qi (2020). The educational differential in fertility in transitional China: Temporal and regional variation. https://www.demographic-research.org/Volumes/Vol42/22/

Knoema (2020). World and regional statistics, national data, maps. https://knoema.ru/atlas

Kuvshinov, A., & Polovtsev, P.I. (2007). Reitingovaya otsenka finansovogo sostoyaniya predpriyatiya [Rating assessment of the financial condition of the enterprise]. *Economic analysis: theory and practice*, 6, 25–28 [in Russian].

Kuzovkov, Yu.V. (2013). Istoriya korruptsii v Rossii [The history of corruption in Russia]. Moscow: Anima-Press [in Russian].

Lutz, W., Butz, W.P., & K.C., S. (2014). World population and human capital in the twenty-first century. Oxford: Oxford University Press.

Morosanu, L. (2016). Professional bridges: Migrants' ties with natives and occupational advancement. *Sociol. J. Br. Sociol. Assoc.*, 50, 349–365.

Myer, J.L., & Well, A.D. (2003). Research Design and Statistic Analysis. 2nd ed. New Jersey: Lawrence Erlbaum.

Nasledov, A. (2013). IBM SPSS Statistics 20 i AMOS: Professionalnyi statisticheskii analiz dannykh [IBM SPSS Statistica 20 and AMOS: Professional Statistical Data Analysis]. Saint Petersburg: Peter, 384 [in Russian].

Orlova, I.V. (2009). Mnogomernyi statisticheskii analiz v ekonomicheskikh zadachakh: Kompyuternoe modelirovanie v SPSS [Multivariate Statistical Analysis in Economic Problems: Computer Simulation in SPSS]. Moscow: University textbook. Retrieved from https://obuchalka.org/2014112280796/mnogomernii-statisticheskii-analiz-v-ekonomicheskih-zadachah-komputernoe-modelirovanie-v-spss-orlova-i-v-2009.html [in Russian].

Porsche, L. (2015). Die Zukunft von Kleinstädten gestalten. Entwicklungsperspektiven für Kleinstädte eröffnen. Raum Plan., 181, 26–33.

Rakhmetova, R., & Dubrova, T. (2011). Prikladnye modeli ekonometriki [Applied models of econometrics]. Almaty: Ekonomika, 324 [in Russian].

Teitelbaum, M.S. (2021). *population. Encyclopaedia Britannica*. https://www.britannica.com/science/population-biology-and-anthropology
Vasle, D., & David, M. (2018). Post-transitional regional fertility in Romania. *Demographic Research*, 38, Article 57. https://www.demographic-research.org/volumes/vol38/57/default.htm

Р. Рахметова, С. Калиева, Р. Андекина, А. Максютова

SPSS базасында Қазақстан өңірлерінің демографиялық әлеуетін деңгейі бойынша кластерлеу

Аңдатпа

Мақсаты: 1999-2020 жылдар аралығындағы Қазақстан өңірлерінің демографиялық дамуына статистикалық талдау жүргізу негізінде өңірлерді негізгі демографиялық көрсеткіштер бойынша топтастыру және салыстырмалы талдау жасау және бағалау жүргізу.

Әдісі: Корреляциялық-регрессиялық талдау әдісін қолдана отырып, аймақтарды бірнеше демографиялық көрсеткіштер бойынша топтастыру үшін факторлар топтарын алдын-ала іріктеу жүргізілді және кластерлеудің нұсқалары анықталды. Мақалада SPSS арнайы компьютерлік бағдарламасы негізінде жүзеге асырылған көпөлшемді статистикалық-математикалық әдісті кластерлік талдауға арналған 4 фактор бойынша нұсқа ұсынылған.

Қорытынды: 1999-2020 жылдар аралығындағы кезеңде кластерлер арасында Қазақстан өңірлеріне салыстырмалы динамикалық талдау жүргізілді. Талдау нәтижесінде негізгі демографиялық көрсеткіштердің кластерлерде 2-3 есеге дейін айырмашылықтары бар екендігі анықталды.

Тұжырымдама: Тұтастай алғанда, бүкіл ел бойынша осы жылдар ішінде демографиялық дамудың баяулауы сақталды, сондай-ақ дамудың регрессивті жолына бағытталған аймақтар анықталды. Бірінші кезекте бүкіл ел бойынша прогрессивті демографиялық даму жолына шығу үшін осы өңірлердің демографиялық проблемасын шешу ұсынылады.

Кілт сөздер: демографиялық жағдай, өңірлер, үрдістер, көпфактор, топтама, кластерлік талдау, рейтинг.

Р. Рахметова, С. Калиева, Р. Андекина, А. Максютова

Кластеризация по уровню демографического потенциала регионов Казахстана на базе SPSS

Аннотация:

Цель: На основе проведения статистического анализа по демографическим развитиям регионов Казахстана за период с 1999 по 2020 гг. сгруппировать регионы по основным демографическим показателям и провести сравнительный анализ и оценку.

Методы: Используя метод корреляционно-регрессионного анализа, предварительно проведена выборка групп факторов для группировки регионов по нескольким демографическим показателям и определены варианты для кластеризации. В данной статье предложен вариант по 4 факторам для кластерного анализа многомерного статистико-математического метода, реализованный на базе специальной компьютерной программы SPSS.

Результаты: Проведен сравнительный динамический анализ регионов Казахстана между кластерами за период с 1999 по 2020 гг. В результате анализа установлено, что основные демографические показатели имеют различия по кластерам до 2–3 раз.

Выводы: В целом, по стране за эти годы сохранялось замедленное демографическое развитие, а также определены регионы, ориентированные на регрессивный путь развития. В первую очередь, предлагается решение демографической проблемы этих регионов для выхода на путь прогрессивного демографического развития, в целом, по стране.

Ключевые слова: демографическая ситуация, регионы, тенденции, многофактор, группировка, кластерный анализ, рейтинг.

References

Bureau of National Statistics (2022). https://www.stat.gov.kz
Knoema (2020). World and regional statistics, national data, maps. https://knoema.ru/atlas
Gwiaździńska-Goraj, M., Pawlewicz, K., & Jezierska-Thöle, A. (2020). Differences in the Quantitative Demographic Potential—A Comparative Study of Polish–German and Polish–Lithuanian Transborder Regions. *Sustainability*, *12*, 9414. https://doi.org/10.3390/su12229414
Porsche, L. (2015). Die Zukunft von Kleinstädten gestalten. Entwicklungsperspektiven für Kleinstädte eröffnen. Raum Plan., 181, 26–33.
Teitelbaum, M.S. (2021). *population. Encyclopaedia Britannica*. https://www.britannica.com/science/population-biology-and-anthropology
Morosanu, L. (2016). Professional bridges: Migrants' ties with natives and occupational advancement. *Sociol. J. Br. Sociol. Assoc.*, 50, 349–365.

Lutz, W., Butz, W.P., & K.C., S. (2014). World population and human capital in the twenty-first century. Oxford: Oxford University Press.

Кузоков Ю.В. История коррупции в России / Ю.В. Кузоков. — М.: Anima-Press. — 2013.

Coleman, D. (2006). Immigration and ethnic change in low-fertility countries: A third demographic transition. Population and Development Review, 32(3), 401–446. https://doi.org/10.1111/j.1728–4457.2006.00131.x

Belanger, A., Sabouring, P., Marois, G., Van Hook, J., & Vezina, S. (2019). A Framework for the prospective analysis of ethno-cultural super-deversity. *Demographic Research*, 41, Article 11: 293–330. https://doi.org/10.4054/DemRes.2019.41.11

IOM UN Migration (2021). World migration report. https://worldmigrationreport.iom.int/wmr-2020-interactive/

Vasle, D., & David, M. (2018). Post-transitional regional fertility in Romania. *Demographic Research*, 38, Article 57. https://www.demographic-research.org/volumes/vol38/57/default.htm

Bocquier, P., & Bree, S. (2018). A regional perspective on the economic determinant of urban transitional in 19th-century-France. *Demographic Research*, 38, Article 50. https://www.demographic-research.org/volumes/vol38/50/default.htm

Jianlin Niu &Yaqiang Qi (2020). The educational differential in fertility in transitional China: Temporal and regional variation. https://www.demographic-research.org/Volumes/Vol42/22/

Myer, J.L., & Well, A.D. (2003). Research Design and Statistic Analysis. 2nd ed. New Jersey: Lawrence Erlbaum.

Дубров А.М. Многомерные статистические методы для экономистов и менеджеров / В.С. Мкитариан, Л.И. Трошин. — М.: Финансы и статистика. — 2011. — 352 с.

Рахметова Р. Прикладные модели эконометрики / Р. Рахметова, Т. Дуброва. — Алматы: Экономика. — 2011. — 324 с.

Орлова И.В. Многомерный статистический анализ в экономических задачах: Компьютерное моделирование в SPSS / И.В. Орлова. — М. — 2009. — Режим доступа: https://obuchalka.org/2014112280796/mnogomernii-statisticheskii-analiz-v-ekonomicheskih-zadachah-komputernoe-modelirovanie-v-spss-orlova-i-v-2009.html

Наследов А. IBM SPSS Statistics 20 и AMOS: Профессиональный статистический анализ данных / А. Наследов. — СПб.: Питер. — 2013. — 384 с.

Кувшинов А. Рейтинговая оценка финансового состояния предприятия / А. Кувшинов, П.И. Половцев // Экономический анализ: теория и практика. — 2007. — № 6. — С. 25–28.

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Economic mechanisms of public-private partnership and analysis of its effectiveness

Abstract

Object: The purpose of the article is to study the economic mechanisms of public-private partnerships and their effective use.

Methods: General scientific (monographic research, examination, comparison) and special (economic and statistical analysis) methods.

Results: First, the economic basis and essence of the concept of an economic mechanism were studied. The essence of scientific theories related to the economic mechanism was revealed. The content of the economic mechanism of PPP was disclosed. The issues arising in connection with the inefficient use of existing economic mechanisms of PPP were discussed, and ways to solve these problems were proposed. PPP. During the analysis of the economic mechanisms of PPP, having considered the situations at the national level, calculations of actual quantitative indicators for the Akmola region were made and, as a result, an assessment of the economic mechanisms for the implementation of PPP projects at the regional level was given.

Conclusions: Based on the results of the general analysis, it was revealed that the level of efficiency of existing economic PPP mechanisms at the regional level is low. Having analyzed the results of the analysis of the efficiency of the PPP economic mechanism and the results of the control of the Accounts Committee of the Republic of Kazakhstan, the presence of the main accumulated problems was revealed and ways to solve them were proposed.

Keywords: mechanism, economic mechanism, public-private partnership, mechanism of public-private partnership, efficiency of economic mechanism, PPP project, object of economic mechanism, subject of the economic mechanism.

Introduction

In modern conditions, the preparation and implementation of regional projects require the formation of economic mechanisms for Public-Private Partnerships. Effective use of public-private partnership (PPP) mechanisms will reduce the burden on the state budget, improving the quality of social infrastructure (Dubgorn, Zaychenko, & Grashhenko, 2018). The use of the PPP mechanism is an effective way to attract investment for infrastructure modernization in the context of a budget deficit, which is particularly important for the sustainable development of the social infrastructure of the territories.

The lack of qualified specialists in the field of PPP in Kazakhstan negatively affected the processes of development and implementation of PPP projects, led to inefficient budget expenditures, an increase in the number of projects with the termination of contracts, failure to achieve the goals of socio-economic policy, the inefficiency of implemented projects, inability to fulfill contractual obligations, a decrease in attracted private investment and an increase in government obligations. In this regard, according to the results of the audit by the reporting committee for 2020, it was expedient to implement only 18 PPP projects, contracts were terminated for 410 PPP projects, and materials were sent to court for 12 projects. Consequently, 46% of existing PPP projects have been terminated and 38% found that adjustments need to be made, in general, 84% of PPP projects are poorly structured and cannot be analyzed (Ishekenova, 2020). This fact has shown the existence of an economic mechanism for planning/developing/structuring/implementing PPP projects and an urgent problem related to the lack of specialists and experts. In this regard, the relevance of the research topic is due to the underdevelopment of the economic mechanisms of public-private partnership in the regions, the imperfection of relations between the state and business entities, and the lack of specialists. The

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object of the study is the economic mechanisms of PPP implemented in the regions. The subject of the study is economic relations to the economic mechanisms of PPP.

We identify economic mechanisms to achieve the effectiveness of the implementation of socio-economic significant regional PPP projects, give a theoretical assessment of the effectiveness of the economic mechanism, and suggest ways to improve the skills of specialists.

Literature review

We call the form of a strategic game between economic entities an economic mechanism. Game describes how the participants behave and to what result any action leads. In this regard, according to L. Hurwitz, the economic mechanism characterizes the action between market participants and the center, which consists of three stages: each participant sends information to the center; the center, after collecting all the information, announces the expected result; implements the announced result. The fact that in the conditions of asymmetric information, the main component of the analysis of economic mechanisms and games is the condition of compatibility of incentives, was introduced into science by L. Hurwitz. It defines the scheme of interaction between the economic mechanism - subjects and the Center and offers a condition for the effectiveness of the mechanism - the consistency of incentives as some suggestions about the rational behavior of subjects.

E. Mayerson revealed the principle of determination and the income equivalence theorem. The essence of the income equivalence theorem is that players of the same type of any two mechanisms with the same functions receive the same utility and give the seller the same expected income (Myerson, 1981).

E. Maskin proposed a theory of the construction of economic mechanisms, considering the implementation of mechanisms as the engineering side of economic theory. In his opinion, the creation of economic mechanisms will depend on the tasks set to determine the expected results and assess the rationality of decisions (Maskin, 1999).

A.N. Bychkova considered the concept of an economic mechanism in two approaches. An economic mechanism is a set of interrelated elements that set an object in motion. In connection with this definition, there are two ways of interpreting the concept of an economic mechanism (Bychkova, 2010):

1. An economic mechanism is to consider an object as a set of elements that contribute to its development.

2. The economic mechanism should be considered as the interrelation and interaction of elements that ensure the development of the object.

Let us consider the concept of the "economic mechanism". The economic mechanism is considered a means of influence in the process of managing an object. At the same time, the structure of the economic mechanism includes the following elements: object is an element that is centrally controlled and changes in any direction; Center is an element that controls and affects others; subject is an individual or group that conducts the work of the economic mechanism; algorithm of operation of the economic mechanism is a set of methods and methods for achieving the management goal; parametric characteristics of the planned results is to reflect the stage of development of the object of the economic mechanism; factors that positively and negatively affect the work of the economic mechanism – change the order of functioning of the mechanism; factors of analysis of the possibilities of using or not using the economic mechanism – allow one to achieve a clearly defined goal; description of the visual language - logical-logical, Tabular-graphical, mathematical; nature of the targeted activity - a mechanism is created for the implementation of a certain activity. The structural peculiarity of this economic mechanism is that it determines the feedback between the center and the subjects, determines the procedure and rules of operation, and the center is of particular importance (Bychkova, 2010).

The second way of defining the concept of "economic mechanism" is the definition of an economic mechanism as a means of interaction of subjects. In this case, the economic mechanism determines the procedure and rules for implementing relations between subjects. If we consider the structure of the economic mechanism: the object of the mechanism of interaction is limited by the scope of interests of subjects, it makes sense only at the level of formal and informal associations of subjects. At the same time, the center monitors the implementation of the rules prepared by the subjects and organizes the work. Subjects of the interaction mechanism include associations of enterprises, organizations, and individuals involved in the preparation of rules of interaction. Methods and methods of interaction can be different: informational, redistribution of functions, the conclusion of various transactions, trade, integration processes, etc. These methods are often stimulating in nature. The quality of the "working" results of the interaction mechanism is measured by the lifetime of the mechanism since the target activity is not aimed at the

development of any processes but the harmonization and realization of the interests of the subjects (Bychkova, 2010).

In Kazakhstan, if we consider the economic mechanism of PPP as a tool for the interaction of subjects, there was no national policy with specific goals, objectives of PPP, and priority sectors for partnership. At the local level, there has been a disproportionate use of the PPP mechanism. This is evidenced by the fact that as of September 1, 2021, 813 PPP contracts worth 1.8 trillion tenges were signed, of which only 9 are national-level projects, and 803 are local-level. Local projects were mostly small and service-oriented, that is, about 54% of the total number of contracts falls on the education sector, namely kindergartens (KzPPP, 2020).

The problem of improper functioning and inefficiency of the PPP mechanism has become acute that in 2019, the President of Kazakhstan K.-J. Tokayev acknowledged that the entire concept of PPP in Kazakhstan has been discredited, thereby forming a general idea that the economic mechanism of PPP in the regions is a one-time and simple opportunity to receive a stream of government revenue for up to 30 years (Tokaev, 2020). Therefore, it turned out that many "regional officials and businessmen" who have close ties with local authorities are trying to ensure the implementation of the project through the PPP mechanism. Poor selection and preparation of PPP projects by local authorities led to non-fulfillment of obligations, litigation, and invalidation of many insufficiently structured PPP agreements and tenders.

The main reasons are the incompetence of the specialists involved in the implementation of the PPP project, the lack of sufficient experience in conducting effective preparation of the PPP project, the lack of qualified personnel, and often the inability to apply existing skills in practice.

Methods

When studying the topic, the following methods of economic research were used: monographic research, examination, comparison, and methods of economic and statistical analysis. To determine the theoretical basis of the economic mechanism of PPP, a monographic study of the works of scientists on this topic was conducted, as a result of which an examination of problems in the conditions of Kazakhstan was carried out, considering the economic mechanism of PPP as a means of communication between subjects. To determine the effectiveness, calculations of the main indicators of the efficiency of the PPP economic mechanism were made using economic and statistical methods and the resulting data were compared with each other.

Results

If we consider the scope of partnership at a broad level, we can distinguish 5 economic mechanisms:

1. Institutional partnership carries out joint production and share risks among themselves (Savas, 2000).
2. Long-term infrastructure agreements strictly assume the achievement of concrete results (Hodge et al., 2017).
3. Lines of state policy provide an opportunity for interested persons to communicate freely (Rosenau, 2000).
4. Civil society and social development are partnerships that should be based on cultural change (Osborne, 1993).
5. Urban renewal and economic development of urban centers (Bovaird, 2004).

An economic mechanism can be considered as a separate economic category, separating it from such economic terms as "strategy", "method", "condition", "model", "factor", "methodology", "concept".

Let us analyze at the conceptual level the difference of "economic mechanism" concept from other concepts.

Table 1 confirms the need to consider the term "economic mechanism" independently, separately from others in terms of content. As a result, the economic mechanism is used and studied as a separate category. Thus, the economic mechanism is understood as a set of management methods and interaction of subjects whose target activity is the creation of a rational economy and sustainable patterns in the development of the economy. Figure 1 provides a structure of the economic mechanism.

Table 1. The difference between an economic mechanism and other economic concepts

	Other economic concepts	The essence of economic mechanisms	The essence of other economic concepts
1	Strategy	Defines implementation paths	It is distinguished by the justification of the direction and intensity of the development of the object
2	Method and technique	A comprehensive system of methods and approaches that are complex	A tool for implementing specific plans and thoughts
3	Condition	Defines the requirements and limitations for achieving a specific result	The main part of the economic mechanism
4	Model	Description of the phenomenon under study in a specific or ideal format	Method of actual implementation of the model adapted to the impact of specific changes
5	Factor	Causes that contribute to the studied phenomena	One of the elements that characterize the influence of factors
6	Methodology	Defines the main approaches to conducting analytical research and developing solutions	To the concepts-the result of applying methodological foundations
Note – Compiled by the authors			

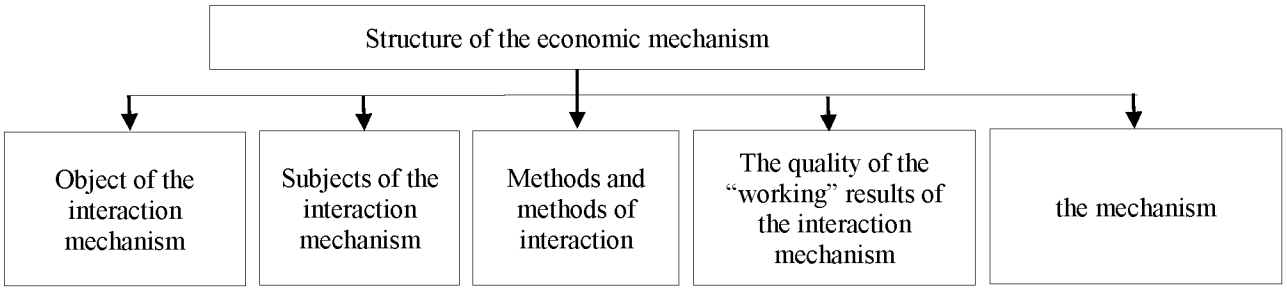

Figure 1. Structure of the economic mechanism

Note – Compiled by the authors

The object of the mechanism of interaction: development of industrial and transport infrastructure, development of agriculture, modernization of housing and communal services, development of innovative infrastructure, stimulation of knowledge-intensive industries, support of higher education and retraining; Modernization of healthcare; provision of consulting support for small and medium-sized businesses.

Subjects of the interaction mechanism: the subjects of PPP include the public partner and the private partner, financial, and other organizations financing the project, an industry operators. A public partner and a private partner can be several. Table 2 presents the classification of PPP entities as subjects of the interaction mechanism.

Table 2. Subjects of the PPP interaction mechanism

1. Institutions	•Central authorized Body for budget execution in the field of PPP; •Authorized body for state property management in the field of PPP; •The authorized state body of the relevant industry in the field of PPP; •maslikhats of regions, cities of republican significance, and the capital in the field of PPP (Akmola region); •Local executive bodies of regions, cities of republican significance, and the capital in the field of PPP (Akmola region).
2. Organizations	•Public-Private Partnership Development Center; National Chamber of Entrepreneurs; •financial and other organizations financing the project; industry operators.
3. Industries	•Industrial and knowledge-intensive production; transport infrastructure; •housing and communal services; innovative infrastructure; education; healthcare.
4. Regions	•Republican; Localities regions; cities of republican significance (Nur-Sultan, Almaty, Shymkent)
Note – Compiled by the authors	

1. Methods and methods of interaction: methods of PPP implementation: competitive, 2-stage competition, simplified procedure competition, private finance initiative.

2. The algorithm for the implementation of PPP projects according to the competitive approach: the planning cycle for the implementation of a PPP project lasts 12-18 months. Preparation of the project concept-examination and approval of the concept-preparation of tender documentation-approval and examination of tender documentation - making a list of projects-announcement of the tender - opening envelopes, selection of qualifications - consideration of competitive requests - determination of the winner of the tender - signing of PPP agreements - project implementation-evaluation and monitoring of the implementation of PPP projects. Algorithm for implementing PPP projects using a 2-stage competitive approach: stage 1: preparation of the terms of reference – announcement of the competition – submission of the terms of reference by the organizers of the competition to the private partner – submission by the private partner of technical proposals by the terms of reference-consideration and discussion by the organizers of the competition and the private partner of mutual technical proposals-preparation and approval of the tender documentation by the organizers of the competition-invitation of the private partner to participate in the second stage. stage 2: selection of a private partner in a competitive way - project implementation.

3. The algorithm for the implementation of PPP projects according to the competition method in a simplified manner: it is used for the implementation of local projects and the project cost should not exceed 4 million MCI. The administration is preparing the concept of a local project-announcement of a tender-holding a tender using standard tender documentation-compliance with a standard contract-conclusion of a contract. Advantage: a decision is made on the project at the regional level; little or no expertise; use of standard documentation. Conditions of the competition: for the implementation of projects on the ground; standard tender documentation is applied; a standard contract is concluded; the project should not belong to a natural monopoly; the project cost should not exceed 4 million MCI.

4. The quality of the results of the "work" of the interaction mechanism is determined by factors affecting or hindering the operation of the mechanism: corruption; obstacles on the part of local authorities; unjustified increase by state authorities in the cost of PPP facilities to increase indicators; the assumption of formal contracts with persons who are not PPP entities and private partners who do not meet qualification requirements.

The efficiency and effectiveness of the PPP mechanism should be evaluated by the profitability of regional formation. In this regard, the following 5 indicators can be characterized (Table 3).

Table 3. Performance indicators of the PPP mechanism

№	Key indicators	Definition formulas
1	2	3
1	The share of funds raised from business entities to PPP in actual expenditures from the state budget	$U = \frac{K_{бс}}{K_{бш}} * 100$ where $K_{бс}$ - raised funds from business entities; $K_{бш}$ - actual expenditures from the state budget.
2	Average social contributions of business entities	$R_a = \frac{K_a}{K_c}$ where K_a - a total amount of social contributions of business entities to PPP; K_c - Number of business entities to PPP.
3	Share of business entities engaged in PPP in the total number of entrepreneurs	$R_a = \frac{C_{БСС}}{C_{ЖКС}} * 100$ where $C_{БСС}$ - number of business entities to PPP; $C_{ЖКС}$ - a total number of entrepreneurs.
4	The growth rate of total social contributions from entrepreneurs involved in solving the social problem in the region	$R_a = \frac{A_1}{A_0} * 100$ where A_1 - number of social contributions from business entities involved in PPP for the current period; A_0 - number of social contributions from business entities involved in PPP for the base period.

The indicators in Table 3 can serve as indicators of the effective formation of PPP in the region, and the above indicators characterize only quantitatively. Now, using the indicators of the efficiency of the PPP economic mechanism, we will try to make a calculation based on the information obtained as a result of research conducted in the Akmola region.

An appropriate economic mechanism is necessary for the implementation of PPP activities, the achievement of goals, and the implementation of tasks. The economic mechanism of a PPP is a system of key elements regulating the process of developing and implementing solutions. Figure 2 presents mechanisms for regulating relations between the state and representatives of private business.

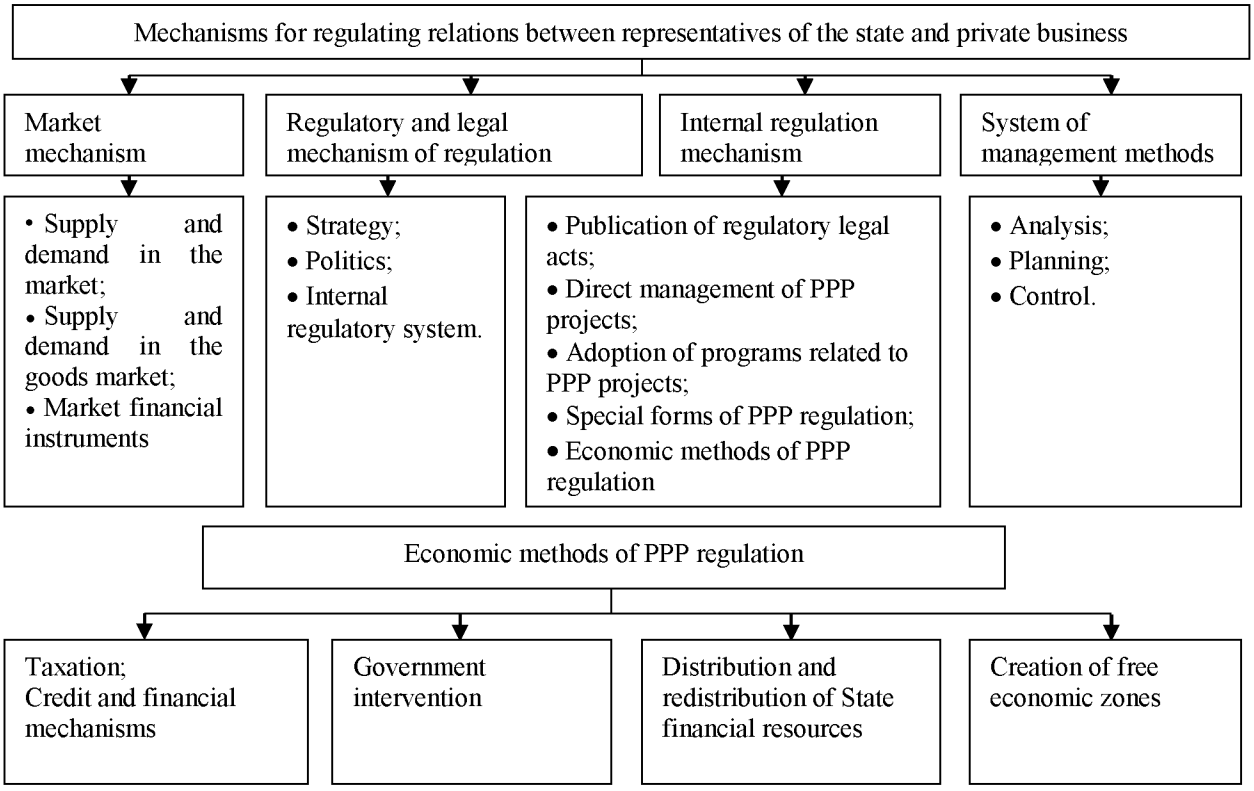

Figure 2. Mechanisms for regulating PPP relations

Note – Compiled by the authors

Discussion

The basis of PPP projects should be strategic projects in priority areas that are part of sectoral strategies and economic policy. The main role of the state is to ensure the proper implementation of the project, monitor the activities of private investors, and promptly resolve emerging disputes. The cost of using the PPP mechanism is high and can last for a long time. Even in developed PPP countries, on average, the preparation of projects accounts for 2.6% of all working costs, and the duration of the preparatory period is 36 months. In this regard, the question arises as to how effective it is to use the PPP mechanism to solve problems related to any infrastructure. However, there are some of the reasons why the state needs to use the PPP mechanism: the presence of corruption in public procurement methods, lack of transparency of financing ways, and low efficiency of private sector activities; insufficient number of managerial and technical specialists; high costs for the implementation of infrastructure projects, insignificant costs for periodic repairs and maintenance, lack of public resources and the need for investment; the use of the PPP mechanism can bring some benefits to the state (Zhang et al., 2018). Thus, the effectiveness of the current economic mechanism of PPP has been determined, and the final result is presented in Table 4.

Table 4. Performance indicators of the PPP mechanism in the Akmola region for 2018-2020

№	Key indicators	2018	2019	2020	Average value
1	The share of funds raised from business entities in relation to PPP in actual expenditures from the state budget	1,69	2,5	9,3	4,5
2	Average social contributions of business entities	75000	65909	65909	68939
3	Share of business entities engaged in PPP in the total number of entrepreneurs	0,06	0,02	0,02	0,03
4	The growth rate of total social contributions from entrepreneurs involved in solving the social problem in the region	-	-64,2	-5,52	-34,86
5	Budgetary and extra-budgetary effects belonging to one business entity to PPP	836,6	946,1	949,6	910,7
Note – Compiled by the authors					

In Table 4, according to the results of calculating the efficiency indicators of the PPP mechanism in the Akmola region for 2018-2019, the funds raised from the implementation of PPP projects averaged 4.5% of the total expenditures of the regional budget. The share of business entities to PPP from the total number of entrepreneurs in the region averaged 0.03%. We see that the average social contributions of business entities involved in PPP projects amounted to 68,939 tenge and the average growth rate decreased by 34.86%. Off-budget efficiency related to PPP per business entity averaged 910.7 tenge. In general, we see that the effectiveness of PPP mechanisms gives few results. There are two main reasons: 1) a decrease in the number of business entities participating in PPP projects and an increase in competitive deadlines; 2) the total cost of $ 250 billion. 46 PPP contracts were terminated prematurely before socio-economic indicators were reached. Over the entire period of the development of the PPP Institute, the total amount of state obligations in the country exceeded private investments by 2 times (private - 783 billion tenge, public - 1,315 billion tenge).

The efficiency indicators of the PPP mechanism are characterized only quantitatively. For qualitative characteristics, one can use the Yula association coefficient and the Pearson contingent coefficient.

To determine the close relationship between the stimulation of PPP and institutional structuring, the association coefficient of the Yula was used. When the association coefficient is 0.5, the closeness of the relationship between the qualitative indicators is confirmed. According to our research, in the period from 2018 to 2020, only 52 PPP projects are being implemented in the Akmola region. According to the results of the survey of business entities that took part in these projects, information about those who received and did not receive state support is presented in Table 5.

Table 5. The level of state support for PPP in the Akmola region

Groups regarding state support	After the reform	Before the reform	Total
received	13	5	18
not received	20	14	34
Total	30	19	52
Note – Compiled by the authors			

$$K_a = \frac{ad - bc}{ad + bc} = \frac{13 * 14 - 20 * 5}{13 * 14 + 20 * 5} = \frac{82}{282} = 0.29, \quad (1)$$

According to the study results, the Yula association coefficient was equal to 0.29, i.e., it showed a weak relationship between the studied indicators.

To assess satisfaction with the organizational and legal form of the power structure and the quality of the level of interconnection of public-private partnership, the Pearson interconnection coefficient was applied and the data for calculation are presented in Table 6.

Table 6. Satisfaction with the quality of the organizational and legal form of the power structure and the level of interconnection of public-private partnership

The level of power	Assessment				Total
	Satisfaction	Less satisfactory	More satisfied	Dissatisfaction	
Village	5	3	1		9
District	4	3	2	1	10
Areas	13	10	5	5	33
Total	22	16	8	6	52

Note – Compiled by the authors

$$\varphi^2 = \sum \frac{n_{xy}^2}{n_x n_y} - 1 = 1{,}04\text{-}1 = 0{,}04, \quad (2)$$

$$K_{П} = \sqrt{\frac{\varphi^2}{1+\varphi^2}} = \sqrt{\frac{0{,}04}{1{,}04}} = 0{,}19, \quad (3)$$

According to the calculation results, the values of the Pearson mutual conjugacy coefficient were equal to 0.19 and the values of mutual conjugacy were 0.04. The value of the Pearson correlation coefficient indicates that there is no connection between the satisfaction of the state and the private sector with the level of quality of interaction and the organizational and legal status of power structures (Zhang et al., 2018). Consequently, business entities face the same difficulties associated with the subjective characteristics of government institutions. One of the reasons for this is the lack of qualified specialists and experts in the field of PPP at the regional level, and the inability to apply their knowledge in practice. In this regard, the need to introduce the institute of certification of specialists in the field of PPP is emphasized.

The certification system assumes that JSC "National Center for Personnel Management of the Civil Service" will undergo testing on PPP issues, which will further affect the quality of structuring and implementation of PPP projects. The certification of specialists in the field of PPP provides for the development of a unified terminology concept for all participants of the PPP project, standardization of the PPP project implementation process, and will also be aimed at obtaining the key skills needed by the PPP project team, describing the architecture of the PPP process, obtaining regional and industry knowledge for the effective implementation of the PPP project.

Conclusions

After the study, the following decisions were made:

1. The concept of an economic mechanism can be explained from two points of view. An economic mechanism is a set of interrelated elements that set an object in motion. In connection with this definition, there are two approaches to the interpretation of the concept of mechanism: 1) mechanism - to be considered as a set of elements that contribute to the development of the object; 2) mechanism - to be considered as the relationship and interaction of elements that ensure the development of the object. The second way to define the concept of an "economic mechanism" is to define a mechanism as a means of interaction between subjects. We agree that such a mechanism determines the principles and sequence of performing certain actions between different entities. Thus, the PPP economic mechanism refers to the interaction between entities involved in the implementation of PPP projects in socio-economic spheres in the region.

2. In general, we see that the effectiveness of PPP mechanisms gives few results. The value of the Pearson correlation coefficient showed that there is no relationship between the level of satisfaction of the state and private partners with the level of quality of mutual services and the organizational competence of the state. Consequently, business entities face the same difficulties associated with the subjective characteristics of government institutions. One of the reasons for this is the lack of qualified specialists and experts in the field of PPP at the regional level, and the inability to apply their knowledge in practice. In this regard, the main purpose of the introduction of certification of specialists in the field of PPP is not only to regulate a certain field of activity but also, most importantly, to ensure the improvement of the quality of services provided by accredited organizations for the support of PPP projects, which in the future will allow to initiating effective PPP projects. The assessment of the competencies of PPP specialists will be carried out by using the resources of JSC "National Center for Public Service Personnel Management" and the formation of a register of certified PPP specialists on the website of the PPP Center. Maintaining a register of

certified PPP specialists, it will allow public partners with open access to attract qualified PPP specialists to support the structuring of a PPP project.

References

Bychkova, A.N. (2010). Ekonomicheskii mekhanizm: opredelenie, klassifikatsiya i primenenie [Economic mechanism: definition, classification and application]. *Vestnik Omskogo universiteta. Seriya Ekonomika – Omsk Scientific Bulletin. Economy Series, (4), 37–43.* Retrieved from https://www.cyberleninka.ru [in Russian].

Dubgorn, A., Zaychenko, I., & Grashhenko, N. (2018). A rationale for choosing the mechanism of public-private partnership for the sustainable development of social infrastructure facilities. In MATEC Web of Conferences, *170(3),* 01056. https://doi.org/10.1051/matecconf/201817001056

Domingues, S., & Zlatkovic, D. (2015). Renegotiating PPP contracts: reinforcing the 'p' in partnership. *Transport Reviews, 2*, 204–225. https://doi.org/10.1080/01441647.2014.992495

Gladilin, A.V., & Kazakov, M.Yu. (2011). Metody korrelyatsionno-regressionnogo analiza pri otsenki atributivnykh parametrov gosudarstvenno-chastnogo partnerstva. *Nauchnye problemy gumanitarnykh issledovanii – Scientific problems of humanitarian research, 12*, 292–300 [in Russian].

Hodge, G.A., & Greve, C. (2017). On public–private partnership performance: A contemporary review. *Public Works Management & Policy*, *22(1),* 55–78. https://doi.org/10.1177/1087724X16657830

Ishekenova, B. (2020). *Schetnyi komitet raskritikoval realizatsiyu printsipa GChP v Kazakhstane.* gov.kz. Retrieved from https://www.gov.kz [in Russian].

Iossa, E., & Martimort, D. (2016). Corruption in PPPs, incentives and contract incompleteness. *International Journal of Industrial Organization, 44*, 85–100. https://doi.org/10.1016/j.ijindorg.2015.10.007

Kazakhstan Public-Private Partnership Center (KzPPP) (2020). *Baza proektov [Project base].* Retrieved from http://www.kzppp.kz/project_base [in Russian].

Khallaf, R. Naderpajouh, N., & Hastak, M. (2016). A risk registry for renegotiation in public-private partnership (PPP) projects: ICRAM-PPP. *In Construction Research Congress ASCE, San Juan*, 2669–2678. https://doi.org/10.1061/9780784479827.266

Myerson, R.B. (1981). Optimal auction design. Mathematics of operations research, *6*(1), 58–73.

Maskin, E. (1999). Nash equilibrium and welfare optimality. *The Review of Economic Studies*, *66*(1), 23–38.

Osborne, D. (1993). Reinventing government. *Public productivity & management Review*, 349–356. https://doi.org/10.2307/3381012

Rosenau, P.V. (2000). Public-private policy partnerships. London: MIT Press, 233. https://books.google.ru/books?hl=ru

Savas, E.S. (2000). Privatization and public-private partnerships. New York, NY: Seven Bridges Press.

Shayakhmetova, K.O., Nesterenko, G.I., Iskakova, B.G., Ahonova, G.K., & Rakhimberdina, N.R. (2019). Role of financial management in enterprise management. *Reports of the national academy of sciences of the Republic of Kazakhstan, 5*, 184–189.

Tokaev, K.-J. (2020). *V Kazakhstane pri realizatsii mekhanizma GChP neobosnovanno predostavlyayutsya sverkhlgoty – In Kazakhstan, the implementation of the PPP mechanism unreasonably provides excessive benefits*. Retrieved from https://www.inform.kz/ru/ [in Russian].

Tirole, J. (1994). The internal organization of government. *Oxford Economic Papers, 1*, 1–29.

Zhang, H., Jin, R., Li, H. & Skibniewski, M.J. (2018). Pavement maintenance-focused decision analysis on concession periods of PPP highway projects, *Journal of Management in Engineering, 1,* 04017047. https://doi.org/10.1061/(ASCE) ME.1943–5479.0000568

Zheng, X., & Alver, J. (2015). A modification of efficacy coefficient model for enterprise performance evaluation. *Journal of Applied Management and Investments, 3*, 177–187.

Zhang, H., Jin, R., Li, H., & Skibniewski, M.J. (2018). Pavement maintenance–focused decision analysis on concession periods of PPP highway projects. *Journal of Management in Engineering, 1*, 04017047. https://doi.org/10.1061/(ASCE) ME.1943–5479.0000568

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Мемлекеттік-жекеменшік әріптестіктің экономикалық тетіктері және оның тиімділігін талдау

Аңдатпа

Мақсаты: Мақаланың мақсаты мемлекеттік-жекеменшік әріптестіктің экономикалық тетіктері және оның тиімді пайдаланылуын зерттеу.

Әдісі: Зерттеу мақсатына жету үшін жалпы ғылыми (монографиялық зерттеу, сараптау, салыстыру) және арнайы (экономикалық-статистикалық талдау) әдістер қолданылды.

Қорытынды: Алдымен экономикалық тетік ұғымының экономикалық негізі мен мәні зерттелді. Экономикалық тетікке байланысты ғалымдардың ғылыми теорияларының мәні ашылды. Сонымен қатар МЖӘ экономи-

калық тетігінің мазмұны айқындалған. Қазіргі қолданыстағы МЖӘ экономикалық тетіктерін тиімсіз қолдануға байланысты туындаған мәселелер талқыланған және осы мәселелердің шешу жолдары ұсынылды. МЖӘ экономикалық тетіктерін сандық және сапалық жағынан талдау үшін математикалық статистика әдістері қолданылды. Талдау жасау барысында жалпы республикалық деңгейде орын алған жағдайларды қарастыра келе, Ақмола өңірі бойынша нақты сандық көрсеткіштерге есептеулер жасалды және нәтижесінде өңірлік деңгейде МЖӘ жобаларын жүзеге асырудың экономикалық тетіктеріне баға берілді.

Тұжырымдама: Жалпы талдау қорытындысы бойынша өңірлік деңгейде қолданыстағы МЖӘ экономикалық тетіктерінің тиімділік деңгейінің нашар екендігі анықталды. МЖӘ экономикалық тетігінің тиімділігін талдау нәтижесі мен ҚР Есептік комитетінің бақылау нәтижесін сараптай келе, қордаланған негізгі мәселелердің орын алуы анықталды және оны шешу жолдары ұсынылды.

Кілт сөздер: тетік, экономикалық тетік, мемлекеттік-жеке меншік әріптестік, мемлекеттік-жеке меншік әріптестіктің тетігі, экономикалық тетіктің тиімділігі, МЖӘ жобасы, экономикалық тетіктің объектісі, экономикалық тетіктің субъектісі.

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Экономические механизмы государственно-частного партнерства и анализ его эффективности

Аннотация:

Цель: Целью статьи является изучение экономических механизмов государственно-частного партнерства и его эффективного использования.

Методы: Для достижения цели исследования использовались общенаучный (монографическое исследование, экспертиза, сравнение) и специальный (экономико-статистический анализ) методы.

Результаты: Сначала были изучены экономическая основа и сущность понятия экономического механизма. Раскрыта сущность научных теорий ученых, связанных с экономическим механизмом. Также раскрыто содержание экономического механизма ГЧП. Обсуждались вопросы, возникающие в связи с неэффективным применением действующих экономических механизмов ГЧП, и предлагались пути решения этих проблем. Для количественного и качественного анализа экономических механизмов ГЧП использовались методы математической статистики. В ходе анализа, рассмотрев ситуации, имевшие место на общереспубликанском уровне, были сделаны расчеты фактических количественных показателей по Акмолинскому региону, и, в результате, дана оценка экономическим механизмам реализации проектов ГЧП на региональном уровне.

Выводы: По итогам общего анализа было выявлено, что уровень эффективности действующих экономических механизмов ГЧП на региональном уровне является низким. Проанализировав результаты анализа эффективности экономического механизма ГЧП и результатов контроля Счетного комитета РК, было выявлено наличие основных накопившихся проблем и предложены пути их решения.

Ключевые слова: механизм, экономический механизм, государственно-частное партнерство, механизм государственно-частного партнерства, эффективность экономического механизма, проект ГЧП, объект экономического механизма, субъект экономического механизма.

References

Dubgorn, A., Zaychenko, I., & Grashhenko, N. (2018). A rationale for choosing the mechanism of public-private partnership for the sustainable development of social infrastructure facilities. In MATEC Web of Conferences, *170(3)*, 01056. DOI:10.1051/matecconf/201817001056

Domingues, S., & Zlatkovic, D. (2015). Renegotiating PPP contracts: reinforcing the 'p' in partnership. *Transport Reviews, 2*, 204–225. https://doi.org/10.1080/01441647.2014.992495

Гладилин А.В. Методы корреляционно-регрессионного анализа при оценки атрибутивных параметров государственно-частного партнерства / А.В. Гладилин, М.Ю. Казаков // Научные проблемы гуманитарных исследовании. — 2011. — 12. — С. 292–300.

Hodge, G.A., & Greve, C. (2017). On public–private partnership performance: A contemporary review. *Public Works Management & Policy*, *22(1)*, 55–78. https://doi.org/10.1177/1087724X16657830

Iossa, E., & Martimort, D. (2016). Corruption in PPPs, incentives and contract incompleteness. *International Journal of Industrial Organization, 44*, 85–100. https://doi.org/10.1016/j.ijindorg.2015.10.007

Khallaf, R. Naderpajouh, N., & Hastak, M. (2016). A risk registry for renegotiation in public-private partnership (PPP) projects: ICRAM-PPP. *In Construction Research Congress ASCE, San Juan*, 2669–2678. https://doi.org/10.1061/9780784479827.266

Osborne, D. (1993). Reinventing government. *Public productivity & management Review*, 349–356. https://doi.org/10.2307/3381012

Rosenau, P.V. Public-private policy partnerships. — L.: MiT press. 2000, — 233 p. Retrieved from https://books.google.ru/books? hl=ru

Savas, E.S. (2000). Privatization and public-private partnerships. New York, NY: Seven Bridges Press.

Tirole, J. (1994). The internal organization of government. *Oxford Economic Papers, 1*, 1–29.

Zhang, H., Jin, R., Li, H., & Skibniewski, M.J. (2018). Pavement maintenance-focused decision analysis on concession periods of PPP highway projects, *Journal of Management in Engineering, 1,* 04017047. https://doi.org/10.1061/(ASCE) ME.1943–5479.0000568

Zheng, X., & Alver, J. (2015). A modification of efficacy coefficient model for enterprise performance evaluation. *Journal of Applied Management and Investments, 3*, 177–187.

Zhang, H., Jin, R., Li, H., & Skibniewski, M.J. (2018). Pavement maintenance–focused decision analysis on concession periods of PPP highway projects. *Journal of Management in Engineering, 1*, 04017047. https://doi.org/10.1061/(ASCE) ME.1943–5479.0000568

База проектов. http://www.kzppp.kz/project_base

Бычкова А.Н. Экономический механизм: определение, классификация и применение /А.Н. Бычкова // Вестн. Омск. ун-та. Сер. Экономика. — 2010. — № 4. — С. 37–43. (https://www.cyberleninka.ru)

Ишекенова Б. Счетный комитет раскритиковал реализацию принципа ГЧП в Казахстане / Б. Ишекенова. — 2020. — https://www.gov.kz.

Myerson, R.B. (1981). Optimal auction design. Mathematics of operations research, *6*(1), 58–73.

Maskin, E. (1999). Nash equilibrium and welfare optimality. *The Review of Economic Studies*, *66*(1), 23–38.

Токаев К.-Ж. В Казахстане при реализации механизма ГЧП необоснованно предоставляются сверхльготы. — Президент РК / К.-Ж. Токаев. — 2020. — https://www.inform.kz/ru/.

Shayakhmetova, K.O., Nesterenko, G.I., Iskakova, B.G., Ahonova, G.K., & Rakhimberdina, N.R. (2019). Role of financial management in enterprise management. *Reports of the national academy of sciences of the Republic of Kazakhstan, 5*, 184–189.

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The current state of investment activity of enterprises in the Republic of Kazakhstan

Abstract

Object: The purpose of the study is to analyze the current state of investment activity of enterprises of the Republic of Kazakhstan and to propose a methodology for calculating the integral indicator of assessing its effectiveness of investment policy based on the application of the parameters of the desirability function, which increases the objectivity of calculations in determining the effectiveness of investment policy.

Methods: Methods of economic analysis (systematic methods of scientific generalization, methods of scenario forecasting, economic and mathematical statistics, etc.).

Results: To increase the objectivity of calculations in determining the effectiveness of investment policy, the authors propose the use of a methodology for calculating the integral indicator for assessing the effectiveness of investment policy based on the application of the parameters of the desirability function.

Conclusions: The financial conditions that have shaped to date in Kazakhstan and its districts have not however built genuine prerequisites for the self-activation of speculation forms. There is no solid inspiration for the improvement of production potential, there is no instrument for accumulating speculation resources in arrange to form generation within the genuine division of the economy, there is no proportionality within the dissemination of speculations between the center and locales, there is no compelling venture teachable of intervening the intersectoral stream of capital. The utilize of the apparatuses we offer to upgrade venture action will lead to an increment in genuine speculation at the level of the republic as an entire, and at the level of its districts, the dynamic work of venture teach, which is able along these lines lead to the financial development of the economy.

Keywords: investments, investment policy, investment climate, investment activity, investment potential, investment strategy, integral indicator.

Introduction

The most important task of the current stage of economic development, both for the enterprise and the state as a whole, is to achieve stable economic development. Investments are crucial for solving this problem. The concept of economic development involves the attraction of foreign capital, the capital of domestic private business in various sectors of the economy.

In the economic process, investments occupy a central place, which in turn determines the overall growth of the economy. As a result of investing in industries and enterprises, production volumes are growing, income is increasing, economic rivalry between them is developing and moving forward.

One of the components of effective investment activity is a well-thought-out investment policy. Investment policy, being an integral part of the economic policy of the state, is an important lever of influence both on the economy of the nation as an entirety and on the exercises of personal financial substances, fundamentally the genuine segment of the economy.

The venture movement of an undertaking is the legitimization of speculations and the execution of practical activities pointed at making a benefit or growing financial potential. In any case of the estimate of the legal form and industry connection, the venture approach of the undertaking is the most significant for its

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activities. The development of investment policy is based on the search for sources of investment and the identification of key functional areas of their use (Mullabayev et al., 2020).

However, the effective implementation of investment activity depends not only on the enterprise itself and its internal environment but also on external factors that have a multidirectional impact on the investment activities of enterprises. One of the main problems is the lack of own funds for the renewal of fixed capital and difficulties in obtaining commercial loans due to their unstable financial situation and high-interest rates (Khusainova et al., 2021).

Now that the country has achieved relative stabilization of macroeconomic indicators, the most important task is to create mechanisms that stimulate investment activity and a steady flow of financial assets and technologies into the real sector of the economy.

Creating a favorable investment climate in the country is a whole range of different measures: improving the legislative framework for stimulating and providing tax and customs tariff benefits, streamlining management decision-making in government agencies, developing market infrastructure and the foreign exchange market, as well as the stability of the banking system.

Literature review

In modern conditions, the goal of many companies is to obtain significant competitive advantages for a long period of time. At the same time, the strengthening of the company's market position can be achieved to a greater extent due to the successful implementation of investment measures.

Investment activity is inherent in any enterprise and is a complex process influenced by many factors. The more intensive the investment activity, the faster the reproduction process is carried out, the more active the effective market transformations take place. Thus, the main purpose of investment activity is the implementation of effective forms of capital investment aimed at expanding the production, scientific, technical, financial potentials of the enterprise (Kankhva et al., 2018).

In a market economy, where innovation is the foundation for guaranteeing the competitiveness of production and goods (services), the enterprise's investment policy should be flexible and adaptive to changes in the economic environment. Furthermore, the following should be considered:

– enabling the establishment of flexible mechanisms for responding to changes in the external environment for the decentralization of the investment process;

– providing the availability of an alternative and long-term strategy for the development of the company;

– increasing the use of internal sources of fund accumulation for financing investment projects;

– adherence to the enterprise's strategic development program when planning the distribution of capital and financial investments;

– availability of the results of existing market analysis in the direction of assessing market needs and the value of the competitiveness of the product presented on the market.

At present, the formation of investment policy is based on the general strategy of the enterprise, including an investment strategy, the result of which is the creation of a long-term investment program that is aimed at the development of the enterprise (Dikareva et al., 2017).

As a result, investment policy is a method of carrying out an enterprise's investment plan in the context of the most significant parts of investment activity at various stages of execution (Makohon et al., 2020). Unlike the overall investment strategy, the investment policy is created exclusively in those areas of the company's investment activity that require more effective management to meet the company's primary strategic aim.

The company's investment policy is essentially justified by its strategic goals and, ultimately, is focused on ensuring not only the current but also promising financial stability of the company (Korytko et al., 2020).

The concept of investment policy and its economic content are interpreted by scientists in different ways depending on the level of the subject of investment activity, its strategic goals, and the specifics of the implementation mechanisms (Doskaiyeva et al., 2017).

Modern market relations require accelerating the exchange and processing of information resources, as a result, there is a need for timely receipt of important information and automation of its processing technology. A feature of investment policy in modern conditions is the computerization of the decision-making process of an investment nature, as well as the entire investment market, from the collection, analysis of information to the development and implementation of a certain event. The possibility of automating the exchange and processing of information makes it possible to ensure market transparency, expand the ability to

conduct operations, accelerate the processes of forecasting and control, which as a result increases the effectiveness of the company's investment policy (Smeets, 2017).

The enterprise's investment activity is subordinated to its long-term development ambitions. As a consequence, it should be executed in accordance with the investment strategy that has been created. Such a standard is intended as a stand-alone component of the company's overall financial strategy. This block is crucial since it is in charge of putting the company's financial as well as business strategy into action; an incomplete or ineffective investment policy compromises the company's overall strategic plan (Fyliuk et al., 2018).

The investment strategy of the firm is an element of its overall financial plan. It comprises identifying and implementing the most effective real and financial investment strategies to ensure quick and consistent market value growth (OECD, 2021).

When examining the investment market conjuncture, keep in mind that it includes not only certain types of financial markets (stock markets, monetary investment instruments markets, gold and other precious metals markets), but also certain types of actual investment objects markets. Strategic, technical, and fundamental analyses are used to investigate the external investment environment and the state of the investment market.

Accounting for the enterprise's strategic development goals as a result of its planned investment activities, the nature of the enterprise's corporate and financial plans that require investment support should be seen as a system of strategic investment objectives that should be represented in its investment strategy (Astanaqulov et al., 2019). At the same time, remember that the stage of the life cycle in which an organization is placed is the objective element dictating the direction of its investment program.

Methods

The methodological basis of the study was the theoretical foundations of system research. The dialectical method of cognition and a systematic approach that reveals the possibilities of scientific research of socio-economic phenomena in the development of their interrelation and interdependence, methods of systematic analysis of perception processes were also used.

Results and Discussions

The national economy of any country depends on the sustainable, reliable, and affordable development of economic sectors (Guo et al., 2020). One of the prerequisites for the successful functioning of the country's economy as a whole, industries and regions, as well as one of the most crucial aspects of activity of any economic entity, is the implementation of investment activities.

The sum of economic and organizational actions taken by all parties in the investment process to accomplish investment projects is referred to as their investment activity. Naturally, the goal of this activity should be to get the best possible results from investment project implementation while reducing expenditures and expenses, as well as generating other positive outcomes.

As an integral element of the government's economic policy, investment policy has a substantial influence on both the country's economy as a whole and the operations of individual economic units, especially in the real sector.

An enterprise's investment policy is a collection of policies that enable profitable investment of own, borrowed, and other capital to ensure the financial stability of the company. The primary purpose of the company's investment policy is to establish the best possible circumstances for the investment potential to be realized.

The foundations of investment policy development are the search for investment sources and the identification of relevant functional areas for their application. The following aims are pursued by long and short-term investment policies at the company level:

- raising profit from investment projects;
- expanding production quantities in response to market demand;
- gaining market share;
- enhancing investor well-being;
- boosting the competitiveness of an industrial company
- diversification as a result of the creation of new business sectors;
- enhancing the overall enterprise's economic, social, production, and other efficiencies.

Moreover, not only the company and its internal environment influence the performance of these tasks, but also external variables that have a multidirectional impact on enterprises' investment activities. Constraints frequently assume the role of a problem. These are responsible for a number of challenges in Kazakhstan's economy:

- a rather high rate of inflation, which will reach 7.5 percent by the end of 2020, putting it third in the CIS behind Ukraine and Russia (Table 1);
- inadequate funding of governmental investment programs;
- low investment efficiency;
- lack of own money for organizations to renew fixed capital;
- difficulty getting commercial loans owing to their uncertain financial status and high loan interest rates;
- high investment risk.

Table 1. Inflation rate in the CIS countries for 2020

Inflation rate in other countries (%)		
CIS countries	2019	2020
Russia	10.6	11.4
Kazakhstan	6.8	7.5
Armenia	4.6	4.1
Kyrgyzstan	3.2	3.8
Belarus	9.5	5.6
Azerbaijan	5.4	6.2
Tajikistan	5.3	6.5
Ukraine	12.4	11.2
Note – Compiled by the authors on the basis of research		

Despite the successful targeting and retention of the inflation rate within the framework planned by the regulator, its level in the Republic of Kazakhstan is significantly higher than in the CIS as a whole. Thus, in January, annual inflation rates in Kazakhstan were 7.5%, while in neighboring Kyrgyzstan – only 3.8%, in Belarus – 5.6%, and in Tajikistan – 6.5%. Higher indicators of inflationary pressure were noted only in Ukraine and Russia - 11.2% and 11.4% at once, respectively.

The existing economic conditions in Kazakhstan and its regions do not yet provide the necessary conditions for investment processes to self-activate. There is no mechanism for accumulating investment resources for the production sector, there is no rational distribution of investments between the center and the regions, and there are no investment institutions capable of organizing an effective investment process and intersectoral capital transfer in the region. All this dictates the need to create a mechanism for implementing an investment policy that can revive the investment process in the country.

According to the current legislation of the Republic of Kazakhstan, investment activities can be financed by:

- Own financial resources and on-farm reserves;
- Borrowed funds;
- Attracted funds received from the sale of shares, units, and other contributions of members of labor collectives, citizens;
- Legal entities;
- Funds centralized by associations of enterprises in accordance with the established procedure;
- Extra-budgetary funds;
- Funds of the republican budget;
- Funds of foreign investors;
- Charitable contributions of legal entities and individuals.

In the Republic of Kazakhstan, the following situation has developed in the structure of investments by sources of financing (Table 2).

Table 2. The structure of investments by sources of financing for 2020

Sources of funding	Amount, million tenge	As a % of the total		
		2018	2019	2020
Total investments in fixed assets, including those financed by:	114969	100.0	100.0	100,0
Own funds of enterprises, organizations	68 905	93.5	79.4	60.0
Budget funds from them:	15 904	6.5	7.6	13.8
Republican budget	6 740	4.6	6.1	5.9
Local budget	1 730	1.4	1.4	1.5
other sources	7 434	0.5	0.1	6.4
Foreign investment	30 160	12.0	13.0	26.2
Note – Compiled by the authors on the basis of research				

It can be seen from Table 2 that most of the investments (60% of the total), namely 68.905 million tenge, in 2020 were financed from the own funds of enterprises and organizations.

Moreover, it should be noted a stable tendency to decrease the share of own funds. Compared to 2018, it decreased by 33.5%, from 2019 – by 20.6%.

At a certain time, foreign direct investment in fixed assets is on the rise. Compared to 2019, their share in the total volume of investments increased 2.2 times and amounted to 26.2% in 2020 (30.160 million tenge).

Investments in fixed assets by the state (republican and local budget money, as well as state-owned firms and joint-stock corporations' own finances), where the share of the state stake is more than 50%) for 2020 amounted to 38.6 billion tenge, i.e. 13.8% of the total investment.

If necessary, the company can carry out capital construction in an economic way. At the same time, specific sources of financing are being formed, mobilized during the construction process. These include mobilization of internal resources in construction, planned savings on construction and installation works and savings from reducing the cost of work, income from associated mining (formed in the extractive industries), depreciation charges on fixed assets of construction projects carried out by economic means.

Mobilization of internal sources in construction serves as a source of financing capital investments in cases when the need for working capital for the planned period is reduced for construction projects. Working capital is needed by construction sites for the formation of equipment stocks, the purchase of materials, future expenses, and the formation of work in progress. In addition, during the year, there may be an increase (decrease) in stable accounts payable to contractors and suppliers whose payment deadline has not come, to workers and employees on wages and reserves of upcoming payments. An increase in such debt means a decrease in the need for funds for financing capital investments at the construction site, and a decrease means an increase in the need for funds.

In today's market economic circumstances, the successful operation of large and medium-sized industrial companies is difficult. Having a large production capacity and human resources, the efficiency of their work is almost zero (Assanova et al., 2021). In other words, numerous companies are currently just surviving, thinking only about how not to work at a loss.

To assess the state of investment policy and its effectiveness, a certain quantitative indicator is needed, with the help of which it is possible to conduct a comparative analysis of the quality of management of available investment resources at various companies.

As such a quantitative criterion, the developed general integral indicator of the effectiveness of investment policy can be used.

The methodology for calculating the integral indicator of the effectiveness of investment policy assumes the following:

- data gathering for adjusting individual demand for the period of analysis for a particular wide variety of organizations;
- immediate determination of the factors that influence the fiscal and operational operations of a specific group of entities;
- evaluation of the level of favorability for every one of the various indicators of factors;
- analysis of the general essential criterion of favorability
- the creation of investment policy directions to improve the essential indication of its effectiveness.

When employing the desirability function approach, the major value of computations is simplified to associating the present value of a particular indicator with the desired value, which might be:

- the modal value, i.e., the most common in the investigated collection of firms or for a certain time;

- the highest value of the indicator for the aggregate of the company or for the period under consideration;

- a commonly used normative value defined in practice.

Simultaneously, each of the indicators utilized in the computation is given a degree of importance ranging from 0 to 1, assuming that the desirability function goes to 1. In the aggregate, this indicates that the closer an indicator is to 1, the greater its attractiveness, and vice versa, the more a given indicator's present value varies from the intended one, the lower its desirability and, hence, quality.

The following methods of constructing desirability functions are possible:

- by specifying the most desirable value based on the measured value;
- at the lower and upper limits of the range of desired values;
- indicating only the lower or only the upper limit of the desired values.

Financial statements, including the balance sheet and profit and loss statement, are used to determine the indicators needed to produce an assessment of the overall integral indicator of the efficacy of investment policy.

The major goal of this approach is to construct an integral indicator of investment policy success based on the company's aggregate, from which the final values may be used to analyze how efficiently production and financial resources are utilised. To accomplish so, the desirability function, which is the geometric mean of the desirability of various indicators - components, is calculated.

Conclusions

This study suggests improvements to the investment activity and management system of the enterprise's investment policy. To strengthen the investment climate and rekindle investment activity, a system of urgent state regulation measures is needed, which should include:

- rational use of public and private investments, as well as improvement of the mechanism for the formation of public investment programs;
- determination of specific areas of investment activity to restore reproduction processes in the economy;
- assistance from the state to the growth of the securities market and the establishment of an efficient system for converting savings into investments;
- reorganization of the banking sector to strengthen the investment orientation of their financial resources;
- continuation of work in the direction of creating an effective system of guaranteeing investments directed to the production sector;
- improvement of depreciation policy to increase the enterprises' own funds for investment investments.

The suggested levers of impact on investment activity would therefore contribute to an increase in investment activity at both macro and micro levels, capital influx into the real sector of the economy, investment activity revival, and so to stability and subsequent economic expansion.

References

Assanova, M., Mukhamedzhanova, A., & Yessengeldina, A. (2021). Impact of human capital on sustainable development of Kazakhstan in digitalization environment. *Bulletin of the Kazakh University of Economics, Finance and International Trade, 4(45),* 44–50. http://vestnik.kuef.kz/web/uploads/file-vestnik/4acefcc76d93e248c589a15387c6043a.pdf

Astanaqulov, O. (2019). Financial stability of an enterprise as a result of forecasting indicators of its investment activity, *International Finance and Accounting, 2019(5), 13.* https://uzjournals.edu.uz/interfinance/vol2019/iss5/13

Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan and own elaboration (2021). *stat.gov.kz.* https://stat.gov.kz/edition/publication

Guo, A., Wei, H., Zhong, F., Liu, S., & Huang, C. (2020). Enterprise Sustainability: Economic Policy Uncertainty, Enterprise Investment, and Profitability. *Sustainability , 12,* 3735. https://doi.org/10.3390/su12093735

Dikareva, V., & Kankhva, V.S. (2017, May 23). Evolution Procedure for Financial Stability of the Enterprises of Housing and Utilities Infrastructure. *MATEC Web of Conferences 106, 08022.* https://doi.org/10.1051/matecconf/201710608022.

Doskaliyeva, B.B., Orynbassarova, Y.D., Omarkhanova, Z.M., Karibaev, S., & Baimukhametova, A.S. (2016). Development of the System of Investment Support of Projects in the Industrial — Innovative Development of Kazakhstan. *International Journal of Environmental and Science Education, 11(12),* 51–90. https://files.eric.ed.gov/fulltext/EJ1115629.pdf

Fyliuk, H., & Akulenko, K. (2018). Methodological principles of evaluation of investment attractiveness of the enterprise. *Baltic Journal of Economic Studies*, *4*(5), 387–395. https://doi.org/10.30525/2256–0742/2018–4-5–387–395

Kankhva, V., Orlov, B., Vorobyeva, A., Belyaeva, S., & Petrosyan, R. (2018, June 13). The formation of a criteria-based approach in the development of projects of redevelopment of industrial real estate. *MATEC Web of Conferences, 170, 01116*. https://doi.org/10.1051/matecconf/201817001116

Khusainova, Z., Asanova, M.K., Mardanova, A., Akybayeva, G., & Abauova, G. (2021). Endowment funds as an effective form of partnership between the business sector and the higher education system. Case of training specialists in the tourism industry. *Journal of Environmental Management and Tourism, 12(8),* 2194–2216. https://journals.aserspublishing.eu/jemt/article/view/6663

Korytko, T., Piletska S., Arefieva O., Pidhora, Y., & Pryimakova, Y. (2020). Formation of organizational and economic mechanism of motivation of increase of investment activity of the enterprise. *Financial and Credit Activity: Problems of Theory and Practice*, *4*(35), 418–425. https://doi.org/10.18371/fcaptp.v4i35.222446

Makohon, V., Radionov, Yu., & Adamenko, I. (2020, September). Investment policy of the state as a tool for economic growth of the country. *Problems and Perspectives in Management, 18(3),* 245–254. https://doi.org/10.21511/ppm.18(3).2020.21

Mullabayev, B.B., Saydullaeva, S., Juraeva, U., Nurullaeva, Sh., & Shamsieva F. (2020, September). Theoretical and practical bases of investments and processes of their distribution in the conditions of modernization of economy. *International Journal on Integrated Education*. 3, 9, 132–137. https://doi.org/10.31149/ijie.v3i9.603

OECD (2021). *Investment policy in fragile contexts. Middle East and North Africa investment policy perspectives.* https://www.oecd-ilibrary.org/docserver/9a8381f0-en.pdf? expires=1645896521&id=id&accname=guest&checksum=F44F4849252FC98E8CDD846E7C00600D

Project on monitoring the economy of Kazakhstan in the format of rankings (2021). http://ranking.kz

Smeets, M. (2021). Adapting to the digital trade era: challenges and opportunities. *World Trade Organization. WTO Publications.* https://www.wto.org/english/res_e/booksp_e/adtera_e.pdf

Socio-economic development of the Republic of Kazakhstan (2021). Brief statistical reference.

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Қазақстан Республикасындағы кәсіпорындардың инвестициялық қызметінің қазіргі жағдайы

Аңдатпа

Мақсаты: Қазақстан Республикасындағы кәсіпорындардың инвестициялық қызметінің қазіргі жай-күйін талдау және оны арттыру жолдарын айқындау.

Әдістері: Зерттеу барысында экономикалық талдау әдістері қолданылды: ғылыми жалпылаудың жүйелі әдістері, сценарийлік болжау әдістері, экономикалық-математикалық статистика және т.б.

Қорытынды: Инвестициялық саясаттың тиімділігін анықтауда есептеулердің объективтілігін арттыру мақсатында авторлар қажеттілік функциясының параметрлерін қолдануға негізделген инвестициялық саясаттың тиімділігін бағалаудың интегралды көрсеткішін есептеу әдістемесін қолдануды ұсынады.

Тұжырымдама: Қазақстанда және оның өңірлерінде қалыптасқан экономикалық жағдайлар инвестициялық процестерді өздігінен жандандыру үшін нақты алғышарттарды әлі қамтымайды. Өндірістік әлеуетті дамытуға күшті уәждеме жоқ, экономиканың нақты секторында өндірістер құру мақсатында инвестициялық ресурстарды шоғырландыратын тетік жоқ, орталық пен өңірлер арасында инвестицияларды бөлуге тепе-теңдік жоқ, капиталдың салааралық құйылуын делдал етуге қабілетті тиімді инвестициялық институттар жоқ. Біз ұсынып отырған инвестициялық белсенділікті жандандыру құралдарын қолдану тұтас алғанда республика деңгейінде және оның өңірлері деңгейінде нақты инвестициялардың өсуіне, инвестициялық институттардың белсенді жұмысына, бұл кейіннен экономиканың экономикалық өсуіне алып келеді.

Кілт сөздер: инвестициялар, инвестициялық саясат, инвестициялық климат, инвестициялық қызмет, инвестициялық әлеует, инвестициялық стратегия, интегралдық көрсеткіш.

А. Сабыржан, Б.Б. Есеналиева, Т.Б. Казбеков, А.А. Мухамеджанова, Н.Н. Гелашвили

Современное состояние инвестиционной деятельности предприятий в Республике Казахстан

Аннотация:

Цель: Анализ современного состояния инвестиционной деятельности предприятий в Республике Казахстан и определение путей ее повышения.

Методы: В процессе исследования были использованы методы экономического анализа: системные методы научного обобщения, сценарного прогнозирования, экономико-математической статистики и др.

Результаты: В целях повышения объективности расчетов при определении эффективности инвестиционной политики авторами предложено использование методики расчета интегрального показателя оценки эффективности инвестиционной политики, базирующейся на применении параметров функции желательности.

Выводы: Сформировавшиеся к настоящему времени экономические условия в Казахстане и его регионах всё еще не выстроили реальных предпосылок для самоактивизации инвестиционных процессов. Отсутствуют сильная мотивация к развитию производственного потенциала, механизм аккумулирующего инвестиционные ресурсы в целях создания производств в реальном секторе экономике, пропорциональность в распределении инвестиций между центром и регионами, нет эффективных инвестиционных институтов, способных опосредовать межотраслевой перелив капитала. Применение предлагаемых нами инструментов активизации инвестиционной активности приведет к росту реальных инвестиций на уровне республики, в целом, и на уровне ее регионов, активной работе инвестиционных институтов, что впоследствии приведет к экономическому росту экономики.

Ключевые слова: инвестиции, инвестиционная политика, инвестиционный климат, инвестиционная деятельность, инвестиционный потенциал, инвестиционная стратегия, интегральный показатель.

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Forecasting investment processes in airlines

Abstract

Object: The object of the article is to study the modeling of investment processes on the example of airlines.

Methods: Systematic approach, the methods of scientific knowledge, induction, deduction, comparison, statistics, comparability, financial analysis, mathematical modeling, analysis and forecasting.

Results: The financial risk of the considered airline project is mainly related to the prices for aircraft maintenance services, which are at low limits. The severity of the consequences of this risk is critical and there is a high probability of these events. From the risk analysis, it can be concluded that the most likely financial risk is the one that can suffer the most damage. Air Astana JSC needs to use the proposed risk analysis to form a judgment about the possible consequences and probabilities of investment project risks. Based on the research of investment processes in airlines, recommendations were formulated in the field of investment project evaluation.

Conclusions: Based on the analysis of the investment activity of the Kazakh company, it was revealed that outdated methods of evaluating the effectiveness of investment projects are used and it was proposed to use quantitative risk analysis and break-even assessment of the airline's investment projects for this purpose. Despite the difficulties, aviation financing is an opportunity for new participants to get attractive returns, provided that the asset type and timing are chosen correctly. Based on the calculations, the inefficiency of the investment activity of the proposed Kazakh airline was revealed. The proposed methodology for calculating the break-even boundaries of investment projects will help improve the efficiency of investments.

Keywords: investment, investment project, modeling, performance evaluation, break-even analysis, risk analysis, forecasting investment processes, airline economy.

Introduction

Aviation is one of the fastest-growing sectors in the world, combining technology, innovation, entrepreneurship, economic development, infrastructure support, demographic growth, and contribution to globalization. Progress in this sector is impressive in its speed and diversity in nature. Economic growth and passenger traffic growth are two key indicators of the growth of commercial aviation worldwide. Economic growth in the region has a strong impact on the increase in demand for air transportation. While this is true in aggregate, the extent to which air traffic is growing relative to gross domestic product (GDP) is not consistent globally. As a rule, in developing countries, air traffic is growing at a much higher rate than GDP.

Provisions submitted:

1. Large airlines pay for their planes in about 5–7 years. Smaller airlines may take up to ten years to repay their funding. The lease can last from several years to most of a decade. In this regard, we must find more optimal types of investments.

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2. Restructuring the aircraft fleet is difficult or impossible on the basis of attracting a bank loan due to the lack of sufficient collateral, the short-term nature of the loan and the appearance of other expenses. In the case of financial investments, the aircraft itself is the subject of collateral.

Investment plays the most important role in the formation and development of the economy of Kazakhstan. Financial security of enterprises occurs when the company's own funds and its income are formed on a monetary basis, attracting borrowed sources of financing for economic activities, distributing the income generated by the results of this activity, and using them for the development of a modern company. The term "investment" comes from the Latin word "invest" — to invest (some authors believe that the word "investment" comes from the Latin "invest" — to tax.

Investments began to be understood as a certain set of elements that are represented by monetary funds, target Bank deposits, shares, and other securities, technologies, machines, equipment, licenses, including trademarks, loans, any other property or property rights, intellectual property invested in business objects and other types of activities to generate profit (income) and achieve a favorable social effect (Antipin, 2019).

The company's investment activities are an important integral part of its overall business activities. The importance of investment in the economy of a modern company can not be overestimated (Arkhipov et al., 2016). Modern production is characterized by a constantly growing capital intensity and an increasing role of long-term factors. In order for a manufacturing company to function successfully, improve product quality, reduce costs, expand production capacity, increase the competitiveness of its products and strengthen its position in the market, it must invest capital, and do it profitably and wisely. Therefore, there is a need to carefully develop an investment strategy and constantly improve it to achieve the above-mentioned goals.

Methods

The information base is represented by official data of statistical reporting of Air Astana JSC, industry scientific and technical literature, materials of industry and territorial conferences, results of the author's developments.

During the research, methods of statistical and investment analysis and methods of comparison, systematization were used.

Literature Review

Investments are the use of financial resources in the form of short-term or long-term investments. Investments are made by legal entities or individuals. As noted by I.V. Afonin, "types of investments are divided into risk (venture), direct, portfolio and annuities" (Afonin, 2018).

Venture capital is an investment in the form of issuing new shares that are produced in new areas of activity and are associated with a high level of risk. Venture capital is invested in projects that are not interconnected with each other in the expectation of a quick payback period for the invested funds. Venture capital is represented by a combination of various forms of capital: loan, equity, and entrepreneurial.

An investment project is a distribution of resources with the expectation of a profitable return on distribution in the future (Baronin et al., 2016). A return is usually expected a year in the future. One of the main elements of an investment project is the fact that investments are linked not for the short term, but for the long term. Investors do not necessarily have to choose to use excess resources that generate maximum returns. Some investors have different priorities and may need their excess resources to be immediately available, for example, instead of generating the largest amount of money. An investment project, however, as J.-P. Tan points out, is an option for allocating excess resources for the long term, with the expectation that the investment will remain in the project until it reaches a stable income-generating stage and can pay back investors (Tan et al., 2018).

These types of projects are evaluated based on viability. A realistic investment project will offer an attractive interest rate. The suitability of a project often depends on its ability to consistently generate positive cash flows to meet these obligations (Bent, 2019).

In some cases, as S.L. Blau points out, "the return on allocating resources to an investment project is not in money, but in profit" (Blau, 2016). For example, a typical investment project is a real estate investment. Real estate is priced based on the rent it can generate, and the return on investment is expected in the form of money. Investing in a person's education or training, on the contrary, provides a benefit, rather than a direct return on cash. This type of human resources investment project is designed to have different types of returns that relate to the non-monetary goals and objectives of the investor.

The investment policy of a modern airline is a complex, interrelated, and interdependent set of activities aimed at its own further development, generating income, and other favorable effects as a result of investment (Bogatynia et al., 2017).

The development of the investment policy of the airline involves specific actions that are presented: the definition of the long-term goals of the company, the selection of the most promising and profitable investment, development priorities in the development of the company, the evaluation of alternative investment projects, development of technological, marketing, financial projections, assessing consequences of implementation of investment projects (Borisova et al., 2016).

There are certain principles of investment policymaking:

1) legal principle (legal protection of investments);

2) the principle of independence and independence (characterized by freedom of choice of the investment project, its development and implementation);

3) the principle of a systematic approach;

4) the principle of efficiency (represented by the choice of such an investment project that provides the greatest effectiveness) (Damodaran, 2017).

The formation of an airline's investment strategy also depends on the company's marketing policy:

- cost leadership;
- differentiation strategy;
- concentration on the segment (Ryan et al., 2019).

The initial point of justification of the company's investment strategy is represented by an analysis of the market for products already produced by the production company or planned for release (Thomas, 2017).

When choosing a company's investment strategy, it is necessary to determine the total amount of its investments, including possible combinations of various sources of financing and borrowing.

Results

Air Astana, a group of airlines based in Almaty, was chosen as the object of the study. It is the largest airline in Kazakhstan, operating domestic and international scheduled flights on 64 routes from Almaty International Airport and Nursultan Nazarbayev International Airport (Semak et al., 2017).

In this section, we will review the assessment of investment activities and investment projects of the company Air Astana JSC. In the financial and economic analysis of investment projects and their risk assessment, the company analyzes financial opportunities. These opportunities are represented by needs and existing debt.

It also analyzes the sources and means of financing the project. Air Astana JSC calculates the recovery period for updated investments, which means the payback period for the project. The specialists of Air Astana JSC also calculate the internal interest rate. This is in particular the discount rate at which the net present value of the project is zero.

The company's specialists form multi-factor financial and economic assessments of investment projects, which is a combination of the methods of risk assessment.

Risk assessment depends on what conditions are present during the implementation of the investment project. Much attention is paid to market demand. The company's specialists also use multi-criteria qualitative assessments of investment projects and take into account uncertainty and risk.

These methods of evaluating investment projects involve determining the effectiveness of different options for combining funds required for the implementation of an investment project and considering scenarios for reducing or increasing risk. Such calculations are the basis for developing decisions on an investment event.

The periods in which the investment project will be implemented are also considered. Since different periods and seasonality of sales can affect the future demand from the investment project. In addition, the crisis phenomena in the economy are taken into account.

Here it is worth noting the risk assessment on the example of a specific project for the overhaul of the company's aircraft, the Boeing 757-200 model. The following is a sensitivity analysis of the project (Table 1).

Table 1. The sensitivity analysis in the repair of Boeing 757-200

Indicators	Indicators		
	Max.	Base	Min.
1. Sensitivity level, %	125	100	75
2. Production volume, million tenge	138.4	138,4	138,4
3. Capital investment, million tenge	1219.2	975.4	731.574
4. Cost of electricity, tenge/kWh	0.9	0.7	0.6
5. Net profit, million tenge	355.126	342.968	330.812
6. Net discounted income NPV, million tenge	313.522	362.992	412.462
7. Internal rate of return, %	14.34	15.30	16.51
8. Discount PV, %	11.00	11.00	11.00
9. Discounted payback period, years	7.00	7.00	7.00
10 The expert's assessment, average score	2.9	2.1	0.9
Note – Compiled by the authors based on (Damodaran, 2017).			

Next, the percentage change in net present value is determined in the event of changes in the economic environment:

– an increase in interest on the loan by 4%. As a result, the net present value will be:

$$\%NPV_1=\frac{412.462-362.992}{313.992}=13.6\%$$

– fixed costs increased by 10%:

$$\%\ NPV_2=\frac{412.462-313.522}{313.522}=31.6\%$$

Next, determine the elasticity of changes in the net present value for changes in each factor:

– an increase in interest on the loan by 4%;

$$R_1=\frac{13.6}{4}=3.4\%$$

– an increase in fixed costs by 11%;

$$R_2=\frac{31.6}{11}=2.9\%.$$

We present calculations for clarity in Table 2 and determining the rating of the project's sensitivity to changes in the economic environment. This rating is also called the hazard rating of risk factors.

Table 2. The rating of the project sensitivity to changes in the economic environment

Factors	Changing the factor	Percentage of change NPV	Elasticity coefficient	Rating
1. Interest on credit	+4 %	13.6%	3.4	1
2. Fixed costs	+11 %	31.6 %	2.9	2
Note – Compiled by the authors based on (Damodaran, 2017).				

Thus, the impact of an increase in fixed costs is more significant than the impact of an increase in interest on the loan (Abenova et al., 2019). Calculate the economic efficiency of the project:

$$E=\frac{Productionresults}{Projectimplementationcosts}=\frac{342.96}{975.4}=0.3505\text{or }35.1\%$$

Sensitivity analysis has shown that to ensure positive values that meet the project goals, it is necessary that the level of capital investment increases by no more than 25%, since the internal rate of return decreases with an increase in capital investment. Calculate the project revenue (Table 3).

Table 3. Data on investments and revenues of the Boeing 757-200 aircraft overhaul project for 2019-2026, thousands of tenge

Investment in the project	Sum
1	2
0th month	171
1th month	170
2th month	171
3th month	181
4th month	172
5th month	176
6th month	177
The income from the project	

1	2
1th month	313
2th month	323
3th month	341
4th month	347
5th month	352
6th month	366
7th month	377
Note – Compiled by the authors based on (Borisova et al., 2016).	

Table 4 below provides data on discounted expenditures in monetary terms, broken down by month, based on the amount of investment, the duration of the project and the discount rate.

Table 4. Discounted cash flows for the Boeing 757-200 aircraft Overhaul project

Period (month)	Discount factor	Cash flow, thousands of tenge
0	1	171
1	0.9091	154.545
2	0.8264	141.322
3	0.7513	135.988
4	0.683	117.478
5	0.6209	109.282
6	0.5645	99.912
CFP		929.528
Note – Compiled by the authors based on (Borisova et al., 2016).		

Discounted cash flows by month are calculated using the discount factor. The final discounted cash flows are presented in Table 5.

Table 5. Discounted cash flows for the Boeing 757-200 aircraft Overhaul project

Period (month)	Discount factor	Cash flow, thousands of tenge
1	0.9028	282.567
2	0.815	263.244
3	0.7358	250.893
4	0.6642	230.484
5	0.5996	211.073
6	0.5413	198.129
7	0.4887	184.241
CF		1620.63
Note – Compiled by the authors based on (Borisova et al., 2016).		

Table 5 shows that cash flows are distributed unevenly and the largest cash flow will be 282.567 thousands tenge in the first MEC of the investment project for the overhaul of the aircraft. The lowest cash flow will be in the 7th month of the investment project implementation and will amount to 184.241 thousands tenge. Table 6 designates the main indicators of the company's investment activity.

Table 6. Indicators of investment activity in Air Astana JSC 2017–2020,%

Indicators	Value				Changes, +/-		Regulatory restriction
	31.12.2017	31.12.2018	31.12.2019	31.12.2020	2018-2017	2019-2018	
Return on net capital	98.85	123.16	62.34	75.97	24.31	-60.82	
The ratio of investment	0.4729	0.3855	0.5315	0.4953	-0.0874	0.146	0,75 и более
Return on fixed assets	3826.31	4988.2	4320.32	4462.92	1161.89	-667.88	-
Return on Capital Employed (ROCE)	2025.59	2424.04	2156.82	2174.76	398.45	-267.22	-
Note – Compiled by the authors based on the source of annual reports of Air Astana JSC for 2017–2020							

The company's return on net capital in 2018 increased by 24.31, while in 2019 it decreased by 60.92. The company's investment coverage ratio decreased by 0.0874 in 2018, and increased by 0.146 in 2019, while this ratio is below the norm, which negatively characterizes the investment activity of the company

under study. The return on fixed assets in 2018 increased by 1161.89, and in 2019 it decreased by 667.88. The company's return on invested capital increased by 398.45 in 2018 and decreased by 267.22 in 2019. The return on the use of invested capital was 1735.07%.

It can be concluded that the investment activity of Air Astana JSC is inefficient since, with an increase in revenue of 104.33%, the growth of non-current assets was 198.06%, which allows us to conclude that the assets used are less efficient. The purchasing and production activity of the organization is notable for the fact that at the rate of revenue growth (104.33%), inventory increased to a lesser extent (85.27%), which indicates a more efficient use of related assets.

Discussions

To increase the efficiency of investment activities, it is necessary to use modern methods of evaluating investment projects, in particular, calculating the break-even boundaries of investment projects (Gu et al., 2021).

The degree of project sustainability in comparison with possible changes in implementation conditions can be described by indicators of break-even limits or limits for project parameters, such as production, product prices, etc. These indicators are used only to assess the impact of possible changes in project parameters on its financial feasibility and efficiency, but they are not themselves related to project performance indicators, and their calculation does not replace calculations of complex performance indicators.

When using this method, one must perform calculations based on these formulas. Structure of the formula for finding the break-even point for revenue (BEPR):

$$\text{BEPR} = \frac{\left(SP - \frac{DE}{PSV}\right)}{SP}, where DE = PSV \times CP \quad (1)$$

Structure of the formula for finding the break-even point by volume (BEPV):

$$BEPV = FE \frac{SP}{DE/PSV}, where DE = PSV \times CP \quad (2)$$

On the example of the investment project of Air Astana JSC called "construction of an aviation technical center", we use the method of calculating the break-even boundaries of the investment project (Table 7).

Table 7. Break-Even calculations for the project "construction of an aviation technical center", million tenge

№	Indicators	2015	2016	2017	2018	2019	2020
1	Production and sales volume (PSV)	4696	5057	5569	4478	3604	4175
2	Selling price (SP)	100	100	100	100	100	100
3	The cost of production (CP)	30	30	30	30	30	30
4	Fixed expenses(FE)	2200	2200	2200	2200	2200	2200
5	Dynamic expenses (DE)	2863	2354.545	3099.73	2308.039	1081.20	1209.74
6	Revenue (R)	469600	505700	556900	447800	360400	390500
7	Profit	464537	501145.455	551600.27	443291.961	250080	320900
8	Reaching the break-even point	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST
9	Break-even point for revenue (BEPR)					2213.494	
10	Break-even point by production volume (BEPV)					22.1349	
Note – Compiled by the authors based on the source of annual reports of Air Astana JSC for 2015–2020							

During the calculation, we used data on project planning. This method uses the structuring of costs for fixed (always equal to 2.200 million tenge) and dynamic (changing every year). According to Table 7, the break-even point will be reached during 2015–2020.

The break-even point for revenue at the current figures of the selling price, fixed and variable expenses will be 2213.494966 million tenge. The break-even point in terms of production and sales at the current figures of the selling price, fixed and variable expenses will be 22.134966 million tenge.

The break-even point on production and sales at the current figures of the selling price, fixed and variable expenses will be 22.134966 million tenge. The break-even point on revenue – 2213.4494966. Break-even limits can also be set for each project participant (the criterion for reaching the limit is zero net profit from

this participant). To do this, one needs to determine how this participant's income and expenses change when the parameter values for which the limit values are set to change.

We believe that the company needs to use a quantitative risk analysis under conditions of uncertainty, which will allow for the consequences of risks and losses that may occur during the project implementation process and after the project is put into production. Table 8 presents the risks of a project.

It is seen that political demographic risks have the lowest level of probability. Damage from the occurrence of risks can occur when there is an industrial risk – man-made accidents, or equipment failure.

Table 8. Risk register of the project "repair of Boeing 757-200", million tenge

Risk	Characteristics of the severity of consequences		Frequency of occurrence	
	The damage from the event	The severity of the consequences	Number of events	The probability of the risk occurring
Political	Notobserved	Minor	0.003	Almost impossible
Demographic	Notobserved	Minor	0.002	Almost impossible
Production risk, thousands tenge	5 000	Moderate	0.005	Probably
Natural risk, thousands tenge	10 000	Significant	0.013	Average probability
Environmental risk, thousands tenge	50 000	High	0.033	Average probability
Financial risk, thousands tenge	60 000	Critical	0.143	High probability

Note – Compiled by the authors based on (Ryan et al., 2019).

The occurrence of such a risk is quite likely, and the damage may amount to 5.000 thousand tenge. In our case, the natural risk can be represented by cosmogenic events (earthquakes, storms, landslides, etc.). The occurrence of this risk has an average probability and high severity of consequences in the amount of 10.000 thousand tenge.

Environmental risk can be represented by changes in the environment, man-made disasters, or environmental protests (Saduov et al., 2019). In this case, the severity of the consequences of the environmental risk is high and is estimated at 50.000 thousand tenge, but the probability of such risks is average.

The financial risk of this project is mainly related to the prices of aircraft maintenance services, which are at low limits. The severity of the consequences of this risk is critical and the damage from them is estimated at 60.000 thousand tenge, and there is a high probability of these events.

From the risk analysis, it can be concluded that the most likely financial risk is the one that can bear the highest damage. Air Astana JSC needs to use this risk analysis to form opinions about the possible consequences and probabilities of the risks of the investment project.

Conclusions

It will be possible to increase the efficiency of investment activities by using new methods for evaluating projects based on the boundaries of break-even and probabilistic uncertainty. These measures will be effective even with adjustments for economic crises related to the coronavirus pandemic.

References

Abenova, M.H., Parmanova, R.S., & Bolshekbayeva, K.O. (2019). Analysis of efficiency of the use of financial resources of the enterprise. *Reports of the national academy of sciences of the Republic of Kazakhstan, 4 (326),* 36–40. https://doi.org/10.32014/2019.2518–1483.112

Antipin, A.I. (2019). Investitsionnyi analiz v stroitelstve: uchebnoe posobie [Investment analysis in construction: tutorial]. Moscow: Akademiia, 108 [in Russian].

Arhipov, I.S., Dmitreiko, N.S., & Matsuk, I.I. (2016). Modelirovanie vozdeistviya riska na effektivnost funktsionirovaniya predpriyatiya [Modeling the impact of risk on the efficiency of the enterprise]. *Ekonomika i menedzhment informatsionnykh tekhnologii – Economics and management of information technologies, 2,* 104–110 [in Russian].

Afonin, I.V. (2018). Upravlenie razvitiem predpriyatiya. Strategicheskii menedzhment, innovatsii, investitsii, tseny: uchebnoe posobie [Managing the development of enterprise. Strategic management, innovation, investment, prices: tutorial]. Moscow: Dashkov i K, 380 [in Russian].

Baronin, S.A., Kazeikin, V.S., & Popova, I.V. (2016). Ipotechno-investitsionnyi analiz: uchebnoe posobie [Mortgage and investment analysis: tutorial]. Moscow: Infra-M, 494 [in Russian].

Bent, F. (2019). *Megaproekty i riski. Anatomiya ambitsii: monografiia [Megaprojects and risks. Anatomy of ambition: monograph].* Moscow: Alpina Publisher [in Russian].

Blau, S.L. (2016). Investitsionnyi analiz: uchebnik dlya bakalavrov [Investment analysis: a textbook for bachelors]. Moscow: Dashkov i K, 256 [in Russian].

Bogatynia, Yu.V., & Shvandar, V.A. (2017). Investitsionnyi analiz: uchebnoe posobie [Investment analysis: tutorial]. Moscow: UNITY-DANA, 287 [in Russian].

Borisova, O.V., Malykh, N.I., & Oveshnikova, L.V. (2016). Investitsii [Investment]. (Vols. 1-2; Vol. 2 Investment analysis: Textbook and workshop). Lyubertsy: Yurait, 218 [in Russian].

Damodaran, A. (2017). *Investment Valuation. Tools and Techniques for Determining the Value of Any Assets*. New York: John Wiley & Sons.

Ryan, P.A., & Ryan, G.P. (2019). Capital budgeting practices of the Fortune 1000: how have things changed? *Journal of Business and Management, 8(4),* 355–364.

Saduov, A., Mukanov, B., Asanova, M., Rakhimzhanova, R., & Raimbekov, B. (2019). Questions of cluster interaction of tourism development along the silk road. *Journal of Environmental Management and Tourism,, 10(38),* 1235–1241. https://doi.org/10.14505//jemt.v10.6(38).05

Semak, Y.A., Raimbekov, B.Kh., Assanova, M.K., & Kozhabergenova, A.Y. (2017). Development of transport system of the Republic of Kazakhstan. *Bulletin of the Karaganda University. Economy Series, 1(85),* 45–50.

Tan, J.-P., Anderson, J.R., Belli, P., Barnum, H.N., & Dixon, J.A. (2001). *Economic Analysis of Investment Operations.* https://doi.org/10.1596/0–8213–4850–7

Thomas, D.S. (2017). Investment Analysis Methods: A practitioner's guide to understanding the basic principles for investment decisions in manufacturing. *U.S. National Institute of Standards and Technology. NIST Advanced Manufacturing Series 200–5.* https://doi.org/10.6028/NIST.AMS.200–5. https://nvlpubs.nist.gov/nistpubs/ams/NIST.AMS.200–5.pdf

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Авиакомпанияларда инвестициялық процестерді болжау

Аңдатпа

Мақсаты: Мақаланың мақсаты әуе компаниялары мысалында инвестициялық процестерді модельдеуді зерттеу болып табылады.

Әдістері: Жүйелі тәсіл авиация нарығын оның құрылымдық құрамдас бөліктерінің бірлігінде қарастыруға мүмкіндік берді. Зерттеу тақырыбына сәйкес ғылыми таным әдістері қолданылды: индукция, дедукция, салыстыру, статистика, салыстырмалылық, қаржылық талдау, математикалық модельдеу, талдау және болжау.

Қорытынды: Қаралған авиакомпания жобасының қаржылық тәуекелі негізінен төмен лимиттердегі әуе кемелеріне техникалық қызмет көрсету жөніндегі қызметтердің бағаларымен байланысты. Бұл тәуекелдің салдарының ауырлығы өте маңызды және бұл оқиғалардың ықтималдығы жоғары. Тәуекелдерді талдаудан ец үлкен зиян келтіруі мүмкін қаржылық тәуекел деп қорытынды жасауға болады. «Эйр Астана» АҚ инвестициялық жоба тәуекелдерінің ықтимал салдарлары мен ықтималдығы туралы пайымдау үшін ұсынылған тәуекелдер талдауын пайдалануы қажет. Авиакомпаниялардағы инвестициялық процестерді зерттеу негізінде инвестициялық жобаларды бағалау бойынша ұсыныстар жасалды.

Тұжырымдама: Қазақстандық компанияның инвестициялық қызметін талдау негізінде инвестициялық жобалардың тиімділігін бағалаудың ескірген әдістері пайдаланылатыны анықталды және осы мақсат үшін тәуекелдердің сандық талдауын және авиакомпанияның инвестициялық жобаларының шығынсыздығын бағалауды пайдалану ұсынылды. Қиындықтарға қарамастан, авиациялық қаржыландыру жаңадан қатысушылар үшін актив түрі мен уақытын дұрыс таңдаған жағдайда тартымды табыс алу мүмкіндігі болып табылады. Есептеулер негізінде ұсынылып отырған қазақстандық әуе компаниясының инвестициялық қызметінің тиімсіздігі анықталды. Инвестициялық жобалардың залалсыздық шекараларын есептеудің ұсынылып отырған әдістемесі инвестициялардың тиімділігін арттырады.

Кілт сөздер: инвестициялар, инвестициялық жоба, инвестициялық талдау, модельдеу, тиімділікті бағалау, үзіліссіз талдау, тәуекелдерді талдау, инвестициялық үдерістерді болжау, авиакомпания экономикасы.

К.Г. Садвакасова, А.З. Нурмагамбетова, М. Абенова, И. Монева, А.Ж. Жарасбаева

Прогнозирование инвестиционных процессов в авиакомпаниях

Аннотация:

Цель: Целью статьи является изучение моделирования инвестиционных процессов на примере авиакомпаний.

Методы: Системный подход позволил рассмотреть авиационный рынок в единстве его структурных составляющих. В соответствии с предметом исследования использовались методы научного познания: индукции, дедукции, сравнения, статистики, сопоставимости, финансового анализа, математического моделирования, анализа и прогнозирования.

Результаты: Финансовый риск проекта рассмотренной авиакомпании, в основном, связан с ценами на услуги по техническому обслуживанию воздушных судов, которые находятся на низких лимитах. Тяжесть последствий данного риска является критической, и существует высокая вероятность данных событий. Из анализа рисков можно сделать вывод, что наиболее вероятным финансовым риском является тот, который может понести наибольший ущерб. АО «Эйр Астана» необходимо использовать предложенный анализ рисков для формирования суждения о возможных последствиях и вероятностях рисков инвестиционного проекта. На основе исследования инвестиционных процессов в авиакомпаниях сформулированы рекомендации в области оценки инвестиционных проектов.

Выводы: На основе анализа инвестиционной деятельности казахстанской компании выявлено, что используются устаревшие методы оценки эффективности инвестиционных проектов, количественный анализ рисков и оценка безубыточности инвестиций авиакомпании. Несмотря на сложности, авиационное финансирование — это возможность для новых участников получить привлекательную доходность при условии правильного выбора типа актива и сроков. На основании расчетов выявлена неэффективность инвестиционной деятельности предлагаемой казахстанской авиакомпании. Данная методика расчета границ безубыточности инвестиционных проектов позволит повысить эффективность инвестиций.

***Ключевые слова*:** инвестиции, инвестиционный проект, инвестиционный анализ, моделирование, оценка эффективности, анализ безубыточности, анализ рисков, прогнозирование инвестиционных процессов, экономика авиакомпаний.

References

Abenova M.H. Analysis of efficiency of the use of financial resources of the enterprise / M.H. Abenova , R.S. Parmanova , K.O. Bolshekbayeva // Reports of the national academy of sciences of the Republic of Kazakhstan. — 2019. — Vol. 4, No. 326. — P. 36–40.

Gu Z. Investment Analysis of Airline Companies in Pandemic. A Comparative Study of CEA and UAL / Z. Gu, X. Liang, Y. Yu // Advances in Economics, Business and Management Research. Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021) — 2021. — Vol. 203. — P. 1103–1109.

Damodaran A. Investment Valuation. Tools and Techniques for Determining the Value of Any Assets / A. Damodaran. — New York: John Wiley & Sons, 2017. — 560 p.

Ryan P.A. Capital budgeting practices of the Fortune 1000: how have things changed? / P.A. Ryan, G.P. Ryan // Journal of Business and Management. — 2019. — No. 8(4). — P. 355–364.

Saduov A. Questions of cluster interaction of tourism development along the silk road / A. Saduov, B. Mukanov, M. Asanova, R. Rakhimzhanova, B. Raimbekov // Journal of Environmental Management and Tourism. — 2019. — Vol. 10. — Issue 6(38). — P. 1235–1241.

Semak Y.A. Development of transport system of the Republic of Kazakhstan / Y.A. Semak, B.Kh. Raimbekov, M.K. Assanova, A.Y. Kozhabergenova // Bulletin of the Karaganda University. Economy Series. — 2017. — No. 1 (85). — P. 45–50.

Thomas D.S. Investment Analysis Methods: A practitioner's guide to understanding the basic principles for investment decisions in manufacturing. — U.S. National Institute of Standards and Technology, 2017. — 42 p. https://doi.org/10.6028/NIST.AMS.200–5

Антипин А.И. Инвестиционный анализ в строительстве [Текст]: учеб. пос. / А.И Антипин. — М.: Academia, 2019. — 108 с.

Архипов И.С. Моделирование воздействия риска на эффективность функционирования предприятия / И.С. Архипов, Н.С. Дмитрейко, И.И. Мацюк // Экономика и менеджмент информационных технологий. — 2016. — № 2. — С. 104–110.

Афонин И.В. Управление развитием предприятия. Стратегический менеджмент, инновации, инвестиции, цены [Текст]: учеб. пос. / И.В. Афонин. — М.: Дашков и К, 2018. — 380 с.

Баронин С.А. Ипотечно-инвестиционный анализ [Текст]: учеб. пос. / С.А. Баронин, В.С. Казейкин, И.В. Попова. — М.: Инфра-М, 2016. — 494 с.

Бент Ф. Мегапроекты и риски. Анатомия амбиций [Текст]: моногр. / Ф. Бент. — М.: Альпина Паблишер, 2019. – 500 с.

Блау С.Л. Инвестиционный анализ [Текст]: учеб. для бакалавров / С.Л. Блау. — М.: Дашков и К, 2016. — 256 с.

Богатыня Ю.В. Инвестиционный анализ [Текст]: учеб. пос. / Ю. В. Богатыня, В.А. Швандар. — М.: ЮНИТИ-ДАНА, 2017. — 287 с.

Борисова О.В. Инвестиции: [В -х 2 т.]. — Т.1. Инвестиционный анализ [Текст]: учеб. и практ. / О.В. Борисова, Н.И. Малых, Л.В. Овешникова. — Люберцы: Юрайт, 2016. — 218 с.

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Conceptual model of academic entrepreneurship within the framework of the Triple Helix theory

Abstract

Object: The development of a model of academic entrepreneurship within the concept of the Triple Helix and its derivatives in the context of a regional innovation system.

Methods: Methods of system analysis, comparative analysis, grouping method, content analysis.

Results: The article gives a definition of academic entrepreneurship within the framework of the main approaches to the innovation process. It is shown that the development of academic entrepreneurship is inextricably linked with the evolution of the concept of the Triple Helix on the interaction of elements in the knowledge economy. The article discusses the features of the concept of the Triple Helix and its derivatives. Within the framework of the Triple Helix, the key role of universities in the accumulation and transfer of knowledge in the innovation system is substantiated for the first time. The article shows that in the Quintuple Helix, knowledge acquires an interdisciplinary and transdisciplinary character, which becomes the basis for the development of academic entrepreneurship. The article compares traditional and new views on academic entrepreneurship, its promising areas.

Conclusions: The concept of academic entrepreneurship, which is basically an institutional transfer of research and development to the business environment, is today a popular scientific direction. Academic entrepreneurship is aimed at improving the welfare of society and allows realizing the commercial potential of scientific developments. The development of the mechanism of academic entrepreneurship requires an analysis of the current concepts of innovative development, taking into account the characteristics of a developing economy. The perspective view on the development of academic entrepreneurship considered in the article assumes active involvement in the process of commercialization of university students, student startups, development of networking between the academic environment and industry.

Keywords: academic entrepreneurship, university, commercialization, Triple Helix, innovations.

Introduction

In many advanced economies, the development of the regional economy is largely associated with the realization of its innovative potential. The introduction of new ideas and technologies into production contributes to the economic growth of territories and the well-being of citizens. Academic entrepreneurship as an economic category emerged not so long ago. The concept of academic entrepreneurship is based on the approach of the national innovation system (NIS), linear and the non-linear nature of the innovation process, as well as the concept of the Triple Helix and its evolution. Academic entrepreneurship arose as a response to society's request for the realization of the accumulated innovative potential within a certain region with the participation of the academic community. With the development of legislation in this area, it became possible to introduce scientific developments of scientists at the enterprises of the region, create separate spin-off companies and receive entrepreneurial income. The success of academic entrepreneurship largely depends on the development of the innovation system and the innovation infrastructure of the region. The highest results in the development of academic entrepreneurship were achieved by the United States and the developed countries of EU. In Kazakhstan, in the context of the development of the innovation system, there is a need to further study the problem of commercializing academic knowledge, improving a number of innovation infrastructure mechanisms, taking into account the characteristics of a developing economy.

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Literature review

The concept of academic entrepreneurship is based on the works of domestic and foreign scientists.

Since the end of the 20th century, a systematic approach to the development of innovation has been developed, which was implemented within the framework of national and regional innovation systems (Lundvall, 1992). To date, one of the most common models of national innovation systems is the Triple helix model, the options for adapting to the economic situation of various countries are four- and five-link structures (Leydesdorff & Etzkowitz, 2003)

The impetus for the development of academic entrepreneurship was the evolution of approaches to the accumulation and use of knowledge in society. Gibbons at the beginning of the 21st century identified a new form of knowledge production that was context-oriented, problem-based, and interdisciplinary (Gibbons, 2000, Nowotny et al., 2003). It involved multidisciplinary teams working together for a short period of time on specific real-world problems. Gibbons and his colleagues called this knowledge production "Mode 2". They separated this from traditional research, labeled "Mode 1", which is academic, researcher-initiated, and discipline-based knowledge production. Currently, scientists Carayannis & Campbell (2009) distinguish "Mode 3" as well, which involves the joint development of diverse knowledge and innovative ways at the individual, structural and organizational and systemic levels.

Among foreign scientists on academic entrepreneurship, we can single out the works of M. Wright, M.S. Wood, R. O'Shea, G. Secondo. An important role of academia in producing of new knowledge is discussed in the works of G.W. Matkin (1990), Mowery, D.C., & Shane, S. (2002), D. Siegel (2004). In Kazakhstan, the issues of innovative development and the participation of universities in the processes of knowledge commercialization are discussed in the works of F. Dnishev (2001), O. Sabden (2007), M. Kenzheguzin *et al.* (2005), and others.

The lack of a systematic approach to the issues of commercialization, the transfer of scientific developments into production can lead to unproductive labor and budget costs, reduce the effectiveness of the country's innovative development. Thus, the need to create favorable conditions for all participants in the innovation process and the development of an effective mechanism for the introduction of university developments determine the relevance of conducting research in this area.

Methods

During the study, methods of system analysis, comparative analysis, grouping method, content analysis were used. The methodology of the Triple Helix theory, developed by Western scientists at the beginning of the 21st century, was used, the essence of which is the need for innovative interaction between the three driving forces of the modern economy - the university community, industrial enterprises and public authorities.

Results

Academic entrepreneurship is a relatively new concept in economic theory. In modern research, "Academic entrepreneurship" means "university spin-off" or institutional transfer of research, development, or technology to initiate innovation or venture. Wherein university spin-offs are defined as new ventures that are dependent upon licensing or assignment of an institution's IP for starting their activity (Wright, 2007).

The concept of academic entrepreneurship includes part of the functions of a university teacher and an entrepreneur who promotes his ideas to the market. At the same time, the academic entrepreneur retains his/her connection with the university and is included in the socio-economic infrastructure of the region (Figure 1).

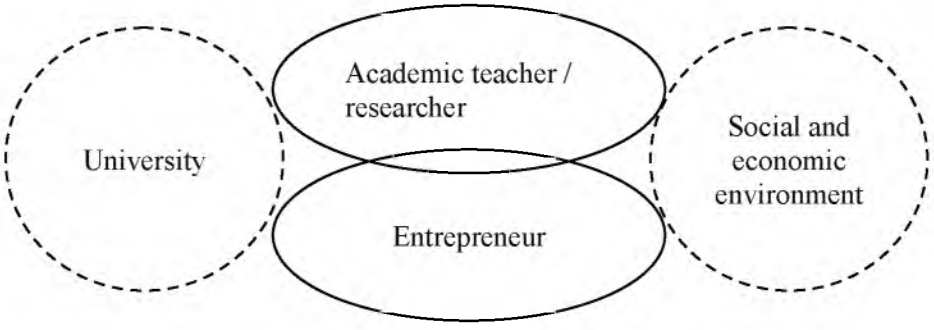

Figure 1. Theoretical model of academic entrepreneurship

Note – Compiled by the authors based on Barth & Schlegelmilch, 2013

Beckman and Cherwitz (2009) define academic entrepreneurship as some kind of "intellectual enterprise", which is created by university in cooperation with local businesses to create new products or ideas.

The term "academic entrepreneurship" is correlated with the university employees and students. An academic entrepreneur is a university scientist, most often a professor, a post-doc researcher, or PhD student who sets up a business company to commercialize the results of the research (Barcik et al., 2017). Academic entrepreneurship as a process includes the efforts and activities that universities and their industry partners undertake in hopes of commercializing the outcomes of faculty research (Wood, 2011).

Academic entrepreneur may be defined as a person who has academic knowledge for conducting research in his/her area, is involved in an academic environment at university and creates income through self-entrepreneur activity (Barth & Schlegelmilch, 2013).

An academic entrepreneur is a university employee who develops his/her own scientific direction, conducts classes and promotes his/her ideas and developments to the market. The interaction of the skills of an academic entrepreneur (education, research abilities, entrepreneurial thinking) allow him/her to increase an income and realize an innovative potential. Thus, the academic entrepreneur acts as an intermediary between the academic environment (research) and the business sector (innovation) (Bartels & Bencherki, 2020).

The most common form of implementation of academic entrepreneurship is a spin-off or startup. At the same time, already created innovative ideas, as well as those in the process of creation, are implemented through these structures. In advanced economies, these forms of commercialization have proven effective and have been widely used over the past 30 years. Startups and spin-offs connect academia and industry to meet society's demands for innovative products and services (Evers et al., 2020).

In a market economy, spin-off activity depends on the demands of private companies and society for new products and services. The commercialization of knowledge in the form of spin-off provides some potential benefits for the regional ecosystem (Benneworth & Charles, 2005), namely:

1. Spin-offs attract employers, paying good wages and promoting entrepreneurship (Etzkowitz, 2001).
2. Spin-offs create new networks to access project financing.
3. Spin-offs help universities with their third mission and make strong linkages with "parent" institution.
4. Spin-offs' activity can impact on the development of regional ecosystem;
5. Spin-offs stimulate creation of an infrastructure that is useful for other new companies in the region.

A study of academic entrepreneurship conditions in the United States (Link et al., 2015) found that the largest number of spin-offs was formed by university professors, as well as academics and divisional directors. The formation of this type of entrepreneurship is associated with a change in innovative models and the role of knowledge in society. Figure 2 shows changes in the production of innovations, the application of knowledge, which have led to an increase in demand for new products and innovations.

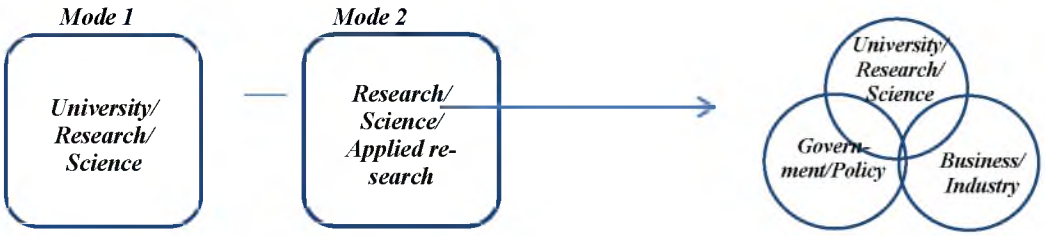

Figure 2. The dynamics of innovation and knowledge

Note – Compiled by the authors based on Etzkowitz & Leydesdorff, 2000

Modern government and enterprise strategies foster direct collaboration with universities, mostly in the form of the creation of university spin-offs. In this regard, universities are establishing links with the business sector to develop new types of cooperation. At the same time, the functions of the teaching staff are expanding due to new opportunities for implementing research results. Mode 1 was characterized by theoretical studies. The dissemination of new knowledge went through academic channels through publication in journals and participation in conferences.

Another model (Mode 2) is focused on practical application of research results. There is an increasing demand for knowledge from society to improve its well-being (Sitenko, 2018). Research organizations are motivated to cooperate with enterprises in the region. The introduction of research results into industry pro-

vides scientific organizations with additional funding for further research. Enterprises, in turn, can carry out an order for certain types of research, thus quickly increasing the competitiveness of their products.

Mode 2 gave a new basis for the relations between main agents of innovation process – the Triple Helix concept by G. Etzkowitz with L. Leydesdorf (1997). According to the concept, successful innovation development is based on the links between important participants: university, business, and government. University is involved in the development of innovation, organizes the cooperation with industry, business, largely by taking the functions of their research units. Classical university turns into an entrepreneurial (innovation) university, developing the business principles in students and academic staff with focus on final implementation of generated inventions and ideas (Sitenko, 2019).

Useful insights can be found in the further developments of the Triple Helix concept, which were named as Quadruple and Quintuple Helix (Carayannis & Campbell, 2009). They add civil society and environment respectively, forming new understanding of university as "organization capable of higher order learning" as well as knowledge as "highly complex and non-linear" (Mode 3) (Carayannis et al., 2018). Table 1 summarizes the key differences between Mode 1 and Mode 2.

Table 1. Key differences between innovation models Mode 1 and Mode 2

Mode 1	Mode 2
Industrial economy	Knowledge economy
Academic context of knowledge	Context of application
Producing of knowledge within one discipline	Transdisciplinary approach
Research objectives are formed by the academic sector	Objectives are formed by multiple stakeholders
Constant structure of institutions	Flexible system based on teams and networks
Low level of engagement of knowledge producers	Knowledge producers are engaged at every stage of the process
Dissemination through publication and academic channels	Dissemination through practitioners and professional bodies
Note – Compiled by the authors based on Limoges et al., 1994	

Mode 2 includes a larger number of agents whose collaborate temporary with each other. In this situation there are no pure "science" of university and "technology" of industry (Jimenez, 2008). The production of knowledge became more a "socially distributed" process.

New Mode 3 has main characteristics of Mode 2, but it closely linked to current societal needs. According to the Carayannis & Campbell (2009), Mode 3 is some kind of innovation ecosystem which combines people, culture and technology. In this ecosystem people may do creativity and inventions within top-down (when policy provides framework) as well as bottom-up (entrepreneurs' networks) linkages. Mode 3 pays more attention not on agents of innovation system but on the networks that may connect them on different levels.

Developing of academic entrepreneurship concept

Indeed the development of academic entrepreneurship concept is largely associated with the Triple helix theory evolution. The Triple helix theory was further developed by Carayannis & Campbell (2009, 2010) with their extended concepts Quadruple Helix and Quintuple Helix, respectively.

Civil society or media is the core of the Quadruple Helix, as determines the focus of the entire system on creating innovations for users, i.e. for society. It is the driving force behind the innovation process, which determines its trajectory, depth and provides efficiency. The task of the media is to support the dissemination of knowledge that is interdisciplinary in nature.

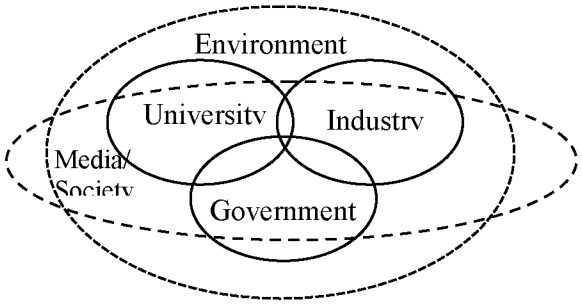

Figure 2. Quintuple Helix model

Note – Compiled by the authors based on Carayannis & Campbell (2009, 2010)

In the Quintuple Helix model, changes are associated not only with the emergence of a new spiral but also with a qualitative transformation of relationships. If the Triple Helix reflects the construction of a knowledge economy, then in the Quadruple Helix there is a transition to building a knowledge society and a knowledge democracy, which continues within the framework of the fifth model. The term "democracy knowledge" refers us to the concept of "democracy", based on political pluralism, heterogeneity, and freedom of opinion. Democracy knowledge implies heterogeneity and diversity of knowledge and innovative models and paradigms (Carayannis & Campbell, 2010). Five innovation spiral accumulates environmental and social development issues.

The Quintuple Helix model shows that in the 21st century knowledge creation is not limited to one discipline or industry. The production of knowledge should be both "transdisciplinary" and "interdisciplinary". This is especially important in research aimed at protecting the environment. In this model, the requirements for the qualification of personnel in high-tech and innovative industries are increasing. At the same time, an academic entrepreneur must have even wider knowledge in related fields to competently regulate and direct the process of introducing new knowledge.

The introduction of new innovative models requires equal involvement from all participants in the process, with the central role of the academic entrepreneur. It is the Five Helix model that creates the conditions under which academic entrepreneurs are considered as important elements in the process of technology transfer from university to industry.

In practice, universities that adopted technology transfer strategies receive different outcomes that are sometimes disappointing because university innovation infrastructure functioned as a facilitator for existing entrepreneurial activity, not as a trigger for it (Fisher et al., 2019). This demands a further research of the academic entrepreneurship concept. From the one side, more stakeholders have become involved in academic entrepreneurship (Siegel & Wright, 2015). From the other side, the process of commercialization of academic knowledge may differ because of level of economic development of the country. Siegel and Wright (2015) provide a new context for the concept with traditional and emerging point of view (Table 2).

Table 2. Comparison of traditional and emerging perspectives on academic entrepreneurship

	Traditional perspective	Emerging perspective
Purpose	To receive direct income from research application	To solve important social and economic tasks of the region (public health, ecology)
Forms	University spin-offs; licensing; patents	Participation of students and alumni in creating start-ups on the base of university infrastructure
Participants	Academic staff	Students, alumni of different faculties and their collaborations; surrogate entrepreneurs
Support mechanisms	R&D transfer through technology transfer offices (TTOs) and technoparks	Accelerators; Entrepreneurship garages; industry-alumni networks; employee mobility; business incubators
Role of academia	Entrepreneurial university	Engaged university
Note – Compiled by the authors based on Siegel & Wright, 2015		

Traditional views on the academic entrepreneurship focused on such metrics as the presence of TTOs at university, number of patents and licensees and promoting university start-ups/spin-offs. Some studies have shown that not all TTOs are effective and their organization requires an individual approach (Siegel & Wright, 2015). Emerging perspective shows that universities may impact socioeconomic environment in many other ways by creating new infrastructure and on-campus support mechanisms which should be studied.

There is rising interest in academic entrepreneurship in developing countries (Gamata & Urban, 2020), but the empirical evidence (Fisher et al., 2019) reveals that countries concentrate more on the identification and protection of IP then on creating start-ups. Low levels of academic entrepreneurship at universities are explained by a weak set of institutional and organisational factors which inhibit the commercialisation and technology innovation process (Boshoff et al., 2018; Chantson & Urban, 2018).

Conclusions

The term "Academic entrepreneurship" appeared last decades and means "university spin-off" or institutional transfer of research, development, or technology to initiate innovation or venture. Academic entrepreneurship arises from the interaction of the university and the local business environment and is aimed at creating a new idea or product.

The development of the concept of academic entrepreneurship is based on the evolution of innovative development approaches, known as the Triple Helix. The Quadruple and Quintuple Helix include new subsystems such as society and the environment. The Quintuple Helix implements a "transdisciplinary" and "interdisciplinary" approach to knowledge and innovation. Within this approach, the links between the elements of the spiral are realized, making it possible to commercialize knowledge through academic entrepreneurship.

In the Quintuple Helix model, the relationships between the elements change qualitatively. Knowledge created within one spiral becomes the source for new knowledge, which is produced by the next spiral. The production of knowledge is "transdisciplinary" and "interdisciplinary" in nature, which contributes to the deep development of academic entrepreneurship, which by its very nature requires knowledge from many fields.

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References

Barcik, A., Dziwiński, P., & Jakubiec, M. (2017). The potential of academic entrepreneurship in universities of Visegrad Group Countries. *Zeszyty Naukowe Politechniki Częstochowskiej Zarzadzanie*, 27, 18–35.

Barth, T.D., & Schlegelmilch, W. (2013). Academic entrepreneur, academic entrepreneurship. *Encyclopedia of creativity, invention, innovation and entrepreneurship*, 1–8.

Bartels, G., & Bencherki, N. (2020). Actor-network-theory and creativity research. Encyclopedia of creativity, invention, innovation and entrepreneurship, 29–36.

Beckman, G.D., & Cherwitz, R.A. (2009). Intellectual Entrepreneurship: An Authentic Foundation for Higher Education Reform1. *Planning for higher education*, 37(4), 27.

Benneworth, P., & Charles, D. (2005). University spin-off policies and economic development in less successful regions: Learning from two decades of policy practice. *European Planning Studies*, 13(4), 537–557.

Carayannis, E.G., & Campbell, D.F. (2009). 'Mode 3'and'Quadruple Helix': toward a 21st century fractal innovation ecosystem. International journal of technology management, 46(3–4), 201–234.

Carayannis, E.G., & Campbell, D.F. (2010). Triple Helix, Quadruple Helix and Quintuple Helix and how do knowledge, innovation and the environment relate to each other? *International Journal of Social Ecology and Sustainable Development (IJSESD)*, 1(1), 41–69.

Carayannis, E.G. *et al* (2018). The ecosystem as helix: an exploratory theory-building study of regional co-competitive entrepreneurial ecosystems as Quadruple/Quintuple Helix Innovation Models. *R&d Management*, 48(1), p.148–162.

Evers, N., Cunningham, J., & Hoholm, T. (2020). Technology entrepreneurship: bringing innovation to the marketplace. Bloomsbury Publishing.

Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: from National Systems and «Mode 2» to a Triple Helix of university–industry–government relations. *Research policy*, 29(2), 109–123.

Fischer, B.B., de Moraes, G.H.S. M., & Schaeffer, P.R. (2019). Universities' institutional settings and academic entrepreneurship: Notes from a developing country. *Technological Forecasting and Social Change*, 147, 243–252.

Gamata, S., & Urban, B. (2020). Academic entrepreneurship and organisational support factors. *South African Journal of Higher Education*, 34(1), 249–266.

Limoges, C., Scott, P., Schwartzman, S., Nowotny, H., & Gibbons, M. (1994). The new production of knowledge: The dynamics of science and research in contemporary societies. *The New Production of Knowledge*, 1–192.

Jiménez, J. (2008). Research socially responsible: may we speak of a mode 3 knowledge production. *Electronic Journal of Communication Information and Innovation in Health*, 2(1), 48–56.

Link, A.N., Siegel, D.S., & Wright, M. (Eds.). (2015). The Chicago handbook of university technology transfer and academic entrepreneurship. University of Chicago Press.

Nowotny, H., Scott, P., & Gibbons, M. (2003). Introduction:'Mode 2'revisited: The new production of knowledge. *Minerva*, 41(3), p.179–194.

Siegel, D.S., & Wright, M. (2015). Academic entrepreneurship: time for a rethink?. *British journal of management,* 26(4), 582–595.

Sitenko D.A. (2019). Regionally engaged universities: institutional and disciplinary context: monograph. Karaganda, 112p.

Sitenko, D. (2018). Integration of national innovation systems of EAEU countries: problems and perspectives. 10th International Scientific Conference on New Challenges of Economic and Business Development — Productivity and Economic Growth, Latvia, 639–650

Wood, M. S. (2011). A process model of academic entrepreneurship. *Business Horizons*, 54(2), 153–161.

Wright, M. (2007). Academic entrepreneurship in Europe. Edward Elgar Publishing.

Razinkina, I.V. (2022). Razvitie spirali innovatsii: sravnitelnyi analiz innovatsionnykh modelei Troinoi, Chetvernoi i Piaternoi spiralei [*Development of the Innovation Spiral: A Comparative Analysis of Triple, Quadruple and Five Spiral Innovation Models]. Ekonomicheskie nauki [Economic Sciences]*, 1 (206), 131–137 [in Russian].

Д.АСитенко, М. Холиенка

Үштік спираль теориясы аясындағы академиялық кәсіпкерліктің тұжырымдамалық моделі

Аңдатпа

Мақсаты: Аймақтық инновациялық жүйе контексінде үштік спираль және оның туындылары тұжырымдамасы шеңберінде академиялық кәсіпкерлік моделін әзірлеу.

Әдістер: Зерттеу барысында жүйелік талдау, салыстырмалы талдау, топтастыру, мазмұнды талдау әдістері қолданылды.

Қорытынды: Мақалада инновациялық процеске негізгі тәсілдер шеңберінде академиялық кәсіпкерліктің анықтамасы берілген. Академиялық кәсіпкерліктің дамуы білім экономикасындағы элементтердің өзара әрекеттесуі бойынша үштік спириль тұжырымдамасының эволюциясымен тығыз байланысты екендігі көрсетілген. Сонымен қатар үштік спираль тұжырымдамасының ерекшеліктері және оның туындылары қарастырылған. Үштік спираль аясында инновациялық жүйеде білімді жинақтау мен берудегі университеттердің шешуші рөлі алғаш рет негізделген. Мақалада бесінші спиральда білім академиялық кәсіпкерлікті дамытуға негіз болатын пәнаралық және трансаралық сипатқа ие болатындығы көрсетілген. Академиялық кәсіпкерліктің дәстүрлі және жаңа көзқарастарын, оның перспективалық бағыттарын салыстыру келтірілген.

Тұжырымдама: Негізінен ғылыми-зерттеу және тәжірибелік-конструкторлық жұмыстарды іскерлік-ортада институционалдық трансферттікке ие академиялық кәсіпкерлік тұжырымдамасы бүгінде ғылыми-көпшілік бағыт болып табылады. Академиялық кәсіпкерлік қоғамның әл-ауқатын арттыруға бағытталған және ғылыми әзірлемелердің коммерциялық әлеуетін жүзеге асыруға мүмкіндік береді. Академиялық кәсіпкерлік механизмін дамыту дамушы экономиканың ерекшеліктерін ескере отырып, инновациялық дамудың қазіргі тұжырымдамаларын талдауды талап етеді. Мақалада қарастырылған академиялық кәсіпкерлікті дамытудың перспективалық көзқарасы университет студенттерін коммерцияландыру процесіне, студенттік стартаптарға белсенді қатысуды, академиялық орта мен өндіріс арасындағы желіні дамытуды болжайды.

Кілт сөздер: академиялық кәсіпкерлік, университет, коммерцияландыру, Triple Helix, инновация.

Д.А. Ситенко, М. Холиенка

Концептуальная модель академического предпринимательства в рамках теории Тройной спирали

Аннотация:

Цель: Разработка модели академического предпринимательства в рамках концепции Тройной спирали и ее производных в условиях региональной инновационной системы.

Методы: В ходе исследования использовались методы системного анализа, сравнительного анализа, метод группировок, контент-анализ.

Результаты: В статье дано определение академического предпринимательства в рамках основных подходов к инновационному процессу. Показано, что развитие академического предпринимательства неразрывно связано с эволюцией концепции Тройной спирали по взаимодействию элементов в экономике знаний. Авторами рассмотрены особенности концепции Тройной спирали и ее производных. В рамках Тройной спирали впервые обоснована ключевая роль университетов в накоплении и передаче знаний в инновационной системе. В статье показано, что в Пятерной спирали знание приобретает междисциплинарный и трансдисциплинарный характер, что становится основой для развития академического предпринимательства. Кроме того, приведено сравнение традиционных и новых взглядов на академическое предпринимательство, его перспективные направления.

Выводы: Концепция академического предпринимательства, которая в своей основе представляет собой институциональный трансфер исследований и разработок в предпринимательскую среду, сегодня является востребованным научным направлением. Академическое предпринимательство направлено на повышение благосостояния общества и позволяет реализовать коммерческий потенциал научных разработок. Развитие механизма академического предпринимательства требует анализа текущих концепций инновационного развития с уче-

том особенностей развивающейся экономики. Рассмотренный в статье перспективный взгляд на развитие академического предпринимательства предполагает активное вовлечение в процесс коммерциализации студентов университетов, студенческих стартапов, развития нетворкинга между академической средой и индустрией.

Ключевые слова: академическое предпринимательство, университет, коммерциализация, Тройная спираль, инновации.

References

Barcik, A., Dziwiński, P., & Jakubiec, M. (2017). The potential of academic entrepreneurship in universities of Visegrad Group Countries. *Zeszyty Naukowe Politechniki Częstochowskiej Zarzadzanie*, 27, 18–35.

Barth, T. D., & Schlegelmilch, W. (2013). Academic entrepreneur, academic entrepreneurship. *Encyclopedia of creativity, invention, innovation and entrepreneurship*, 1–8.

Bartels, G., & Bencherki, N. (2020). Actor-network-theory and creativity research. Encyclopedia of creativity, invention, innovation and entrepreneurship, 29–36.

Beckman, G. D., & Cherwitz, R. A. (2009). Intellectual Entrepreneurship: An Authentic Foundation for Higher Education Reform1. Planning for higher education, 37(4), 27.

Benneworth, P., & Charles, D. (2005). University spin-off policies and economic development in less successful regions: Learning from two decades of policy practice. European Planning Studies, 13(4), 537–557.

Carayannis, E. G., & Campbell, D. F. (2009). 'Mode 3'and'Quadruple Helix': toward a 21st century fractal innovation ecosystem. International journal of technology management, 46(3–4), 201–234.

Carayannis, E. G., & Campbell, D. F. (2010). Triple Helix, Quadruple Helix and Quintuple Helix and how do knowledge, innovation and the environment relate to each other? International Journal of Social Ecology and Sustainable Development (IJSESD), 1(1), 41–69.

Carayannis, E. G. *et al* (2018). The ecosystem as helix: an exploratory theory-building study of regional co-competitive entrepreneurial ecosystems as Quadruple/Quintuple Helix Innovation Models. R&d Management, 48(1), p.148–162.

Evers, N., Cunningham, J., & Hoholm, T. (2020). Technology entrepreneurship: bringing innovation to the marketplace. Bloomsbury Publishing.

Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: from National Systems and «Mode 2» to a Triple Helix of university–industry–government relations. Research policy, 29(2), 109–123.

Fischer, B. B., de Moraes, G. H. S. M., & Schaeffer, P. R. (2019). Universities' institutional settings and academic entrepreneurship: Notes from a developing country. Technological Forecasting and Social Change, 147, 243–252.

Gamata, S., & Urban, B. (2020). Academic entrepreneurship and organisational support factors. South African Journal of Higher Education, 34(1), 249–266.

Limoges, C., Scott, P., Schwartzman, S., Nowotny, H., & Gibbons, M. (1994). The new production of knowledge: The dynamics of science and research in contemporary societies. The New Production of Knowledge, 1–192.

Jiménez, J. (2008). Research socially responsible: may we speak of a mode 3 knowledge production. *Electronic Journal of Communication Information and Innovation in Health*, 2(1), 48–56.

Link, A. N., Siegel, D. S., & Wright, M. (Eds.). (2015). The Chicago handbook of university technology transfer and academic entrepreneurship. University of Chicago Press.

Nowotny, H., Scott, P., & Gibbons, M. (2003). Introduction:'Mode 2'revisited: The new production of knowledge. «Minerva» 2003, 41(3), p.179–194.

Siegel, D. S., & Wright, M. (2015). Academic entrepreneurship: time for a rethink?. *British journal of management,* 26(4), 582–595.

Sitenko D.A. (2019). Regionally engaged universities: institutional and disciplinary context: monograph. Karaganda, 112p.

Sitenko, D. (2018). Integration of national innovation systems of EAEU countries: problems and perspectives. 10th International Scientific Conference on New Challenges of Economic and Business Development — Productivity and Economic Growth, Latvia, 639–650

Wood, M. S. (2011). A process model of academic entrepreneurship. Business Horizons, 54(2), 153–161.

Wright, M. (2007). Academic entrepreneurship in Europe. Edward Elgar Publishing.

Разинкина И.В. Развитие спирали инноваций: сравнительный анализ инновационных моделей Тройной, Четверной и Пятерной спиралей / И.В. Разинкина // Экономические науки. — 2022. — № 1 (206). — С. 131–137.

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Analysis and evaluation of keyindicators of audit activities of the Accounts Committee for Control over the Execution of the Republican Budget of the Republic of Kazakhstan

Abstract

Object: To analyze and evaluate key indicators of audit activities of the Accounts Committee for Control over Execution of the Republican Budget of the Republic of Kazakhstan.

Methods: Statistical methods of analysis and correlation and regression method.

Results: By examining key indicators of audit activities of the Accounts Committee for Control over Execution of the Republican Budget of the Republic of Kazakhstan, we revealed the dependence of the number of established violations of the law on the amount of funds covered by the state audit, on the number of objects covered by the state audit, and the number of audit and expert-analytical activities. Authors put forward hypotheses on the presence and direction of the relationship between indicators: Number of Established Violations of the Law, Amount of Funds Covered by the State Audit, Number of Objects Covered by the State Audit and Number of Audit and Expert-Analytical Activities. Correlation and regression analysis was carried out to prove or refute these hypotheses. This analysis confirmed one of the three hypotheses: negative relationship between the number of violations of the law and the number of audit and expert-analytical activities.

Conclusions: Key indicators of audit activities of the Accounts Committee for Control over Execution of the Republican Budget of the Republic of Kazakhstan studied on the basis of confirmed hypothesis showed that analysis, evaluation and verification of the effectiveness of management and use of budgetary funds, state assets, and objects of state audit are carried out successfully. This conclusion confirms the purpose of the state audit, which consists in making recommendations to eliminate detected shortcomings. As a result of the state audit, conclusion reflects the shortcomings found and the advice on their correction. Concurrently, effective recommendations are presented based on the identified shortcomings and proposals for risk management.

Keywords: state audit, Accounting Committee for Control over Execution of the Republican Budget of the Republic of Kazakhstan, audit activities, expert-analytical activities, violations of the law, amount of funds covered by the state audit.

Introduction

Conditions of the national economy's functioning and the main results of its current activities actualize the issues of current trends and problems on the way to improving the effectiveness of state audit. One of the sources of economic growth for the state is the effective management of resources, which allows state audit.

State audit is an activity for carrying out independent assessment of the effectiveness of the audited objects that covers not only financial issues but all areas of their activities and presents effective recommendations based on identified deficiencies and proposals for risk management.

One of the tasks of the state audit is to identify inconsistencies. This, in turn, allows identification of reserves and potential for the use of resources and a more effective management of public funds.

Relevance of the topic under study lies in the fact that a significant number of detected violations is due to inefficient planning and use of budget funds and state assets.

Along with this, the supreme audit body of Kazakhstan, the Accounts Committee, needs to promote the activities of the Government as the most effective manager of national resources that is accountable to society and the Head of State.

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The main task of the supreme audit body of Kazakhstan is the implementation of audit and expert-analytical activities important in the socio-economic development of the country that allow identification of violations of the law.

Accordingly, we need to consider the dependence of one of the main Accounts Committee activity indicators, the number of established violations of the law.

The main objectives of the study are as follows: to identify the dependence of the number of established violations of the law on the amount of funds covered by the state audit, the number of objects covered by the state audit, and the number of audit and expert-analytical activities.

Authors put forward the following hypotheses: the greater the amount of funds covered by the state audit, the greater the number of violations of the law; the greater the number of objects covered by the state audit, the greater the number of violations of the law; the greater the number of audit and expert-analytical activities, the fewer the number of violations of the law.

Literature review

Mihret D.G. & Yismaw A.W. argue that the effectiveness of the audit is a result of the interplay among four factors: internal audit quality; management support; organizational setting; and attributes of the auditee. High effectiveness of the audit requires management support, provision of resources, and implementation of internal audit recommendations. In addition, an organizational environment, an internal organization, policies and procedures applicable to each audit object are needed. Authors believe that these factors should lead to useful audit results. They also focus on whether management's interest in recommendations of audit services will help improve the quality of the audit (Mihret & Yismaw, 2007).

Klimanov V.V., Kazakova S.M., Mikhailova A.A., Yagovkina V.A. discovered that a number of countries, such as Greece, the USA, Russia, China, etc. focus on auditing national programs and implementing recommendations, as well as on the perspective aspect of the advisory function as one of the main directions as part of improving public administration. Based on execution of the recommendations sent, the implementation of many projects was accelerated and the administration and delegation of authority in a large number of institutions were optimized. Proposals are being put forward to minimize risks, improve systems and deepen reforms, while almost all proposals are being executed. The processes of planning and drawing up an audit program within the framework are based on determining the risk index using various criteria for analysis, prioritization and selection of subjects and objects for control. Audits included in the annual audit work program are considered strategic, since they are carried out using the risk analysis methodology (Klimanov et al., 2020).

Dittenhofer M. proposes performance indicators to determine aspects of economic efficiency and immediate improvement of the internal audit process. The first time-tested indicators of the internal audit results should be replaced by the internal audit effectiveness indicators (Dittenhofer, 2001).

The results of research show that more effective audit committees and well-resourced internal audit units are usually positively associated with the assessment of internal auditors of their contribution to external audit (Zain, Subramaniam, & Stewart, 2006).

Abdullah R., Ismail Z., & Smith M. link the quality of internal audit with the number and nature of recommendations made by auditors to improve various aspects of corporate governance. The results show that the high efficiency of the audit is associated with a large number of recommendations for improving aspects of corporate governance. The results also indicate that specific checks by audit committees affect the quality of the audit or its overall effectiveness, and the quality of various stages of internal audit, especially audit planning (Abdullah, Ismail, & Smith, 2018).

Methods

This study involved using the following methods: deconstruction, axiomatic, apperception, statistical observation, summary and grouping of statistical observation materials, absolute and relative statistical quantities, variation series; sampling, correlation and regression analysis, dynamics series.

Results

The analysis, assessment and verification of the effective and legitimate management of national (financial, natural, industrial, personnel, information) resources to ensure a dynamic growth in the quality of life and the national security of the country are the tasks of the Accounts Committee.

The Accounts Committee systematically analyzes the results of the state audit and financial control, summarizes and examines the causes and consequences of the identified violations and deficiencies in the budget execution process, the use of state assets and quasi-public sector entities.

Violations are acts that contradict the legislation of the Republic of Kazakhstan and the acts of state audit adopted for their implementation.

There are two types of violations of the law in the state audit: financial violations and violations of a procedural nature.

State audit is conducted based on the Accounting Committee's list of objects of the state audit for the corresponding year.

An audit event is a set of actions for preparing, conducting, and executing audit reports and opinions based on the state audit results.

The objects of state audit and financial control are state bodies, state institutions, quasi-public sector entities, as well as recipients of budget funds.

Expert-analytical activity is a form of implementation of expert-analytical activities of external state audit and financial control bodies for analyzing and evaluating the effectiveness of budget planning and execution, management and use of budget funds, state assets (except for assets of the National Fund of the Republic of Kazakhstan and the National Bank of the Republic of Kazakhstan) and quasi-public sector entities, implementation of documents State planning systems in the Republic of Kazakhstan, as well as studies of their impact on the development of the economy (or a separate branch of the economy), the social sphere, based on a risk management system.

Expert-analytical activity is executed by the bodies of external state audit and financial control without entering the object of the expert-analytical activity by notifying them no later than two working days before the start of the activity.

An expert-analytical activity is held in two variants:

– As an independent activity (based on the results of an expert opinion) or

– As part of the performance audit (its results are reflected in the analytical part of the audit report and/or the audit report).

The purpose of the expert-analytical activity is to form a reliable and objective assessment of the current situation on the subject and to determine the following:

– The main influencing factors,

– Goals, motives, reasons for making certain decisions on the subject of an expert-analytical activity,

– Further development of the situation, all other things being equal, or modeling the situation under the influence of external and/or internal factors, and

– Systemic conclusions and recommendations.

Determination of the main influencing factors, goals, motives, reasons for making certain decisions on the subject of an expert-analytical activity should provide an opportunity to form a holistic picture of its development and a system of cause-and-effect relationships that affected its indicators characterizing the dynamics of changes in the subject of an expert-analytical activity.

With sufficient data, on the basis of the constructed integral system of cause-and-effect relationships a forecast of the further development of the situation on the subject of the expert-analytical activity is built, appropriate system conclusions and recommendations are suggested.

The expert-analytical activity consists of the following main stages:

– Planning,

– Collection, systematization and study of data on the subject,

– Analysis using available economic methods, and

– Formation of an expert opinion reflecting systemic conclusions and recommendations.

The bodies of external state audit and financial control engage in a discussion with the object of the expert-analytical activity its results, the decision on which is advisory.

The results of the expert-analytical activity are used for audit activities; preliminary, current and subsequent assessments.

The key indicators of audit activities of the Accounting Committee for Control over Execution of the Republican Budget of the Republic of Kazakhstan are as follows:

– Total established violations of the law (million tenge),

– Amount of funds covered by the state audit (million tenge),

– Number of objects covered by the state audit (units), and

– Number of audit and expert-analytical activities (units).

Table 1 presents the key indicators of audit activities of the Accounting Committee for the Control of the Execution of the Republican Budget of the Republic of Kazakhstan for the period between 2015 and 2021.

Table 1. Key indicators of the Accounts Committee's audit activities

Years	Total established violations of the law (million tenge)	Amount of funds covered by the state audit (million tenge)	Number of objects covered by the state audit (units)	Number of audit and expert-analytical activities (units)
2015	1,501,200.0	2,871,400.0	303	22
2016	1,057,900.0	3,736,400.0	316	21
2017	911,223.0	8,737,083.9	354	25
2018	429,249.7	5,195,843.8	179	23
2019	1,203,862.8	34,177,491.3	207	20
2020	1,852,710.3	47,278,781.2	117	18
2021	1,723,035.6	32,363,548.8	155	21
Note: Compiled by the authors based on the CIS Internet Portal data http://www.e-cis.info				

The number of established violations of the law from 2015 to 2018 would decrease by an average of 30% annually. 2019 saw a sharp jump in this indicator (almost trifold). For 2021, this indicator is almost equal to the value of 2015. The indicator reached its minimum of 429,249.7 million tenge in 2018 and its maximum of 1,852,710.3 million tenge in 2020.

By 2021, the volume of funds covered by the state audit increased eleven times compared to 2015 (from 2,871,400.0 million tenge to 32,363,548.8 million tenge). The indicator showed its maximum of 47,278,781,2 million tenge in 2020. Basically, this indicator tends to grow.

The number of objects covered by the state audit has decreased by almost double between 2015 and 2021.

The number of established violations of the law per object on average for the period under review amounted to 6,577.373 million tenge. The maximum number of violations per object was 15,835.13 million tenge in 2020. The minimum number of violations per object was 2,398,043 million tenge in 2018. Until 2019, there was a gradual decline in the number of violations per object. Since 2019, this indicator has been showing a sharp increase.

Figure 1. The number of established violations of the law per object

The number of audit and expert-analytical activities during the study period would remain almost the same.

Let us consider the relationship between such indicators as the amount of funds covered by the state audit and the number of violations of the law established. Hypothesis: the larger the amount of funds covered by the state audit, the greater the number of violations of the law established.

The coefficient of determination is 44.8%. This means that the calculated parameters of the model explain the dependence between the studied parameters by 44.8%. The higher the coefficient of determination

the better the model. In this vein, the fluidity (variance) of the established violations of the law can be predicted by the amount of funds covered by the state audit by no more than 44.8%. With such a value of the coefficient of determination, the model can be concluded to be not statistically consistent.

The correlation coefficient equal to 0.7 indicates an average positive relationship between the studied indicators: the number of violations of the law and the amount of funds covered by the state audit (Figure 1).

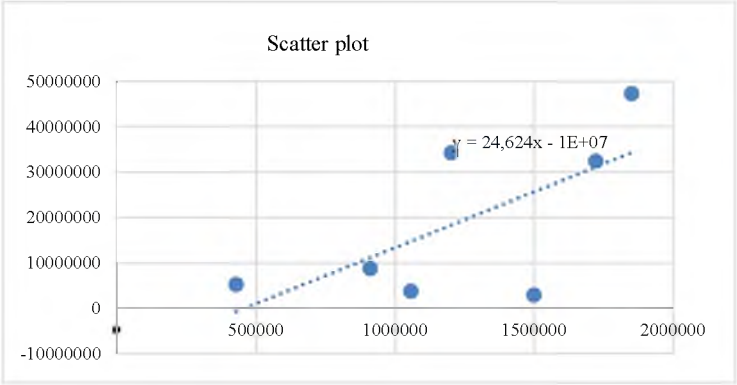

Figure 1. Graphical representation of the correlation between the number of violations of the law and the amount of funds covered by the state audit

Let us consider the relationship between such indicators as the number of objects covered by the state audit and the number of violations of the law established. Hypothesis: the greater the number of objects covered by the state audit, the greater the number of established violations of the law. Table 1 shows the data for the analysis.

The coefficient of determination is 13.8%. This means that the calculated parameters of the model explain the dependence between the studied parameters only by 13.8%. In this vein, the fluidity (variance) of the established violations of the law can be predicted by the number of objects covered by the state audit by no more than 13.8%. With such a value of the coefficient of determination, the model can be concluded to be not statistically consistent.

The correlation coefficient equal to −0.4 indicates a weak negative relationship between the studied indicators: the number of violations of the law and the amount of funds covered by the state audit (Figure 2).

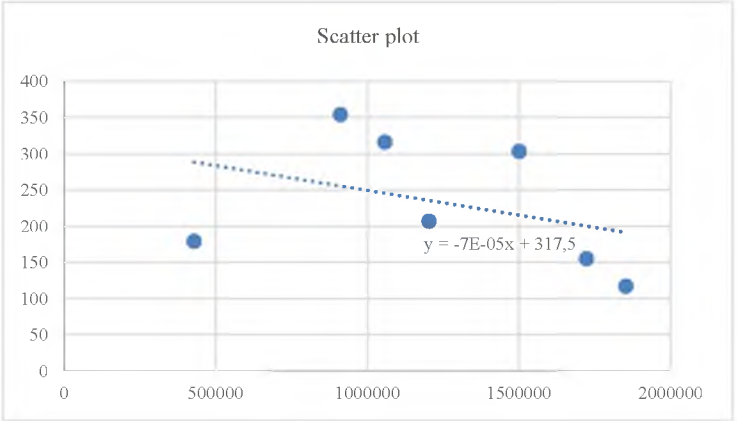

Figure 2. Graphical representation of the correlation between the number of violations of the law and the number of objects covered by the state audit

Let us consider the relationship between such indicators as the number of audit and expert-analytical activities and the number of established violations of the law. Hypothesis: the greater the number of audit and expert-analytical activities, the less the number of violations of the law established. Table 1 shows the data for the analysis.

The coefficient of determination is 50%. This means that the calculated parameters of the model explain the dependence between the studied parameters by 50%. In this vein, the fluidity (variance) of established violations of the law can be predicted by the number of audit and expert-analytical activities by 50%.

The correlation coefficient equal to −0.68 indicates an average negative relationship between the studied indicators: the number of violations of the law and the number of audit and expert-analytical activities (Figure 3).

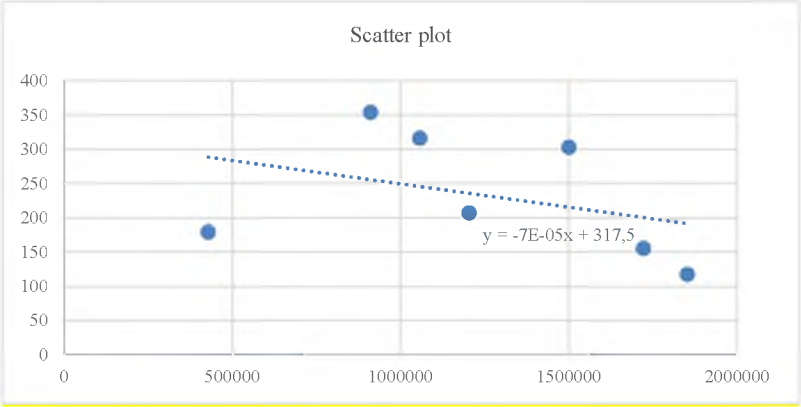

Figure 3. Graphical representation of the correlation between the number of violations of the law and the number of audit and expert-analytical activities

Thus, confirmed one of the three hypotheses put forward by the authors: the greater the number of audit and expert-analytical activities, the less the number of violations of the law established.

Conclusions

The study confirmed that the greater the number of audit and expert-analytical activities carried out by the Accounting Committee, the less the number of violations of the law established.

This conclusion confirms the purpose of the state audit, which consists in making recommendations to eliminate the detected shortcomings and reflects the advice on their correction. The Accounts Committee functions allow the assessment of the effectiveness of the management of budgetary funds and the implementation of state programs.

This hypothesis emphasizes the effectiveness of the state audit in the Republic of Kazakhstan as an activity for the analysis, evaluation and verification of the effectiveness of management and use of budgetary funds, state assets, and objects of state audit.

In general, the state audit for Kazakhstan is seen as a holistic and independent assessment of the effectiveness of the audit objects covering not only financial issues, but all areas of their activities. Accordingly, effective recommendations are presented based on the identified shortcomings and proposals for risk management.

Concurrently, the internal audit carried out by a specific state body has to be a kind of mechanism to ensure the reliability, stability and financial viability of state bodies and organizations.

References

Abdullah, R., Ismail, Z., & Smith, M. (2018). Audit committees' involvement and the effects of quality in the internal audit function on corporate governance. *International Journal of Auditing*, 22 (3).

Dittenhofer, M. (2001). Internal auditing effectiveness: an expansion of present methods. *Managerial Auditing Journal,* 16 (8), 443–450.

Issledovanie voprosov klassifikatsii i ucheta narushenii, vyyavlyaemykh na obektakh gosudarstvennogo audita v usloviyakh perekhoda na gosudarstvennyi audit s vyrabotkoi rekomendatsii. Respublikanskoe gosudarstvennoe predpriyatie «Tsentr po issledovaniyu finansovykh narushenii» Schetnogo komiteta po kontrolyu za ispolneniem respublikanskogo byudzheta» [Study of the issues of classification and accounting of irregularities detected at the objects of state audit in the conditions of transition to state audit with the development of a recommendation. Republican State Enterprise "Centre for Investigation of Financial Irregularities" of the Accounts Committee for Control over Execution of the Republican Budget] (2016). Astana [in Russian].

Klimanov, V.V., Kazakova, S.M., Mihajlova, A.A., & Yagovkina, V.A. (2020). Sravnitelnyi analiz vysshikh organov gosudarstvennogo audita v stranakh mira [Comparative Analysis of Supreme Audit Institutions in the World]. *Rossiiskaya akademiya narodnogo khozyaistva i gosudarstvennoi sluzhby pri prezidente Rossiiskoi Federatsii – Russian Academy of National Economy and Public Administration under the President of the Russian Federation,* Moscow, 69 [in Russian].

Mihret, D.G., & Yismaw, A.W. (2007). Internal audit effectiveness: an Ethiopian public sector case study. *Managerial Auditing Journal,* 22 (5), 470–484.

Ob utverzhdenii Pravil provedeniya vneshnego gosudarstvennogo audita i finansovogo kontrolya. Normativnoe postanovlenie Schetnogo komiteta po kontrolyu za ispolneniem respublikanskogo byudzheta ot 30 iyulya 2020 goda № 6-NK [On approval of the Rules of external public audit and financial control. Regulatory decree of the Accounts Committee for Control over Execution of the Republican Budget of 30 July 2020 N 6-NK] [in Russian].

Ob utverzhdenii protsedurnykh standartov vneshnego gosudarstvennogo audita i finansovogo kontrolya. Normativnoe postanovlenie Schetnogo komiteta po kontrolyu za ispolneniem respublikanskogo byudzheta ot 31 marta 2016 goda № 5-NK [On approval of the procedural standards for external public audit and financial control. Regulatory decree of the Accounts Committee for Control over Execution of the Republican Budget of 31 March 2016 N 5-NK] [in Russian].

O gosudarstvennom audite i finansovom kontrole. Zakon Respubliki Kazakhstan ot 12 noyabrya 2015 goda № 392-V ZRK [On State Audit and Financial Control. Law of the Republic of Kazakhstan of 12 November 2015 N 392-B ZRK] [in Russian].

Polozhenie o Schetnom komiteta po kontrolyu za ispolneniem. Utverzhdeno Ukazom Prezidenta Respubliki Kazakhstan ot 5 avgusta 2002 goda № 917 [Regulations on the Accounts Committee for the Control of Execution. Approved by Presidential Decree N 917 of 5 August 2002] [in Russian].

Zain, M.M., Subramaniam, N., & Stewart, J. (2006). Internal Auditors' Assessment of their Contribution to Financial Statement Audits: The Relation with Audit Committee and Internal Audit Function Characteristics. *International Journal of Auditing,* 10 (1).

Э.Ж. Сыздыкова, А.Н. Ламбекова, Д.И. Сыздыкова, Г.А. Шакенова

Қазақстан Республикасының республикалық бюджеттің атқарылуын бақылау жөніндегі есеп комитетінің аудиторлық іс-шараларының негізгі көрсеткіштерін талдау және бағалау

Аңдатпа

Мақсаты: Қазақстан Республикасы республикалық бюджеттің атқарылуын бақылау жөніндегі есеп комитетінің аудиторлық іс-шараларының түйінді көрсеткіштеріне талдау жүргізу және бағалау.

Әдістері: Мақалада талдаудың статистикалық әдістері, сонымен қатар корреляциялық-регрессиялық әдіс қолданылды.

Нәтижелер: Қазақстан Республикасы республикалық бюджетінің атқарылуын бақылау жөніндегі есеп комитетінің аудиторлық іс-шараларының түйінді көрсеткіштерін зерттей отырып, анықталған заңнама нормаларын бұзушылықтар санының мемлекеттік аудитпен қамтылған қаражат көлеміне, мемлекеттік аудитпен қамтылған объектілер санына және аудиторлық және сараптамалық-талдау іс-шараларының санына тәуелділігі анықталды. Авторлар «заңнама нормаларын бұзудың анықталған саны», «мемлекеттік аудитпен қамтылған қаражат көлемі», «мемлекеттік аудитпен қамтылған объектілер саны» және «аудиторлық және сараптамалық-талдау іс-шараларының саны» көрсеткіштер арасындағы өзара байланыстың болуы және бағыты туралы ғипотезалар ұсынды. Осы ғипотезаларды дәлелдеу немесе жоққа шығару үшін корреляциялық-регрессиялық талдау жүргізілді. Аталған талдау ұсынылған үш ғипотезаның бірін растады: анықталған заңнама нормаларын бұзушылықтар санының және аудиторлық және сараптамалық-талдау іс-шараларының санының өзара теріс байланысы туралы.

Қорытынды: Расталған ғипотеза негізінде Қазақстан Республикасы республикалық бюджетінің атқарылуын бақылау жөніндегі есеп комитетінің аудиторлық іс-шараларының зерттелген түйінді көрсеткіштері бюджет қаражатын, мемлекет активтерін, мемлекеттік аудит объектілерін басқару мен пайдаланудың тиімділігін талдау, бағалау және тексеру жөніндегі қызметтің табысты жүргізіліп жатқанын көрсетті. Бұл қорытынды мемлекеттік аудиттің мақсатын растайды, ол анықталған кемшіліктерді жою бойынша ұсыныстар дайындаудан тұрады. Қорытынды ретінде мемлекеттік аудит нәтижесі табылған кемшіліктерді және оларды түзету жөніндегі кеңесті көрсетеді. Осы ретте анықталған кемшіліктер мен тәуекелдерді басқару жөніндегі ұсыныстар негізінде пәрменді ұсынымдар беріледі.

***Кілт сөздер*:** мемлекеттік аудит, республикалық бюджеттің атқарылуын бақылау жөніндегі есеп комитеті, аудиторлық қызмет, сараптамалық-талдау қызметі, заң талаптарын бұзу, мемлекеттік аудитпен қамтылған қаражат көлемі.

Э.Ж. Сыздыкова, А.Н. Ламбекова, Д.И. Сыздыкова, Г.А. Шакенова

Анализ и оценка ключевых показателей аудиторских мероприятий Счетного комитета по контролю за исполнением республиканского бюджета Республики Казахстан

Аннотация:

Цель: Провести анализ и дать оценку ключевых показателей аудиторских мероприятий Счетного комитета по контролю за исполнением республиканского бюджета Республики Казахстан.

Методы: В работе использованы статистические методы анализа, в том числе корреляционно-регрессионный метод.

Результаты: Исследуя ключевые показатели аудиторских мероприятий Счетного комитета по контролю за исполнением республиканского бюджета Республики Казахстан, была выявлена зависимость количества установленных нарушений норм законодательства от объема средств, охваченных государственным аудитом, количества объектов, охваченных государственным аудитом, и количества аудиторских и экспертно-аналитических мероприятий. Авторами были выдвинуты гипотезы о наличии и направлении взаимосвязи между показателями: «Количество установленных нарушений норм законодательства», «Объем средств, охваченных государственным аудитом», «Количество объектов, охваченных государственным аудитом» и «Количество аудиторских и экспертно-аналитических мероприятий». Для доказательства или опровержения данных гипотез был проведен корреляционно-регрессионный анализ. Данный анализ подтвердил одну из трех представленных гипотез: об отрицательной взаимосвязи количества установленных нарушений норм законодательства и количеством аудиторских и экспертно-аналитических мероприятий.

Выводы: Исследованные ключевые показатели аудиторских мероприятий Счетного комитета по контролю за исполнением республиканского бюджета Республики Казахстан на основе подтвердившейся гипотезы показали, что деятельность по анализу, оценке и проверке эффективности управления и использования бюджетных средств, активов государства, объектов государственного аудита проводится успешно. Данный вывод подтверждает предназначение государственного аудита, которое заключается в составлении рекомендаций по устранению обнаруженных недочетов. Заключение как результат государственного аудита отражает найденные недостатки и советы по их исправлению. При этом на основе выявленных недостатков и предложений по управлению рисками представляются действенные рекомендации.

***Ключевые слова*:** государственный аудит, Счетный комитет по контролю за исполнением республиканского бюджета Республики Казахстан, аудиторские мероприятия, экспертно-аналитические мероприятия, нарушения норм законодательства, объем средств, охваченных государственным аудитом.

References

Mihret D.G. Internal audit effectiveness: an Ethiopian public sector case study / D.G. Mihret, A.W. Yismaw // Managerial Auditing Journal. — 2007. — № 22 (5). — P. 470–484.

Климанов В. Сравнительный анализ высших органов государственного аудита в странах мира / В. Климанов, С. Казакова, А. Михайлова, В. Яговкина // РАНХиГС при Президенте Российской Федерации. — М. — 2020.

Dittenhofer M. Internal auditing effectiveness: an expansion of present methods // Managerial Auditing Journal. — 2001. — № 16 (8). — P. 443–450.

Zain M.M. Internal Auditors' Assessment of their Contribution to Financial Statement Audits: The Relation with Audit Committee and Internal Audit Function Characteristics / M.M. Zain, N. Subramaniam, J. Stewart // International Journal of Auditing. — 2006. — Volume 10, Issue 1.

Abdullah R. Audit committees' involvement and the effects of quality in the internal audit function on corporate governance / R. Abdullah, Z. Ismail, M. Smith // International Journal of Auditing. — 2018. — Volume 22, Issue 3.

Положение о Счетном комитета по контролю за исполнением. Утверждено Указом Президента Республики Казахстан от 5 августа 2002 года № 917.

О государственном аудите и финансовом контроле. Закон Республики Казахстан от 12 ноября 2015 года № 392-V ЗРК.

Исследование вопросов классификации и учета нарушении, выявляемых на объектах государственного аудита в условиях перехода на государственный аудит с выработкой рекомендации. Республиканское государственное предприятие «Центр по исследованию финансовых нарушений» Счетного комитета по контролю за исполнением республиканского бюджета». Астана. — 2016.

Об утверждении Правил проведения внешнего государственного аудита и финансового контроля. Нормативное постановление Счетного комитета по контролю за исполнением республиканского бюджета от 30 июля 2020 года № 6-НК.

Об утверждении процедурных стандартов внешнего государственного аудита и финансового контроля. Нормативное постановление Счетного комитета по контролю за исполнением республиканского бюджета от 31 марта 2016 года № 5-НК.

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[4]Scopus ID: 56015187200, [5]Scopus ID: 57216705578

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Impact of coronavirus crisis on the economy of the Republic of Kazakhstan

Abstract

Object: The crisis and the lockdown that led to a sharp reduction in businesses in various industries, sales markets, interruptions in supply chains, restrictions on the free movement of citizens. The demand for oil has decreased and world prices for it have collapsed. All these unfavorable macroeconomic factors indicate that the country is facing a crisis and a long period of recovery of various industries. In this regard, a study of the current state of the economy of the Republic of Kazakhstan during the quarantine period in connection with the COVID-19 pandemic was conducted.

Methods: General scientific methods, in particular, the method of content analysis, the method of analysis, the method of generalization, the method of graphical interpretation.

Results: The results of the study show that in the short term it may be more expedient for the country's economy to give priority to the domestic economy than to the external one. In addition, from the point of view of medium- and long-term plans, it is important that Kazakhstan draws lessons from international experiences to take action on the economic recovery plan.

Conclusions: The development of proposals and recommendations for medium and small businesses to overcome the economic crisis. A number of methodological, theoretical and practical issues related to the improvement of the operational and financial activities of enterprises during the quarantine period and the way out of the pandemic are considered.

Keywords: coronavirus, economy, budget, recovery, pandemic, economic growth, economic policy, COVID-19.

Introduction

Considering the consequences of coronavirus, it is necessary to note the key points: the epidemic itself is not as dangerous as the consequences of fighting it, primarily for economic development. Following the impact on the economy are two other, less obvious, but more profound aspects – the consequences for China's emergency response system and, more broadly, the country's governance, as well as the impact on China's international positioning.

The COVID-19 outbreak caused a significant deterioration in economic conditions for some companies and increased economic uncertainty for others. The company's management needs to assess whether these events or conditions (individually or collectively) raise doubts about whether the company can continue as a going concern, or – in complex cases – an assessment of whether the assumption of going concern is acceptable in the preparation of the company's financial statements.

Although some industries and jurisdictions may suffer more than others, all companies need to consider the possible consequences when assessing business continuity.

The impact on companies from high-risk sectors that are under pressure in the form of lower demand, lower sales and lower margins will be more significant. This is especially true for travel and tourism, hospitality/entertainment/sports, retail and the oil industry. Over time, the impact on the automotive industry may increase if consumers postpone major purchases until the level of uncertainty decreases.

Current events and conditions can significantly affect the company's ability to continue as a going concern.

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Literature Review

Many studies of recent decades have shown that the health of the settlement is directly related to the well-being of the population. There are many channels for the impact of an outbreak of infectious diseases on the economy. Various scenarios of the impact of the pandemic on macroeconomic outcomes and financial markets have been considered in the literature (for example, using the DSGE/CGE global hybrid general equilibrium model) (McKibbin, & Roshen, 2020). These scenarios, which are uncertain in the context of a pandemic, demonstrate that even a contained outbreak in the short term can have a significant impact on the global economy. V. Makkibin and F. Roshen consider traditional instruments (for example, lowering interest rates) ineffective; the economic risks of the current pandemic require not only demand management, but also comprehensive measures in the field of monetary, fiscal and health policy (McKibbin, & Roshen, 2020). The widespread use of hygiene practices described in the work of D. Levin and V. McKibbin can be an inexpensive and highly effective response that reduces the negative consequences of the pandemic for the economy (Levine, McKibbin 2020). J. Bowie considers one of the mistakes that accelerated the spread of the COVID-19 pandemic to be the incorrect identification of the sources of the appearance of viral infection (they were initially associated with bats, snakes, seafood), "giving a false sense of security, obscuring the real epidemic" (Bouey, 2020). The impact of COVID-19 on the global financial system is already being investigated. T. Beck argues that the adverse effects of solvency in the financial system are likely not to manifest immediately, so there will be time to prepare balanced decisions (Beck, 2020). However, panic and side effects in the markets occur quickly, so regulators need to focus on possible failures in the financial system and strengthen confidence in financial markets, clearly signaling the readiness of their intervention. There is no conceptual justification and evaluation of the interrelationships between pandemics and the development of the world economy in the literature. Since the tasks of supply and demand management are of key importance, it is necessary to develop a theoretical basis for identifying complex relationships between the spread of the pandemic and the dynamics of economic growth. As the trajectory of the pandemic takes a final form, the economic dynamics look more and more uncertain; with the arrival of new statistics.

Methods

To achieve the research goal, general scientific methods were used:

– a method of content analysis that allowed organizing and structuring the main scientific research related to the impact of the pandemic on the economy of Kazakhstan;

– a method of analysis that made it possible to assess the state of the main indicators of the country's economy;

– the generalization method is aimed at establishing the existing relationships between the economic objects and phenomena under consideration;

– the method of graphical interpretation, which made it possible to visualize the obtained results: comparison of indicators by industry over a period of time, and their ratio; ways to improve the economy, etc.

Results and Discussions

The negative consequences of COVID-19 may have the greatest impact on the economy of Kazakhstan for the first time since the collapse of the USSR. The consulting company identified the main points that were affected by the spread of the coronavirus.

According to the IMF's forecast, Kazakhstan's GDP will decrease in real terms by 2.5% in 2020, against growth of 4.5% in 2019. The spread of COVID-19 and OPEC+ actions significantly affected oil prices and the tenge exchange rate (Figure 1). On April 2, 2020, the Ministry of Finance reported an increase in the state budget deficit from 1.2 trillion tenge to 2.4 trillion tenge, as well as an increase in the transfer amount from the National Fund in favor of budget revenues from 2.7 trillion tenge to 4.77 trillion tenge.

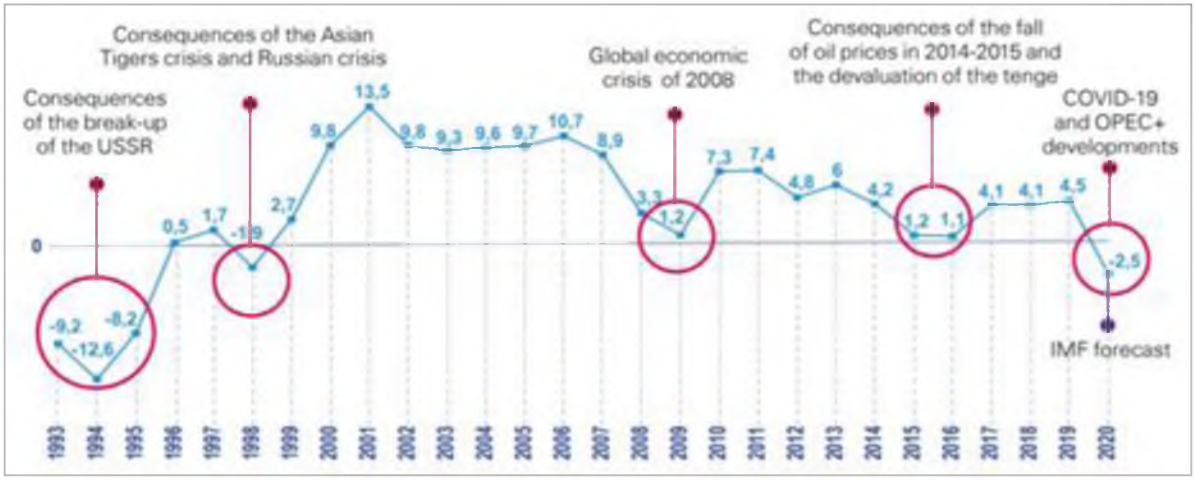

Figure 1. Real GDP dynamics of Kazakhstan

Note – Compiled by the author on the basis of research by KMPG

The company also made the main conclusions in the current situation based on a survey of 50 leaders of the business community in Kazakhstan:

– the current situation with coronavirus is likely to cause one of the deepest crises in Kazakhstan since the collapse of the USSR because COVID-19 caused a global economic crisis, the scale of which is still difficult to fully assess;

– participants in such segments and sectors of the economy of Kazakhstan as SMEs, non-food retail trade, aviation, oil and gas, mining, transport, electricity and services are the most vulnerable in the current market environment;

– measures to reduce administrative expenses were taken by 74% of the Respondent companies. About half of the respondents are actively working on optimizing purchases (restructuring accounts payable, optimizing the logistics chain, reviewing the order book and moving part of the volume of purchases to a later date);

– companies in all sectors of the economy (except for the Telecom sector) have put the implementation of capital-intensive investment projects on pause or are in the process of reviewing more budgetary decisions for the implementation of these projects;

– most market players are developing and implementing an anti-crisis action plan and plan to review their development strategy. Almost all companies are aiming for accelerated digitalization of their sales channels and channels of interaction with customers in the near future.

– representatives of large Kazakh businesses consider the announced measures of state support insufficient and expect support in terms of tax relief (including VAT refund to export-oriented enterprises and companies in the aviation sector), reimbursement of expenses, as well as providing preferential lending;

– about 86% of respondents believe that a gradual return to pre-crisis positions will be realized no earlier than in 3-4 quarters (or later), which indicates that the consequences of the crisis may be felt in 2021;

– the crisis will cause a significant change in people's behavioral responses and the need for the state to rethink approaches to ensuring health security. In addition, the crisis will also significantly change the business landscape and adjust the strategic goal setting on the part of both the state and business;

– the devaluation of the tenge caused by falling oil prices and lower demand for base metals has a negative impact on the effective demand of the population, strengthening the competitive position of enterprises in export-oriented industries in Kazakhstan.

58% of the companies surveyed are reviewing their strategic development plan for the coming years due to the situation caused by the coronavirus. Retail trade and food producers are aimed at narrowing the product line and focusing on products of a lower price segment due to the expected decline in the purchasing power of the population. Retail is actively developing online stores for ordering products. Airports are reviewing their strategies for managing commercial space (favoring large players over small and medium-sized businesses), and are also considering increasing their focus on cargo transportation. Banks plan to issue loans with increased attention to the stability of the borrower's sector. Financial organizations have shifted their

focus to accelerated creation and development of digital products. Real estate companies that manage shopping and entertainment centers are reviewing their marketing strategies to focus on social distance and security.

In addition, the company provided survey results showing that the reduction of the wage fund and restructuring of purchases are the most common short-term stabilization tools.

Optimization of the purchasing structure was observed in 48% of respondents. Company focused on the procurement of key goods and materials, and temporarily postponed the acquisition of secondary products. About 67% of non-food retail companies restructure their accounts payable by agreeing to defer payments, transfer some of their current supply volumes to the future, and reschedule deliveries. The optimization of the logistics chain was noted by representatives of the large food retail trade – the transition to the search for several local alternative suppliers and the formation of micro-supply chains. 70% of all companies surveyed have reduced administrative expenses, including travel, consulting, marketing, training, and labor costs (about 53% of the respondent companies).

Optimization of labor costs during COVID-19 is typical for companies in the aviation, financial and retail sectors, the study says.

Measures to optimize labor costs mainly included transferring employees to paid and unpaid leave and optimizing the amount of remuneration in accordance with the reduction of working hours. None of the respondents did not carry out the reduction of staff. These optimization measures mainly affected companies in the aviation, financial, mining, and retail sectors.

Conclusions

In accordance with IFRS standards, management must assess the company's ability to continue as a going concern. The Company cannot continue its operations if the management either intends to liquidate the company, terminate its activities, or is forced to act in this way due to the lack of real alternatives.

Companies are required to disclose information about material uncertainties related to events or conditions that may cause significant doubts about their ability to continue their operations continuously. In addition, disclosure is necessary when management concludes that there are no significant uncertainties, but this conclusion is largely based on professional judgments (a difficult situation "on the verge").

When assessing the management of the company's ability to continue its operations continuously, it needs to take into account the existing economic uncertainty and market volatility caused by the COVID-19, which are further aggravated by the decline in oil prices.

When assessing the validity of the use of the going concern assumption, management takes into account all available information about the future (considering at least a period of twelve months after the end of the reporting period, but not limited to it), assessing the possible consequences of developments and changes in conditions, and analyzes possible responses to these events and conditions actually available to the company.

Management should re-evaluate the availability of funds, as in the current circumstances it may be difficult to replenish them, and borrowing costs may increase.

– Capital markets are the most difficult to access for borrowers with lower credit ratings. Resuming or increasing funding limits from banks and other financial institutions is also more difficult.

– Banks and other financial institutions may impose new conditions, such as significantly higher profitability or additional collateral, especially in relation to companies from the most vulnerable sectors in these circumstances.

– Banks and other financial institutions themselves may experience difficulties with liquidity, and they may need the help of the national bank to be able to continue or increase the volume of lending.

– The costs of repayment of borrowers' debts denominated in foreign currency may increase significantly due to the depreciation of their national currency.

– The stipulated existence of covenants (special conditions) in credit agreements allows lenders/banks to demand early repayment of debt.

If management concludes that the consequences of COVID-19 have led to such a serious deterioration in the results of operations and financial condition after the reporting date that the assumption of going concern is no longer appropriate, then the financial statements need to be adjusted, i.e. a change in the assumption of going concern is considered a corrective event.

When assessing the company's ability to continue operating in the foreseeable future, management may need to do the following:

– Update forecasts and sensitivity parameters that management deems necessary, considering the identified risk factors and various scenarios. It is important to consider pessimistic scenarios for the development of events, for example, taking into account the consequences of quarantine, when necessary.

– Review the expected future compliance with the terms of loan agreements, depending on the types of scenarios.

– Evaluate plans to mitigate the consequences of negative events or conditions that may cause serious doubts about the company's ability to continue its activities in the foreseeable future. In particular, management is expected to reconsider the issue of the availability of funding. The company needs to assess whether its plans are achievable and realistic.

References

Abiad, A., Arao, R.M., Dagli, S., Ferrarini, B., Noy, I., Osewe, P.L., Pagaduan, J., Park, D., & Platitas, R. (2020). The Economic Impact of the COVID-19 Outbreak on Developing Asia. ADB Briefs. N°128. *Asian Development Bank.*

Arndt, C., & Lewis, J.D. (2001). The HIV/AIDS Pandemic in South Africa: Sectoral Impacts and Unemployment. *Journal of International Development,* 13(4), 427-449.

Baldwin, R., & Weder di Mauro B. (eds.). (2020). Economics in the Time of COVID-19. London: A VoxEU.org Book, CEPR Press.

Beck, T. (2020). Finance in the times of coronavirus. Economics in the Time of COVID-19.

Bouey, J. (2020). Assessment of COVID-19's Impact on Small and Medium-Sized Enterprises. Implications from China. Santa Monica, California: RAND Corporation.

Delivorias, A., & Scholz, N. (2020). Outbreaks. Policy Research Working Paper. Washington, DC: The World Bank.

Levine, D.I, & McKibbin, W. (2020). Simple steps to reduce the odds of a global catastrophe. The Brookings Institution.

McKibbin, W., & Roshen, F. (2020). The Global Macroeconomic Impacts of COVID-19: Seven Scenarios. CAMA Working Paper 19/2020. Australian National University.

OECD (2020). Competitiveness programme. COVID-19 crisis in Kazakhstan. https://www.oecd.org/eurasia/competitiveness-programme/central-asia/COVID-19-CRI-SIS-IN-KAZAKHSTAN.pdf

World bank (2020). Global Economic Prospects. Regional Overview Report. http://pubdocs.worldbank.org/en/446621574887968929/Global-Economic-Prospects-January-2020-Regional-Overview-ECA.pdf

Б. Сапарова , Н. Құттыбаева, А. Омарова, Е. Орынбасарова, Ж. Шугаипова

Қазақстан Республикасының су ресурстарыныңэкологиялық аудиті

Аңдатпа

Мақсаты: Дағдарыс және одан кейінгі локдаун әртүрлі салалардағы бизнестің, сату нарықтарының күрт төмендеуіне, жеткізілім тізбегіндегі үзілістерге, азаматтардың еркін қозғалысына шектеулерге әкелді. Мұнайға деген сұраныс төмендеді, оның әлемдік бағасы құлдырады. Барлық осы қолайсыз макроэкономикалық факторлар елдің дағдарыс пен түрлі салаларды қалпына келтірудің ұзақ кезеңін күтетінін көрсетеді. Осыған байланысты, COVID-19 пандемиясының карантин кезеңінде Қазақстан Республикасы экономикасының ағымдағы жайкүйіне зерттеу жүргізілді.

Әдісі: Зерттеу мақсатына жету үшін жалпы ғылыми әдістер кеңінен қолданылды, атап айтқанда контентталдау әдісі; талдау әдісі; жалпылау әдісі; графикалық түсіндіру әдісі.

Қорытынды: Зерттеу нәтижелері қысқа мерзімді перспективада ел экономикасы үшін сыртқы экономикаға қарағанда ішкі экономикаға басымдық беру орынды болуы мүмкін екенін көрсетеді. Сонымен қатар, орта мерзімді және ұзақ мерзімді жоспарлар тұрғысынан алғанда, экономиканы қалпына келтіру жоспары бойынша іс-қимыл жасау үшін Қазақстанның халықаралық тәжірибеден сабақ алуы маңызды.

Тұжырымдама: Орта және шағын бизнеске экономикалық дағдарыстан шығу үшін ұсыныстар мен ұсынымдар әзірленді. Карантин кезеңінде кәсіпорындардың операциялық және қаржылық қызметін жақсартуға және пандемиядан шығуға байланысты бірқатар әдіснамалық, теориялық және практикалық мәселелер қаралды.

Кілт сөздер: коронавирус, экономика, бюджет, қалпына келтіру, пандемия, экономикалық өсу, экономикалық саясат, COVID-19.

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Влияние коронавирусного кризиса на экономику Республики Казахстан

Аннотация:

Цель: Кризис и последовавший за ним локдаун привели к резкому сокращению доли бизнеса в различных отраслях, рынков сбыта, перерывам в цепочках поставок, ограничениям на свободное передвижение граждан.

Спрос на нефть снизился, мировые цены на нее рухнули. Все эти неблагоприятные макроэкономические факторы указывают на то, что страну ждет кризис и длительный период восстановления различных отраслей промышленности. В связи с этим проведено исследование текущего состояния экономики Республики Казахстан в период карантина в связи с пандемией COVID–19.

Методы: Для достижения цели исследования широко использовались общенаучные методы, в частности, контент-анализ, методы обобщения и графической интерпретации.

Результаты: Результаты исследования показывают, что в краткосрочной перспективе для экономики страны может быть более целесообразным отдавать приоритет внутренней экономике, нежели внешней. Кроме того, с точки зрения средне- и долгосрочных планов, важно, чтобы Казахстан извлек уроки из международного опыта, для того чтобы предпринять действия по плану восстановления экономики.

Выводы: Разработаны предложения и рекомендации для выхода из экономического кризиса предприятиям среднего и малого бизнеса. Рассмотрен ряд методологических, теоретических и практических вопросов, связанных с улучшением операционной и финансовой деятельности предприятий в период карантина и выхода из пандемии.

Ключевые слова: коронавирус, экономика, бюджет, восстановление, пандемия, экономический рост, экономическая политика, COVID–19.

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Marketing as a function of project management in the sports industry of the Karaganda region

Abstract

Object: Marketing analysis of the correspondence of the degree of development of the sports infrastructure of the city of Karaganda to the existing demand for mass sports and the requirements of the development of high-performance sports.

Methods: Statistical method and system analysis.

Results: There is insufficient provision of modern sports infrastructure in the Republic of Kazakhstan. The demand for modern sports facilities significantly exceeds the supply. In the Republic of Kazakhstan, it is 43%, while in developed countries it exceeds 63%. The Republic of Kazakhstan should take further steps to develop sports infrastructure through the implementation of appropriate projects.

Conclusions: In the period after the pandemic, the load on the sports infrastructure will grow, the growth rate of sports participants will outpace the growth rate of sports facilities. There are a small number of sports facilities in the Karaganda region that meet international standards. Therefore, it is necessary to implement projects to create sports facilities, primarily in the field of children's and youth sports and international-level big sports in selected priority sports.

***Keywords*:** marketing, project, management, sport, infrastructure, demand, supply, area, facility, health, priority.

Introduction

The sports sphere worldwide belongs to priority branches of development of the states. The development of sport has a social character, as sport contributes to the health of the population, the prevention of diseases, increasing productivity. The role of sport in the education of the younger generation is great. Sport contributes to the formation of personality, physically and morally healthy citizen of the country.

Sport disciplines the person, reduces manifestation of undesirable social phenomena, improves a criminogenic situation. A great role is played by the state in the formation of healthy leisure of the population, familiarization of the population with sports.

Sport of the highest achievements increases the prestige of the state, contributes to the recognition of the state in the international arena.

Currently, the number of people engaged in regular sports in the Republic of Kazakhstan is 28.8 percent, while in developed countries this figure exceeds 65 percent.

In the Republic of Kazakhstan, sport is also developing among the disabled. Over the past five years, the number of disabled people participating in various sports has increased by 40 % and amounted to 29.7 thousand people.

During the years of independence, Kazakhstan participated in the 4 summer and 4 winter Olympic games. Athletes of Kazakhstan won 593 medals.

The concept of development of physical culture and sports of the Republic of Kazakhstan till 2025 is focused on the solution of the following strategic priorities: the organization of system of mass sports, increase of a share of the population regularly engaged in sports to 35 percent; formation of services in the

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field of national sports; creation of modern infrastructure and the market of sport services; ensuring high indicators of big sports.

Strategic priorities of sport development in Kazakhstan are reflected in the Concepts of development of physical culture and sports of RK. The main principle of the formation of the sport industry of Kazakhstan is the further familiarization of the masses of the population to sports and the creation of conditions and prerequisites for the development of big sports (The concept of development of physical culture and sports of the Republic of Kazakhstan until 2025).

Long-term key priorities:

1. Creation of a system of sports education of the population;
2. Formation of system of sports leisure of younger generation, improvement of methods of introduction of youth to sports;
3. Increase of indicators of big sports, personnel and scientific support of sports branch;
4. Improvement of sports infrastructure, development of sports services market;
5. Development of national sports.

Achieving these strategic priorities requires the implementation of relevant projects. The degree of implementation of strategic priorities in the field of sport depends on the level of perfection of these projects, their methodological and scientific elaboration.

The state of sports infrastructure, insufficient number of sports schools, unequal access to sports facilities, poor equipment of sports facilities, lack of coaches, especially highly qualified ones, hampers the development of mass sports, the formation of the Olympic reserve and, ultimately, the achievements of big sports.

Without the appropriate sport infrastructure it is impossible to achieve high achievements in big sports, to hold competitions of international level, to bring up world-class Champions.

The research issue of this article is a marketing analysis of the correspondence of the degree of development of the sports infrastructure of the city of Karaganda to the existing demand for mass sports and the requirements for the development of high-performance sports.

The hypothesis of the study is that an appropriate infrastructure is needed for the development of mass sports and high-performance sports. In the Karaganda region, for the development of high-level sports, it is necessary to implement infrastructure projects for both children's and youth sports and high-level sports.

Literature Review

Much attention is paid to the issue of meeting the demand for sport services and the implementation of sport equipment and infrastructure development projects by scientists and researchers for these purposes.

Modern infrastructure is an integral factor in the competitiveness of a country's sports. Thus, Trabal argues that to reach the limits of human capabilities, it is necessary to use the latest achievements of technology and science, modern infrastructure (Trabal, 2018).

The level of development of the sport industry is the most important factor in the sporting events of big sports (Inoue et al., 2017).

In sports and in the sports infrastructure, high technologies are increasingly being used, which have an increasing impact on results (Szymanski et al., 2020).

Sport makes a significant contribution to the development of the economy, so modern technologies are widely introduced into this industry (Miragaia, Ferreira, & Ratten, 2017).

In order for the sports industry to develop successfully, it is necessary to provide related activities, such as marketing, training of athletes in the conditions of modern sports facilities, high organizational preparation of level competitions (Chou et al., 2003).

Companies involved in the implementation of sports projects take care of society, become socially responsible (Chiu & Hsiao, 2019; Yeh et al., 2020).

Technological innovation is an important part of the sports industry. Due to the fact that the sports industry is social in nature, contributes to the development of mass sports, the introduction of new technologies is relevant (Zeimers et al., 2019).

Organizations participating in sports projects, on the one hand, fulfil their social duty, contribute to the improvement of the population, on the other hand, improve their marketing image, increase demand for their products by increasing customer loyalty to their brand (Hsiung, 2019; Liu et al., 2002).

The development of football infrastructure is of great importance for the economy. The importance of football does not decrease and becomes so great that it leads to globalization (Boniface, 2000).

At the moment, research in the field of the influence of sports equipment and technology on the development of sports is in its infancy despite their widespread distribution and influence on the sports industry (Miragaia, da Costa, & Ratten, 2018).

It is necessary to carry out further work both from the technical and economic point of view of the role of sports in the life of society, to study the role of sports technologies in the sports industry (Magdalinski, 2009).

Thus, the issues of marketing the influence of sports equipment and technologies on the results of sports development and the implementation of projects for these purposes are insufficiently studied.

Methods

During the research, a statistical method was used - processing of official data of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, system analysis.

Results

Projects to create a world-class sports infrastructure are costly and require the involvement of foreign technologies in the sports sector and international experience.

The Republic of Kazakhstan produces the construction of sports facilities of international level. In 2018, in the area of the resort Borovoye, two jumps of international class height of 83 meters were built. The significance of this event is emphasized by the presence of the President of the Republic of Kazakhstan Nursultan Nazarbayev at the opening of the trampolines.

The state spent more than 61 billion tenge from the budget for the construction of these important international sports facilities.

The complex of springboards in Borovoye has no world analogues. The ramps used to cover the combined type. There are several launch pads at different heights of the springboard.

The construction of these facilities will allow Kazakhstan to hold international competitions in ski jumping.

The development of such projects takes place with the indispensable project management.

Project management refers to activities aimed at the implementation of the project with the maximum possible efficiency under specified restrictions on time, money (and resources), as well as the quality of the final results of the project (documented, for example, in the terms of reference).

To cope with time constraints, methods of construction and control of work schedules are used. To manage monetary constraints, the methods of forming the financial plan (budget) of the project are used and, as the work is carried out, compliance with the budget is monitored to prevent costs from getting out of control. To perform the work requires their resource support, there are special methods of management of human and material resources (for example, the matrix of responsibility, diagrams of resource utilization).

Let us consider what projects in the sports sphere should be implemented in the Karaganda region. To do this, it is necessary to conduct marketing of sports infrastructure and sports development.

Table 1 shows the distribution of sports facilities in 2020 by regions of the Republic of Kazakhstan.

Table 1. Distribution of sports facilities in 2020 by regions of the Republic of Kazakhstan

	Sports facilities-total	Including					
		stadiums with 1,500 seats or more	palaces of sport	Complexes of sports facilities	swimming pools	ski bases	Sports complexes
1	2	3	4	5	6	7	9
Republic of Kazakhstan	40 989	280	34	91	360	202	524
Akmola region	2 360	20	2	1	24	11	27
Aktobe region	1 831	18	3	1	17	6	20
Almaty region	3 702	26	3	13	53	1	33
Atyrau region	1 128	7	1	1	12	-	33
East Kazakhstan region	1 699	3	1	-	6	6	21
Zhambyl region	2 704	17	1	3	8	-	34
Karaganda region	3 154	24	7	14	28	83	68
Kostanai region	2 562	34	2	13	20	41	49
Kyzylorda region	2 071	12	-	-	7	-	38
Mangistau region	774	8	-	-	14	-	31
Pavlodar region	3 083	17	3	19	21	4	38

1	2	3	4	5	6	7	9
North Kazakhstan region	2 891	33	1	1	13	17	15
Turkestan	4 529	21	1	-	23	1	40
East Kazakhstan Region	3 245	21	2	5	28	28	35
Nur-Sultan city	975	4	5	2	26	1	16
Almaty city	3 399	12	1	12	51	3	14
Shymkent city	882	3	1	6	9	-	12
Note – Compiled by the authors on the basis of Bureau of National Statistics							

It can be seen that out of 40 989 sports facilities in the Republic of Kazakhstan in Karaganda region there are only 3 154 facilities. There are 7 sports palaces in the Karaganda region.

With a population share of 7,39% in Kazakhstan, Karaganda region has a share of sports facilities of 7.69%. In the Republic of Kazakhstan, this ratio is the best. For example, in Turkestan, with a population share of 10.82% in Kazakhstan, the share of sports facilities is 11.05%.

Table 2 presents the volume and share of sports and recreation services provided by enterprises and individual entrepreneurs in the regions in 2020.

Table 2. Volume and share of sports and recreation services provided by enterprises and individual entrepreneurs in the regions in 2020, million tenge

	Million. Tenge	%
Republic of Kazakhstan	188 501,50	100%
Akmola region	8 465,20	4,49%
Aktobe region	6 182,20	3,28%
Almaty region	12 305,10	6,53%
Atyrau region	7 398,50	3,92%
East Kazakhstan region	7 599,90	4,03%
Zhambyl region	6 278,80	3,33%
Karaganda region	16 483,70	8,74%
Kostanai region	7 583,60	4,02%
Kyzylorda region	7 904,00	4,19%
Mangistau region	5 723,90	3,04%
Pavlodar region	12 495,70	6,63%
North Kazakhstan region	5 172,20	2,74%
Turkestan	5 512,30	2,92%
East Kazakhstan Region	9 626,60	5,11%
Nur-Sultan city	20 277,50	10,76%
Almaty city	37 640,00	19,97%
Shymkent city	11 852,30	6,29%
Note – Compiled by the authors		

Table 2 shows that Karaganda region accounts for 8.74% of the total volume of sports and recreation services provided by enterprises and individual entrepreneurs of the Republic of Kazakhstan. For comparison, the cities of Nur-Sultan and Almaty account for 10.76% and 19.97%, respectively.

Let us consider the material and technical and resource support of the sphere of sports in the Republic of Kazakhstan.

One of the main aspects of the development of sports services is the provision of sports infrastructure. These include stadiums, sports complexes, sports complexes, gyms.

In 2020, there were only 40989 sports facilities in the Republic of Kazakhstan:

- stadiums - 280. Over the past 5 years the number of stadiums has increased by 11 units;
- palaces of sports-34. For 5 years the number of sports palaces has increased by 4;
- 91 complexes of sports facilities, from 2017 to 2020 an increase of 5 units;
- ski bases 202, for 5 years the number has decreased by 1 units;
- 524 sports complexes, for the last 5 years the increase was 125 units;
- 172 sports arenas, from 2017 to 2020 the increase was 101 units;
- swimming pools 360, for 5 years the increase was 44 units;
- gyms 9028, for 5 years the increase was 559 units.

In general, the sports infrastructure in the Republic of Kazakhstan continues to develop. For the population, the level of security of sports infrastructure is 43 percent, which, however, is inferior to global standards. Thus, in Russia, the level of provision of the population with sports infrastructure is 50 %.

No project in the field of sports can develop without funding.

Consider the financing of sports in the Republic of Kazakhstan. Since 2018, a new system of financing sports has been introduced in the Republic. The funding system is based on the experience of the world's leading countries in the field of sports, such as Germany and France.

Funding is differentiated by sport. The basis of differentiation are indicators:

- indicators of big sport of this type;
- belonging of this species to ethnic;
- security personnel;
- provision of infrastructure.

According to the law of the Republic of Kazakhstan dated July 3, 2014 No. 228-V "On physical culture and sports", the source of sports in Kazakhstan is the budget. For athletes of Kazakhstan participating in international competitions medical support is made at the expense of the state. Kazakhstan introduced regulations on financing of sports competitions, as well as remuneration of prize-winners (Adilet, 2014).

Enterprises on state and private property in the share of services are 46.5 and 52.8 %, respectively. Moreover, the share of the private sector is growing from year to year. That is, in the sphere of sports services, much attention should be paid to the further development of the private sector.

The priority direction of the state policy in the field of sports is the development of both mass and large-scale sports.

However, the goals set in recent years in the field of mass sports have not been achieved. It is necessary to further improve the organizational and economic mechanisms in the field of sports development for the masses.

The development of mass sports is a priority task of the state in the sphere of sports services.

The popularization of sports helps to reduce the incidence of the population, increase productivity.

There is insufficient infrastructure provision. In the Republic of Kazakhstan it is 43 %, while in developed countries it exceeds 63 %. The Republic of Kazakhstan should take further steps to develop sports infrastructure.

The best educational function will be the participation of the population in sports. If sports are convenient for the population, carried out in the necessary organizational form, the sport will be widespread among the masses of Kazakhstan.

There is a high workload of labor resources of Kazakhstan, lack of free time. Therefore, the most popular are sports facilities located in the immediate vicinity of the residence.

A significant obstacle to the development of sports, is the payment for the sports services. Prices for the use of the subscription are sometimes significant and are inaccessible to most of the population. Therefore, an urgent task is the construction of budget sports facilities, the visit of which will be the lowest possible price.

Consider the formation of the system of sports leisure of the younger generation, improving the methods of introducing young people to sports.

Leisure is filled with a favorite pastime. From the point of view of sports development, the role of sports clubs is important here, where fans of a particular sport can meet and hold classes in an organized manner. This practice is widespread in foreign countries.

The state should make every effort to support such clubs. Financing of such clubs can be carried out including at the expense of membership fees. The state should also participate in co-financing such clubs or offer tax preferences. In this matter, the study and testing of foreign experience of sports clubs can help. Such clubs abroad are usually located within walking distance from the place of residence of the population. According to foreign experience, whole networks of sports clubs are formed, various competitions of sports clubs are also organized.

Sports clubs are good conductors of information about certain sporting events, information about the benefits of sports and a healthy lifestyle. Therefore, through sports clubs, one can actively carry out information work in the field of sports.

Part of the population of Kazakhstan has free time only on weekends, thus it is important to operate sports clubs that provide sports services on weekends.

Due to the high workload of the population of Kazakhstan there is a lack of free time. Therefore, a promising direction is the creation of sports facilities that are within "walking distance". It is also possible to apply a differentiated approach to the construction of sports facilities - the more people live in the area and there are more willing to use sports services, the more sports facilities need to be built in the area. Therefore, it is important to conduct marketing research by questioning the population and finding out the volume of demand for certain sports services.

Depending on the nature of demand, it is necessary to build appropriate sports facilities: swimming pools, football and volleyball courts, tennis courts, etc.

It is important to create sports grounds in parks and squares. The parks have cleaner air and therefore there are a large number of Amateur athletes involved in the parks.

Squares are located directly in front of residential buildings, which is convenient for sports.

Thus, one of the possible directions of implementation of projects in the field of sports industry in the Karaganda region is the construction and organization of sports clubs and sports facilities located within "walking distance" from the places of residence of the population.

The creation of sports facilities is an expensive event, so it is necessary to apply mechanisms that reduce the burden on the budget. One such mechanism is public-private partnership.

With public-private partnership, due to the significant duration of the project terms, the entrepreneur can invest significant investment funds in the project. The duration of the projects allows to recoup such significant investments. Public-private partnership projects allow to save budget funds by using private funds in sports equipment creation projects.

It is necessary to build sports facilities for the disabled with the necessary equipment: lifts, elevators, specialized personnel, as usually sports facilities are poorly equipped for the needs of people with disabilities.

Because of the low solvency of disabled people, tax preferences should be introduced for specialized sports facilities to reduce the cost of a season ticket. Thus, state funding or co-financing of visits to sports facilities for people with disabilities should be considered.

Thus, another possible direction of development of projects in the Karaganda region is the creation of sports facilities for the disabled.

The city's football club and soccer team Premier League, "Shakhtar", the presence of a backup team, a significant number of teams of youth football, which is a source of Premier League teams, makes imperative the establishment of a football field meets the requirements of FIFA and UEFA.

In Karaganda, there are 24 state sports institutions, including 20 youth schools, a boarding school for gifted children in sports. A. Moldagulova, kgkp "Olympic reserve training Center", school of higher sports skills, GU "Department of physical culture and sports of Karaganda city". The total population of the city of Karaganda, engaged in sports and sports is 154,415 people.

As of October 1, 2020, the city has 799 sports facilities of various forms of ownership, including:

2 stadiums for 18 000 spectators (Shakhtar station) and 1 500 spectators (Lokomotiv station);

3 Palace of sports-DS them. N. After repair, the LDS "Akzholtay", LDS "Karaganda arena";

33 sports complexes of SK DYUSSH of game types, "Enbek", "Tulpar", "VASS Komir", etc.);

1 training complex of national teams (cpor);

204 sports halls, of which: 55 in sports Palaces and complexes, 103 in schools and boarding schools, 14 in Colleges, 7 in Universities, 8 in sports clubs and sports schools, 13 in enterprises and organizations of the city;

273 planar sports facilities in the city neighborhoods and educational institutions (sports grounds, sports cores, sports tracks, fields).

The city has 2 state stadiums ("Shakhtar and Lokomotiv") and only the Shakhtar stadium meet the requirements for football matches of the Kazakhstan Premier League and international competitions. The rest are in a state of disrepair or require major repairs in terms of their condition, equipment and can now be used for training work of youth and reserve sports, as well as lower-level competitions.

Table 3 shows the dynamics of growth in the number of sports facilities in 2017–2020 in the city of Karaganda.

Table 3. Dynamics of growth in the number of sports facilities in 2017–2020 in the city of Karaganda

Year	2017	2018	2019	2020
Number of sports facilities (units)	823	831	850	859

Note – Compiled by the authors on the basis of Official website of the Akimat of the city of Karaganda

Table 3 shows that the total number of sports facilities in 2017–2020 in the city of Karaganda tends to increase. However, the annual growth rate does not exceed 1%.

In the city, there are 59 mini-football grounds in neighborhoods built on sponsorship and budget funds under the programs "My yard" and "Improvement of yard territories".

45 of them have modern grounds with artificial grass, fences and lighting.

There are 6 sports grounds-2 in the boarding school. A. Moldagulova, one of them with artificial grass and a modern mini-football field with artificial grass and bleachers for 200 spectators on the territory of the private sports complex "Ansar" on the 32nd quarter, 3 sites in the College "Bolashak", one of them with artificial grass. In June 2017, the sports and recreation complex named after Gennady Golovkin was put into operation. The sports complex includes a weightlifting hall, a universal sports hall for basketball, volleyball and mini-football, a 25m swimming pool and a Boxing hall. Also on the territory of Foca there are 2 sports grounds with artificial turf-basketball and mini-football.

At the expense of the local budget, the reconstruction of the football field in the sports complex "locomotive" was carried out with the laying of a new artificial lawn.

The dynamics of the number of football fields and playgrounds with artificial turf in the city of Karaganda is shown in Table 4.

Table 4. List of sports facilities in Karaganda

№	List of sports facilities	2016	2017	2018	2019	2020
	Sports facilities, all in total:	86	97	99	101	105
1	Stadiums with 1,500 seats or more in stands	2	2	2	2	2
2	Football fields and playgrounds with artificial turf	84	95	97	99	103
Note – Compiled by the authors on the basis of Official website of the Akimat of the city of Karaganda						

Table 4 shows that with an increase in the number of sports facilities, the number of stadiums in the Karaganda region has not increased.

Table 5. Sports private and public institutions of Karaganda

	2016		2017		2018		2019		2020	
Name	Number of schools	Number of participants	Number of schools	Number of participants	Number of schools	Number of participants	Number of schools	Number of participants	Number of schools	Number of participants
KSU "JUSh mass sports in Karaganda" OFKS of Karaganda	1	206	1	150	1	161	1	173	1	165
KSU "Urban Integrated JUSH" of OFKS in Karaganda	1	158	1	156	1	157	1	158	1	156
Shakhtar Sports Club (main line-up)	1	25	1	25	1	25	1	25	1	25
Shakhtar Sports Club (League 1 team)	1	21	1	25	1	26	1	24	1	21
Shakhtar Sports Club (League 2 team)	1	24	1	25	1	24	1	24	1	25
Shakhtar Sports Club (Shakhtar-KarSU team)	1	37	1	37	1	37	1	37	1	37
Shakhtar Sports Club (Football Centre)	1	324	1	329	1	330	1	330	1	329
Boarding school for gifted children	1	8			1	10	1	12	1	8
KSU "OSJUSHOR Jastar" football	1	836	1	858	1	858	1	59	1	820
KSU "OSS for Disability"	1	39	1	38	1	38	1	39	1	38
Total	10	1678	9	1643	10	1666	10	1681	10	1624
Note – Compiled by the authors on the basis of Official website of the Akimat of the city of Karaganda										

Table 5 shows that before the pandemic, there was an upward trend in the number of participants, while the number of public and private sports facilities remained unchanged.

In the period after the pandemic, the load on the sports infrastructure will grow, the growth rate of users of sports facilities will outpace the growth rate of the creation of sports facilities, as it was before the pandemic. That is, the demand for sports facilities will exceed the supply.

Football teams, with the exception of the Shakhtar team, do not have the opportunity to hold even the final games on a high-level football field. Youth teams train and compete only on second-rate football fields and cannot achieve a high level of sportive skill. Thus, a high-quality football infrastructure is needed at all levels of athletes' training.

There are only two public stadiums in the city of Karaganda, there are no private ones. Only the Shakhtar Stadium meets the requirements for hosting football matches of the Kazakhstan Premier League and international competitions. To create a high-quality modern football infrastructure, it is possible to use public-private partnership mechanisms, including with foreign companies that have advanced technologies for building football infrastructure.

Conclusions

It can be concluded that in the period after the pandemic, the load on the sports infrastructure will grow, the growth rate of participants in sports competitions will outpace the growth rate of sports facilities. There are a small number of sports facilities in the Karaganda region that meet international standards.

For the development of high-performance sports, projects are needed not only for the sports of the highest league, but also for children's and youth sports, since the formation of teams of the highest league takes place at the expense of candidates from children's and youth sports. However, projects of children's and youth sports are insufficiently developed in the Karaganda region. Public-private partnership projects are one of the areas of development of youth sports and high-performance sports projects. In the Karaganda region, it is necessary to implement public-private partnership projects to create sports facilities for certain sports, the need for construction should be determined based on market research to determine demand.

References

Adilet (2014). O fizicheskoi kulture i sporte. Zakon Respubliki Kazakhstan ot 3 iyulya 2014 goda № 228-V ZRK [On Physical Culture and Sports. Law of the Republic of Kazakhstan of 3 July 2014 N 228-V ZRK]. *adilet.zan.kz.* Retrieved from https://adilet.zan.kz/rus/docs/Z1400000228 [in Russian].

Adilet (2016). Ob utverzhdenii Kontseptsii razvitiya fizicheskoi kultury i sporta Respubliki Kazakhstan do 2025 goda [On approval of the Concept of Development of Physical Culture and Sports of the Republic of Kazakhstan until 2025]. *adilet.zan.kz.* Retrieved from https://adilet.zan.kz/rus/docs/U1600000168 [in Russian].

Agency for Strategic planning and reforms of the Republic of Kazakhstan Bureau of National statistics. Retrieved from https://stat.gov.kz/

Apparat akima goroda Karagandy [Official website of the Akimat of Karaganda city]. *www.gov.kz.* https://www.gov.kz/memleket/entities/akimat-karagandy?lang=ru [in Russian].

Boniface, P.(2000). *La terre est ronde comme un ballon, Géopolitique du football.* Edition Seuil. Paris.

Chiu, S. T., & Hsiao, C. H. (2019). Study of CSR Application within football club: Taking premier league and 5 teams in London as example. *Taiwan Association of Sport Management, 44*, 55-74. https://doi.org/10.29472/TSSM

Chou, C.S., Wu, S.S., & Lin, J.R. (2003). Analysis of the problems and present management of the China professional basketball association. *Coaching Science, 2*, 168-180. https://doi.org/10.6194/SCS.2003.02.06

Hsiung, T. T. (2019). Corporate social responsibility and sport governance e a case study of Turkey. *Taiwan Society for Sport Management, 43*, 2-15.

Inoue, Y., Sato, M., Filo, K., Du, J., & Funk, D.C. (2017). Sport spectatorship and life satisfaction: A multicountry investigation. *Journal of Sport Management, 31*(4), 419-432. https://doi.org/10.1123/jsm.2016-0295

Liu, J. K., Li, Z. G., Wang, X. F., & Liu, Y. W. (2002). Study on the home court advantage in CBA. *Journal of Physical Education, 9*(1), 117-119.

Magdalinski, T. (2009). *Sport, technology and the body: The nature of performance.* Routledge.

Miragaia, D.A., Ferreira, J., & Ratten, V. (2017). Corporate social responsibility and social entrepreneurship: Drivers of sports sponsorship policy. *International Journal of Sport Policy and Politics, 9*(4), 613–623. https://doi.org/10.1080/19406940.2017.1374297

Miragaia, D. A. M., da Costa, C. D., & Ratten, V. (2018). Sport events at the community level: A pedagogical tool to improve skills for students and teachers. *Education and Training, 60*(5), 431–442. https://doi.org/10.1108/ET-12-2017-0206

Szymanski, M., Wolfe, R., Danis, W., Lee, F., & Vy, M. (2020). *Sport and international management: Exploring research synergy.* Thunderbird International Business Review (In Press). https://doi.org/10.1002/tie.22139

Trabal, P. (2008). Resistance to technological innovation in elite sport. *International Review for the Sociology of Sport, 43*(3), 313–330. https://doi.org/10.1177/1012690208098255

Yeh, C. C., Lin, F., Wang, T. S., & Wu, C. M. (2020). Does corporate social responsibility affect cost of capital in China? *Asia Pacific Management Review, 25*(1), 1-12. https://doi.org/10.1016/j.apmrv.2019.04.001

Zeimers, G., Anagnostopoulos, C., Zintz, T., & Willem, A. (2019). Organisational learning for corporate social responsibility in sport organisations. *European Sport Management Quarterly, 19*(1), 80–101. https://doi.org/10.1080/16184742.2018.1546752

М.К. Асанова, Б.О. Мұқанов, А.Ж.Садуов, Р.А.Рахимжанова

Маркетинг жобаны басқару функциясы ретінде Қарағанды облысыныц спорт индустриясында

Аңдатпа

Мақсаты: Қарағанды қаласының спорттық инфрақұрылымының даму дәрежесінің бұқаралық спортқа деген қазіргі сұранысына және ең жоғары жетістіктерге жету үшін спортты дамытудың талаптарының сәйкестігін маркетингтік талдау.

Әдісі: Зерттеу барысында статистикалық әдіс қолданылды, яғни Қазақстан Республикасы Стратегиялық жоспарлау және реформалар агенттігінің Ұлттық статистика бюросының ресми деректерін өңдеу, жүйелік талдау.

Қорытынды: Қазақстан Республикасында қазіргі заманғы спорттық инфрақұрылым жеткілікті қамтамасыз етілмеген. Қазіргі заманғы спорт ғимараттарына сұраныс ұсыныстан әлдеқайда асып түседі. Елімізде ол 43%-ды құрайды, ал дамыған елдерде ол 63%-дан асады. Мемлекетіміз тиісті жобаларды жүзеге асыру арқылы спорт инфрақұрылымын дамыту бойынша одан әрі қадамдар жасауы керек.

Тұжырымдама: осылайша, пандемиядан кейінгі кезеңде спорттық инфрақұрылымға жүктеме артады, спорттық жарыстарға қатысушылардың өсу қарқыны спорттық ғимараттардың өсу қарқынынан асып түседі деп қорытынды жасауға болады. Қарағанды облысында халықаралық стандарттарға сәйкес келетін спорт ғимараттарының саны аз. Сондықтан спорт объектілерін, ең алдымен балалар мен жасөспірімдер спорты және жекелеген басым спорт түрлері бойынша халықаралық деңгейдегі үлкен спорт объектілерін құру жөніндегі жобаларды іске асыру қажет.

Кілт сөздер: маркетинг, жоба, басқару, спорт, инфрақұрылым, сұраныс, ұсыныс, аумақ, объект, денсаулық, басымдық.

М.К. Асанова, Б.О. Муканов, А.Ж. Садуов, Р.А. Рахимжанова

Маркетинг как функция управления проектами в спортивной индустрии Карагандинской области

Аннотация:

Цель: Маркетинговый анализ соответствия степени развития спортивной инфраструктуры города Караганды существующему спросу на массовый спорт и требованиям развития спорта высших достижений.

Методы: В ходе исследования применены статистический метод, то есть обработка официальных данных Бюро национальной статистики Агентства стратегического планирования и реформ Республики Казахстан, и системный анализ.

Результаты: В Республике Казахстан недостаточно обеспечена современная спортивная инфраструктура. Спрос на современные спортивные сооружения значительно превышает предложение. В Республике Казахстан он составляет 43 %, в то время как в развитых странах он превышает 63 %. Республика Казахстан должна предпринять дальнейшие шаги по развитию спортивной инфраструктуры путем реализации соответствующих проектов.

Выводы: Таким образом, можно сделать вывод, что в период после пандемии нагрузка на спортивную инфраструктуру будет расти, темпы роста участников спортивных состязаний будут опережать темпы роста спортивных сооружений. В Карагандинской области имеется небольшое количество спортивных сооружений, соответствующих международным стандартам. Поэтому необходимо реализовывать проекты по созданию спортивных объектов, прежде всего, в области детского и юношеского спорта и большого спорта международного уровня по отдельным приоритетным видам спорта.

***Ключевые слова*:** маркетинг, проект, управление, спорт, инфраструктура, спрос, предложение, территория, объект, здоровье, приоритет.

References

Об утверждении Концепции развития физической культуры и спорта Республики Казахстан до 2025 года. — Режим доступа: https://adilet.zan.kz/rus/docs/U1600000168

Данные Бюро национальной статистики Агентства по стратегическому планированию и реформам Республики Казахстан. — Режим доступа: https://stat.gov.kz

Trabal P. Resistance to technological innovation in elite sport. International Review for the Sociology of Sport. - 2008. — №43(3). — P. 313–330. https://doi.org/10.1177/1012690208098255

Inoue Y. Sport spectatorship and life satisfaction: A multicountry investigation Y. Inoue, M. Sato, K. Filo, J. Du, D.C. Funk // Journal of Sport Management. — 2017. — №31(4). — P. 419-432. https://doi.org/10.1123/jsm.2016-0295

Szymanski M. Sport and international management: Exploring research synergy / M. Szymanski, R. Wolfe, W. Danis, F. Lee, M. Vy // Thunderbird International Business Review (In Press), 2020. https://doi.org/10.1002/tie.22139

Miragaia D.A. Corporate social responsibility and social entrepreneurship: Drivers of sports sponsorship policy / D.A. Miragaia, J. Ferreira, V. Ratten // International Journal of Sport Policy and Politics. — 2017. –– P. 613–623. https://doi.org/10.1080/19406940.2017.1374297

Chou C.S. Analysis of the problems and present management of the China professional basketball association / C.S. Chou, S.S. Wu, J.R. // Coaching Science. — 2003. — P.168-180. https://doi.org/10.6194/SCS.2003.02.06

Chiu S.T. Study of CSR Application within football club: Taking premier league and 5 teams in London as example / S.T. Chiu, C.H. Hsiao // Taiwan Association of Sport Management. –– 2019. –– P. 55-74. https://doi.org/10.29472/TSSM

Yeh C.C. Does corporate social responsibility affect cost of capital in China? / C.C. Yeh, F. Lin, T.S. Wang, C.M. Wu // Asia Pacific Management Review. –– 2020. — P.1-12. https://doi.org/10.1016/j.apmrv.2019.04.001

Zeimers G. Organisational learning for corporate social responsibility in sport organisations / G. Zeimers, C. Anagnostopoulos, T. Zintz, A. Willem // European Sport Management Quarterly. –– 2019. –– P. 80–101. https://doi.org/10.1080/16184742.2018.1546752

Hsiung T.T. Corporate social responsibility and sport governance e a case study of Turkey / T.T. Hsiung //Taiwan Society for Sport Management. — № 43. — 2019. –– P. 2-15.

Liu J.K. Study on the home court advantage in CBA / J.K. Liu, Z.G. Li, X.F. Wang, Y.W. Liu // Journal of Physical Education. — № 9(1). — 2002. — P. 117-119.

Boniface P. La terre est ronde comme un ballon, Géopolitique du football.- Edition Seuil. Paris, 2000

Miragaia D.A.M. Sport events at the community level: A pedagogical tool to improve skills for students and teachers / D.A.M. Miragaia, C.D. da Costa, V. Ratten // Education and Training. –– № 60(5). — 2018. — P. 431–442. https://doi.org/10.1108/ET-12-2017-0206

Magdalinski T. Sport, technology and the body: The nature of performance / T. Magdalinski. — Routledge, 2009.

Закон Республики Казахстан от 3 июля 2014 г. № 228–V ЗРК «О физической культуре и спорте». — Режим доступа: https://adilet.zan.kz/rus/docs/Z1400000228

Данные официального сайта Акимата города Караганды. — Режим доступа: https://www.gov.kz/memleket/entities/akimat-karagandy?lang=ru

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Ауылдық аумақтарды дамытудағы күн энергиясын қолданудың болашағы

Аңдатпа:

Мақсаты: Мақаланың мақсаты ауылдық аумақтардың энергетикалық ресурстарды өндіру мен тұтынудың жаңа прогрессивті технологияларын кеңінен пайдалану негізінде ауыл шаруашылығы өндірісінің келешек даму жолы жаңартылатын энергия көздерін пайдалану ауқымын кеңейтуді анықтау. Теориялық-әдістемелік негіздерді зерттеу және ғылыми-тәжірибелік ұсыныстарды негіздеу болып табылады.

Әдісі: Зерттеудің әдіснамалық базасы ретінде абстрактілі-логикалық, статистикалық, сараптамалық, салыстырмалы және құрылымдық әдістер пайдаланылды. Зерттеудің теориялық негізі ауылдық аумақтарды, агроөнеркәсіптік жаңартылатын энергия көздерін пайдалану ауқымын кеңейту жөніндегі қазақстандық және шетелдік ғалымдардың іргелі еңбектері, сондай-ақ Қазақстан Республикасының агроөнеркәсіптік кешенді және ауылдық аумақтарды мемлекеттік реттеу саласындағы нормативтік-құқықтық актілері болып табылады.

Қорытынды: Жүргізілген әдістер негізінде Қазақстан аймақтарында жылжымалы отын электр станциялары қолданылатын орталықтандырылған электрмен жабдықтау жүйесінен алыс фермерлік шаруашылықтар бар. Қазақстан Республикасының ауылдық аумақтарының географиялық координаттарын және NASA электрондық базасының деректерін пайдалана отырып, біз күн радиациясының жиынтық кірісін анықтадық. Күн радиациясының орташа мәнінің ең үлкен кірісі Оңтүстік Қазақстан облысының ауылдық аумақтарында (4.32 кВт/м^2/тәулік) тіркелді, ал Күн сәулесінің ең аз қарқындылығы Солтүстік Қазақстан облысында байқалады (3.28 кВт/м^2/тәулік). Алынған мәліметтерді талдау Қазақстанның ауылдық аумағында күн сәулесінің келуінің орташа мәні айтарлықтай өзгеретінін көрсетті. Сондықтан күн радиациясының қарқындылығы бойынша үш аймақты бөлуге болады: жоғары (5 аймақ), орташа (5 аймақ) және төмен (4 аймақ). Қазақстанның ауылдық аумақтарының айлар бойынша жарық күнінің ұзақтығын есептеу тәуліктің жартысына жуығы күн (күніне 7.48-ден 17 сағатқа дейін), сондай-ақ маусымға қарамастан жарқырайтынын көрсетті. Бұл күн бойы электр энергиясын, сондай-ақ артық электр энергиясының қосалқы бөлшектерін өндіруге және оны тәуліктің қараңғы уақытында пайдалануға кепілдік береді .

Тұжырымдама: Агроөнеркәсіптік кешен субъектілері аккумуляторлы батареясы, инверторы, контроллері бар, қуаты 2 кВт-тан басталатын күн панельдерін «Жайылымдарды суландыру инфрақұрылымын құру және мал өсіруші шаруашылықтарды сумен қамтамасыз ету (құдықтар, ұңғымалар)» жобасының паспорты негізінде шаруашылықтарында орната алады. Күн панельдерін ауылдық аумақтарды дамыту үшін қолданудың мынадай тиімді жақтары бар: салынған инвестициялардың қайтарымдылығы жүзеге асырылады; ауыл тұрғындары тұрақты электр энергиясымен қамтылады; күн сәулелерін қолдану қоршаған ортаның қауіпсіздігіне әсер етпейді.

Кілт сөздер: ауылдық аумақтар, энергия, экономикалық әлеует, әдістер, халықаралық тәжірибе, ресурс, механизм , талдау, стратегия, процедура, агроөнеркәсіп, шаруашылық.

Кіріспе

Агроөнеркәсіптік кешен энергетикасы өндірісті дамытудың тиімділігін, еңбек өнімділігінің деңгейін, өндірілетін өнімнің сапасын, халық өмірінің әлеуметтік жағдайларын айқындайтын ауылдық аумақтардың материалдық-техникалық базасының маңызды құрамдас бөлігі болып табылады.

Қазіргі заманғы агроөнеркәсіп өндірісі электр энергиясының үлкен шығындарын талап етеді. Осыған байланысты, бүгінгі күні ауыл энергетикасының стратегиялық міндеттерінің бірі энергетика-

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лық ресурстарды өндіру мен тұтынудың жаңа прогрессивті технологияларын кеңінен пайдалану негізінде ауыл шаруашылығы өндірісінің энергия сыйымдылығын төмендету болып табылады. Міндетті шешудің келешек даму жолы жаңартылатын энергия көздерін пайдалану ауқымын кеңейту болып табылады.

Жаңартылатын энергетика саласында күн фотоэнергетикасы ең дамыған және ғылымды қажетсінетін болып саналады. Бұл туралы бүкіл әлемде электрмен жабдықтау жүйесіне фотоэлектрлік станцияларды енгізудің үнемі өсін келе жатқан оң тәжірибесі куәландырады.

Ren21 Жаңартылатын энергетиканың жаһандық жағдайы туралы (2018) баяндамасына сәйкес күн панельдерінің генерациясы екінші жыл қатарынан алдыңғы қатарда болды, ал жаңа белгіленген қуат 2016 жылмен салыстырғанда шамамен 33%-ға (98 ГВт-дан кем емес) өсті. 2017 жылдың соңына қарай бүкіл әлемде 402 ГВт күн генерациясы енгізілді және пайдаланылды (REN21, 2018).

Ауыл аумағында күн энергиясын қолданудың кейбір мәселелері көптеген ғалымдардың еңбектерінде қарастырылды:

– автономды жүйелерде жаңартылатын энергия көздерін пайдаланудың техникалық мүмкіндіктері (Амерханов, 2011; Гусаров, 2013; Сарсекеев, 2016).

– күн энергиясын қолдану арқылы өсімдік өнімдерін кептіру процесін қарқындату ерекшеліктері [194];

– ауыл шаруашылығы тұтынушыларын электрмен жабдықтау үшін автономды күн фотоэлектрлік қондырғылардың тиімділігі (Саплин, 2000; Алферов, 2004; Ахметшин, 2015).

Күн энергетикасы пайдаланудың барынша қарапайымдылығымен, ең көп ресурстармен, экологиялық тазалықпен және барлық жерде таралумен сипатталады. Қазақстан Республикасының ауылдық аумақтарын дамыту үшін күн энергиясын ең тиімді пайдалану үшін осы энергияның ресурстарын анықтау қажет.

Ауыл аумағының нақты жеріндегі күн энергиясының әлеуетін дәл бағалау үшін жер бетіне жететін күн сәулесінің барлық құрамдастарының сағат сайынғы мәнін білу қажет. Есептеу үшін негізгі бастапқы деректер зерттелетін аймақтың немесе нақты жердің географиялық координаттары болып табылады.

Күн қондырғыларын жобалау кезінде не қондырғыны пайдаланудың ұсынылған орнында алынған күн радиациясын өлшеу деректерін пайдаланады, не тиісті метеорологиялық деректер негізінде күн радиациясының шамасын бағалайды. Актинометриялық деректер көздерінің арасында ең қолжетімді көзі метеорологиялық спутниктердің Жерді зондтау деректеріне негізделген NASA (National Aeronautics and Space Administration) электрондық базасы болып табылады.

Әдебиеттерге шолу

Қоршаған орта ғылымының дамуы дәстүрлі отынды пайдалану аймақтық және жаһандық климаттың өзгеруі, ауаның ластануы, әсіресе үлкен қалаларда жағымсыз салдарға әкелетінін көрсетеді (Пэнг, 2013; Сампаио, Гонзалез, 2017). Осы себепті электр энергиясын өндіру үшін жаңартылған энергия көздерін пайдаланудың жаңа технологиялары қажет. Электр энергиясының көзі ретінде фотоэлектрлік панельдер әлемдегі көптеген саясаткерлер мен зерттеушілердің назарында (Тяги, 2013; Бхаттачаря, 2014).

Ауыл шаруашылығында күн энергиясын пайдалану ерекшеліктері бірқатар қолданбалы жұмыстарда қарастырылады. Мәселен Әмірханов пен Гаркави (2011); Гусаров (2013); Сәрсекеев (2016) және т.б. автономды жүйелерде жаңартылатын энергия көздерін пайдаланудың техникалық мүмкіндіктерін зерттеді. Хазимов пен Сағындықова (2015) күн энергиясының көмегімен өсімдік өнімдерін кептірудің қарқындылығын зерттеді; Саплин (2000), Алферов (2004), Ахметшин (2015) және т.б. ауылшаруашылық тұтынушыларын электрмен жабдықтауға арналған автономды күн фотоэлектрлік қондыргылардың тиімділігін талдады.

Қазақстанның жағдайларына сәйкес зерттеушілер баламалы энергетиканы ауыл шаруашылығының тиімділігін арттыру үшін маңызды резерв ретінде айқындайды (Омарбекова, 2017). Бірақ, жаңартылатын ресурстардың елеулі әлеуетіне қарамастан, олардың Қазақстанда электр энергиясын өндірудің жалпы көлеміне үлесі төмен болып қалуда. Қазақстанның кейбір өңірлері электр энергиясының тапшылығын сезінуде. Ел экономикасының жоғары энергия сыйымдылығы және басқа да проблемалар отын-энергетикалық ресурстарды ұтымсыз пайдалануға алып келеді (Смагулова, 2017). Уақытша, географиялық және климаттық факторларды ескеретін өңірлер мен ауылдық жерлерде жаңартылатын энергия көздерін пайдалану мүмкіндіктері туралы әлі де бірнеше ғылыми зерттеулер бар. Осы уақыт-

қа дейін айтылғанның бәрін ескере отырып, Қазақстан аумагы үшін күн энергетикасының мүмкіндіктерін зерттеу және оны енгізу ел үшін өте өзекті мәселе болып табылады деп болжауға болады.

Зерттеу әдістері

Күн энергетикасын пайдалану мен дамытуды болжау үшін нақты сандардан бас тарту қажет. Бүгінгі күні аймақтың күн ресурстарының әлеуетін бағалаудың кең таралған әдістерінің бірі жиынтық күн радиациясының кіріс деректері бойынша Күн жүйесінің тиімділігін есептеу және нақты алынған нүкте үшін де, берілген ауылдық аумақ үшін де күн энергиясының жалпы әлеуеті бойынша деректер болып табылады.

В.И. Виссарионов және басқалардың (Виссарионов, 2008) пікірінше, бұл жалпы күн энергиясының әлеуеті үшін берілген аумақ, әдетте, жиынтық күн радиациясының түсетін көлденең қабылдау алаң көлемі 1 м^2 үшін кезең — бір күнтізбелік жыл деп түсініледі. Күн энергиясының жалпы кірісі мына формула бойынша есептеледі:

$$E_{\text{вал}} = T \cdot \sum_{i=1}^{n} E_{\text{ЖК}i}^{\text{КҚ}} \cdot F_i \quad \text{(кВт*сағат)}$$

мұндағы T- бір жылдағы тәулік саны; $E_{\text{ЖК}i}^{\text{КҚ}}$- і-аймақ үшін 1 м2 болатын көлденең қабылдау (КҚ) алаңына түсетін Күн радиациясының жиынтық кірісі (ЖК) $\left(\frac{\text{кВт·сағат}}{\text{м}^2 \cdot \text{тәулік}}\right)$; F_i — аймақ алаңы (км^2).

Қазақстан Республикасының аумагы 261 млн гектардан асады, оның ішінде 102,6 млн гектар (39,27%) ауыл шаруашылығы мақсатындағы жерлерге жатады (кесте 1).

Кесте 1. Қазақстан Республикасының өңірлері бойынша ауыл шаруашылыгы мақсатындағы жерлердің географиялық координаттары мен аудандары

Өңір №	Өңірлер	Географикалық координаттары	Жалпы ауданы, мың га	Оның ішінде ауыл шаруашылыгы мақсатындағы жерлер,	
				мың га	Үлес салмағы (%)
1	Ақмола облысы	51°92’ N – 69°41’ E	14 620,7	10 782,2	73,75
2	Ақтөбе облысы	48°78’ N – 57°99’ E	29 263,4	10 115,5	34,57
3	Алматы облысы	45°01’ N – 78°42’ E	22 358,3	8 697,3	38,90
4	Атырау облысы	47°11’ N – 51°91’ E	11 113,5	2 516,6	22,64
5	ШығысҚазақстан облысы	48°71’ N – 80°79’ E	28 346,8	10 557,5	37,24
6	Жамбыл облысы	42°89’ N – 71°39’ E	11 937,1	4 615,4	38,66
7	Батыс Қазақстан облысы	49°57’ N – 50°81’ E	13 668,8	6 225,4	45,54
8	Қарағанды облысы	47°90’ N – 71°77’ E	35 644,4	14 021,5	39,34
9	Қызылорда облысы	44°69’ N – 62°66’ E	24 041,4	2 456,7	10,22
10	Қостанай облысы	51°51’ N – 64°05’ E	19 600,1	10 787,9	55,04
11	Маңғыстау облысы	44°59’ N – 53°85’ E	16 564,2	5 338,1	32,23
12	Павлодар облысы	52°29’ N – 76°97’ E	12 470,5	5 497,7	44,09
13	Солтүстік Қазақстан облысы	54°16’ N – 69°94’ E	9 804,3	6 917,0	70,55
14	Оңтүстік Қазақстан облысы	42°27’ N – 68°14’ E	11 725,8	4 050,3	34,54
15	Алматы қ.	43°22’ N – 76°85’ E	68,3	9,1	13,32
16	Астана қ.	51°16’ N – 71°47’ E	72,2	12,7	17,59
Барлығы			**261 299,8**	**102 600,9**	**39,27**

Ескерту – Автормен (Гразиано да Силва, 2001) бойынша дайындалған

Қазақстан Республикасының ауылдық аумақтарының күн энергиясы қорын есептеу үшін келесі деректер қолданылды:

– NASA электронды базасынан күн радиациясының жиынтық кірісі бойынша деректер (НАСА, 2017);

– Қазақстан Республикасы Ауыл шаруашылығы министрлігі Жер ресурстарын басқару комитетінің ауыл шаруашылығы мақсатындағы жер учаскелерінің алаңдары бойынша есебі.

Астана және Алматы қалаларында ауыл шаруашылығы мақсатындағы жерлер бар, бірақ олар негізінен қосалқы шаруашылық үшін пайдаланылады. Сондықтан ауылдық аумақтарды күн энергиясының әлеуеті тұрғысынан зерттеу кезінде бұл аймақтарды біз қолданбадық.

Қазақстан Республикасы Ауыл шаруашылығы министрлігі Жер ресурстарын басқару комитетінің есебі бойынша (2016) ел экономикасының аграрлық секторында шаруашылық жүргізудің мемлекеттік емес нысандарына 100,9 млн га немесе ауыл шаруашылығы мақсатындағы барлық жерлердің 98,4% бекітілген. Республикада 219,8 мың шаруа және фермер қожалықтары, 1,5 мың ауыл шаруашылығы өндірістік кооперативтері, 7,6 мың шаруашылық серіктестіктері мен акционерлік қоғамдар бар. Қазақстанның өңірлерінде орталықтандырылған электрмен жабдықтау жүйесінен 17 км-ден астам қашықтықтағы 100-ден артық фермерлік шаруашылық, 30-50 км-ден астам 500-ден артық шаруашылық бар.

Сондықтан шалғайдағы ауыл шаруашылығы нысандарын автономды энергиямен жабдықтау мәселелері Қазақстанның агроөнеркәсіптік кешенінің энергетикалық саясатында маңызды рөл атқарады. Жылжымалы отын электр станцияларын автономды электрмен жабдықтау үшін дәстүрлі қолдану көмірсутек шикізатын пайдалану мәселелерімен ұштасады. Жаңартылатын энергия көздері негізінде баламалы көздерді пайдалану мұнай өнімдері мен газ бағаларының қарқынды өсуіне, сондай-ақ оларды тасымалдауға байланысты өзекті болып табылады.

Күн энергиясы жарық және жылу көзі болып табылады және үнемі өзгеретін технологиялардың тұтас қатарын пайдалану арқылы жегіледі, мысалы, күн жылыту, фотоэлектрлік энергетика, күн жылу энергиясы және жасанды фотосинтез. Күн энергиясы жаңартылатын энергияның маңызды көзі болып табылады. Олар күн сәулесін қалай басып, таратады немесе оны күн энергиясына айналдырады. Белсенді күн әдістері фотоэлектрлік жүйелерді, күн сәулесінің концентраторларын және күн энергиясын пайдалану үшін күн коллекторларын қолдануды қамтиды. Пассивті күн әдістері ғимарат орналасуын күнге бағдарлауды, қолайлы термиялық массасы немесе жарық дисперсиялық қасиеттері бар материалдарды таңдауды және табиғи жолмен ауа айнала алатын кеңістікті жобалауды қамтиды.

Қазақстан Республикасының ауылдық аумақтарының географиялық координаттарын және NASA электрондық базасының деректерін пайдалана отырып, біз күн радиациясының жиынтық кірісін анықтадық (кесте 2).

Кесте 2 – Қазақстанның ауылдық аумақтарының көлденең алаңына күн радиациясының орташа айлық кірісі (инсоляция деңгейі) (кВт/m2/тәулік)

Өңір №	Айлар												$E_{сумі}^{ГП}$
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
1	0.95	1.83	3.38	4.74	5.90	6.56	6.08	5.13	3.80	2.22	1.23	0.81	3.56
2	1.22	2.13	3.40	4.78	6.00	6.36	6.12	5.49	4.25	2.57	1.44	1.02	3.73
3	1.56	2.46	3.60	5.19	6.10	6.79	6.27	5.84	4.71	3.11	1.92	1.34	4.08
4	1.37	2.29	3.60	4.81	5.92	6.15	6.13	5.40	4.22	2.63	1.51	1.12	3.77
5	1.28	2.15	3.47	4.82	6.00	6.61	6.01	5.63	4.30	2.66	1.55	1.06	3.80
6	1.66	2.33	3.23	4.34	5.51	6.52	6.64	6.19	4.96	3.21	1.94	1.40	4.00
7	1.14	2.02	3.36	4.68	6.12	6.25	6.19	5.32	4.01	2.42	1.33	0.95	3.65
8	1.33	2.25	3.44	5.15	6.28	6.87	6.37	5.88	4.61	2.86	1.66	1.17	3.99
9	1.44	2.31	3.64	5.19	6.11	6.78	6.60	5.95	4.75	3.07	1.87	1.27	4.09
10	0.95	1.83	3.42	4.76	5.97	6.62	6.18	5.22	3.80	2.25	1.26	0.80	3.59
11	1.59	2.45	3.48	4.72	5.77	6.20	6.23	5.43	4.26	2.87	1.71	1.31	3.84
12	0.94	1.84	3.33	4.83	5.93	6.36	5.96	5.11	3.59	2.12	1.19	0.77	3.50
13	0.79	1.65	3.25	4.55	5.63	6.30	5.80	4.63	3.22	1.87	1.03	0.66	3.28
14	1.83	2.76	3.99	5.13	6.28	6.78	6.81	6.02	5.00	3.55	2.11	1.56	4.32
Ескерту – Автормен (Грациано да Силва, 2001; НАСА, 2017) бойынша дайындалған													

Бірінші кесте бойынша Күн радиациясының ең үлкен кірісі Оңтүстік Қазақстан облысының ауылдық аумақтарында (4.32 кВт/m2/тәулік) тіркелді, ал Күн сәулесінің ең аз қарқындылығы Солтүстік Қазақстан облысында байқалады (3.28 кВт/m2/тәулік).

Көріп отырғанымыздай, ауылдық аумақтардың географиялық координаттары күн энергиясының әлеуетіне әсер етеді, өйткені оңтүстікке жақын орналасқан аймақтар солтүстік аймаққа қарағанда күн радиациясының үлкен мөлшерін алады.

Сондықтан Қазақстанның ауылдық аумақтарында күн сәулесінің (радиация) қарқындылығы деңгейі бойынша үш аймақты бөліп көрсетуге болады:

– күн радиациясы жоғары қарқынды аймақтар (3.99-нан 4.32 кВт/m2/тәулікке дейін): Алматы, Жамбыл, Қызылорда, Қарағанды және Оңтүстік Қазақстан облыстары;

– күн радиациясының орташа қарқындылығы бар аймақтар (3.65-тен 3.84-ке дейін кВт/m2/тәулік): Батыс Қазақстан, Шығыс Қазақстан, Ақтөбе, Атырау және Маңғыстау облыстары;

– күн радиациясының төмен қарқындылығы бар аймақтар (3.28-ден 3.59-ге дейін кВт/m2/тәулік): Солтүстік Қазақстан, Павлодар, Ақмола және Қостанай облыстары.

Нақты жағдайларда көлденең күн радиациясының тығыздығы жергілікті жердің ендігіне, атмосфераның мөлдірлігіне, жер бетінің сипаттамаларына, сондай-ақ тәулік уақыты мен жыл уақытына байланысты болады.

Алынған мәліметтерді талдау сәуір айынан бастап тамыз айының соңына дейін, басқа айлармен салыстырғанда ең көп күн сәулесінің кезеңі байқалатынын (4.34-тен 6.87 кВт/m2/тәулік) анықтауға мүмкіндік береді. Осы кезеңде шалғайдағы фермерлік шаруашылықтар мал шаруашылығы фермалары мен техникаларын электр энергиясымен қамтамасыз ету үшін, қораларда, сорғыш жүйелердегі оңтайлы температураны ұстап тұру үшін, өнімдерді кептіру, күн жылыжайларда көшеттерді өсіру және т.б. күн сәулесінің ағынын барынша пайдалана алады.

1-ші және 2-ші кестелердің мәліметтерін пайдалана отырып, Қазақстан Республикасының ауылдық аумақтарының көлденең алаңына күн энергиясының жалпы ресурсын анықтаймыз (кесте 3).

Кесте 3 – Қазақстан Республикасының ауылдық аумақтарының көлденең алаңына күн энергиясының жалпы кірісі

Өңір №	Өңірлер	Ауыл шаруашылығы мақсатындағы жерлер, мың м^2	Орташа мәні $E_{ЖКi}^{КҚ}$ $(\frac{кВт \cdot сағат}{м^2 \cdot тәулік}$	$E_{вал}$ (МВт*сағ)
1	2	3	4	5
1	Ақмола облысы	107,82	3,56	140101,31
2	Ақтөбе облысы	101,16	3,73	137724,28
3	Алматы облысы	86,97	4,08	129515,72
4	Атырау облысы	25,17	3,77	34635,18
5	Шығыс Қазақстан облысы	105,58	3,80	146439,46
6	Жамбыл облысы	46,15	4,00	67379,00
7	Батыс Қазақстан облысы	62,25	3,65	82932,56
8	Қарағанды облысы	140,22	3,99	204209,40
9	Қызылорда облысы	24,57	4,09	36679,32
10	Қостанай облысы	107,88	3,59	141360,56
11	Маңғыстау облысы	53,38	3,84	74817,41
12	Павлодар облысы	54,98	3,50	70236,95
13	Солтүстік Қазақстан облысы	69,17	3,28	82810,32
14	Оңтүстік Қазақстан облысы	40,50	4,32	63860,40
Барлығы		**1025.8**		1412701,88
Ескерту – Автормен дайындалған				

Жүргізілген есептеулерге негізделе отырып, Қазақстан Республикасының ауылдық аумақтарындағы күн радиациясының жылдық жалпы кірісі 1412701,88 МВт*сағат. Қазақстанның ауылдық

аумақтарының көлденең алаңына күн радиациясының әлеуеті бар, бұл күн энергиясын тиімді пайдалануға мүмкіндік береді.

Күн энергиясының әлеуетін анықтау үшін жарық күнінің орташа ұзақтығын білу маңызды. 4-кестеде әр айдың тәулік ішінде күн сәулесінің ұзақтығы көрсетілген.

Кесте 4 – Қазақстанның ауылдық аумақтарының ай сайынғы жарық күнінің ұзақтығы (сағат)

Өңір №	Айлар											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
1	8.36	10.0	11.8	13.8	15.6	16.6	16.2	14.6	12.7	10.7	8.90	7.88
2	8.78	10.2	11.8	13.6	15.2	16.1	15.7	14.3	12.6	10.8	9.26	8.36
3	9.19	10.4	11.9	13.4	14.8	15.5	15.2	14.0	12.5	11.0	9.61	8.85
4	8.96	10.3	11.9	13.6	15.0	15.8	15.5	14.2	12.6	10.9	9.41	8.58
5	8.78	10.2	11.9	13.6	15.2	16.0	15.7	14.3	12.6	10.8	9.26	8.36
6	9.43	10.6	11.9	13.3	14.6	15.2	15.0	13.9	12.5	11.1	9.80	9.10
7	8.68	10.1	11.9	13.7	15.3	16.2	15.8	14.4	12.6	10.8	9.16	8.25
8	8.88	10.2	11.9	13.6	15.1	15.9	15.5	14.2	12.6	10.9	9.35	8.50
9	9.23	10.5	11.9	13.4	14.8	15.5	15.2	14.0	12.5	11.0	9.65	8.88
10	8.41	10.0	11.8	13.8	15.6	16.5	16.1	14.5	12.7	10.7	8.94	7.95
11	9.25	10.5	11.9	13.4	14.7	15.5	15.1	14.0	12.5	11.0	9.65	8.90
12	8.31	10.0	11.8	13.9	15.7	16.7	16.2	14.6	12.7	10.7	8.86	7.81
13	8.01	9.83	11.8	14.0	15.9	17.0	16.5	14.8	12.7	10.6	8.61	7.48
14	9.46	10.6	11.9	13.3	14.5	15.2	14.9	13.8	12.5	11.1	9.85	9.16
Ескерту – Автормен (www.mgov.kz., 2017; НАСА, 2017) бойынша дайындалған												

Кестенің деректері бізге Күн радиациясы 7.48-ден 17 сағатқа дейін түсетіндіктен электр энергиясын өндіру және жарық күннің ішінде электр энергиясымен жабдықтау үшін тікелей пайдаланылуы мүмкін. Кестені талдай келе, тәуліктің жартысына жуығы Қазақстан Республикасының барлық ауылдық аумақтарында маусым қарамастан күн жарқырайды деген қорытынды жасауға болады. Бұл күн бойы электр энергиясын, сондай-ақ артық электр энергиясының қосалқы бөлшектерін өндіруге және оны тәуліктің қараңғы уақытында пайдалануға кепілдік береді.

Талқылау

Сонымен, радиация қарқындылығы және күн сәулесінің ұзақтыгы ауыл шаруашылыгы тұтынушыларын электрмен жабдықтау үшін күн энергиясын пайдалануға қолайлы.

Ауылдық аумақтардағы агроөнеркәсіптік кешен субъектілері күн панельдеріне инвестициялық салымдар салатын болса, онда шеккен шығыстардың 80 % (2500000 теңгеге дейін) субсидиялау қағидаларын қолдана отырып қайтарып алуға мүмкіншіліктері бар.

Инвестициялық субсидиялау «Жайылымдарды суландыру инфрақұрылымын құру және мал өсіруші шаруашылықтарды сумен қамтамасыз ету (құдықтар, ұңғымалар)» жобасының паспорты негізінде жүзеге асырылады. Агроөнеркәсіптік кешен субъектілері аккумуляторлы батареясы, инверторы, контроллері бар, қуаты 2 кВт-тан басталатын күн панельдерін шаруашылықтарында орната алады (www.adilet.zan.kz., 2018).

Инвестициялық субсидиялау электрондық өтінім берілген жылға дейін екі жылдан ерте емес пайдалануға берілген инвестициялық жобалар бойынша ұсынылады. Субсидиялауға:

1) инвестициялық жоба пайдалануға берілетін күнге дейін 24 (жиырма төрт) айдан ерте емес сатып алынған;

2) инвестициялық жоба пайдалануға берілетін күнге дейін 36 (отыз алты) айдан ерте емес жасалған күн панельдері жатады.

Субсидиялар мынадай шарттар сақталған кезде төленеді:

– өтінімді «электрондық үкіметтің» веб-порталы арқылы электрондық түрде беру;

– өтінімді субсидиялаудың ақпараттық жүйесінде тіркеу;

– инвесторда деректері субсидиялаудың ақпараттық жүйесінің «Заңды тұлғалар» немесе «Жеке тұлғалар» мемлекеттік дерекқорларымен ақпараттық өзара іс-қимыл жасауының нәтижесінде расталған субсидиялаудың ақпараттық жүйесінде жеке шотының болуы;

– инвесторда субсидиялаудың ақпараттық жүйесінің мемлекеттік жер кадастрының автоматтандырылған ақпараттық жүйесімен және «Жылжымайтын мүлік тіркелімі» мемлекеттік дерекқорымен

ақпараттық өзара іс-қимыл жасауының нәтижесінде расталған тиісті алқапта жер пайдалану және (немесе) жеке меншік құқығымен ауыл шаруашылығы мақсатындағы жер учаскесінің болуы;

– инвестордың күн панельдерін сатып алғаны субсидиялаудың ақпараттық жүйесінің ауыл шаруашылығы техникасының мемлекеттік тізілімімен расталуы;

– күн панельдерінің сатып алынғаны субсидиялаудың ақпараттық жүйесінің электрондық шот-фактуралардың ақпараттық жүйесімен ақпараттық өзара іс-қимыл жасауы арқылы расталуы.

Сонымен ауылдық аумақтарды дамытудағы күн энергиясын қолданудың мүмкіндіктерін қарастыра отырып мынадай қорытындылар жасауға болады:

Қазақстан аймақтарында жылжымалы отын электр станциялары қолданылатын орталықтандырылған электрмен жабдықтау жүйесінен алыс фермерлік шаруашылықтар бар. Қазақстан Республикасының ауылдық аумақтарының ғеоғрафиялық координаттарын және NASA электрондық базасының деректерін пайдалана отырып, біз күн радиациясының жиынтық кірісін анықтадық. Күн радиациясының орташа мәнінің ең үлкен кірісі Оңтүстік Қазақстан облысының ауылдық аумақтарында (4.32 кВт/м^2/тәулік) тіркелді, ал Күн сәулесінің ең аз қарқындылығы Солтүстік Қазақстан облысында байқалады (3.28 кВт/м^2/тәулік). Алынған мәліметтерді талдау Қазақстанның ауылдық аумағында күн сәулесінің келуінің орташа мәні айтарлықтай өзгеретінін көрсетті. Сондықтан күн радиациясының қарқындылығы бойынша үш аймақты бөлуге болады: жоғары (5 аймақ), орташа (5 аймақ) және төмен (4 аймақ). Қазақстанның ауылдық аумақтарының айлар бойынша жарық күнінің ұзақтығын есептеу тәуліктің жартысына жуығы күн (күніне 7.48-ден 17 сағатқа дейін), сондай-ақ маусымға қарамастан жарқырайтынын көрсетті. Бұл күн бойы электр энергиясын, сондай-ақ артық электр энергиясының қосалқы бөлшектерін өндіруге және оны тәуліктің қараңғы уақытында пайдалануға кепілдік береді;

Агроөнеркәсіптік кешен субъектілері аккумуляторлы батареясы, инверторы, контроллері бар, қуаты 2 кВт-тан басталатын күн панельдерін «Жайылымдарды суландыру инфрақұрылымын құру және мал өсіруші шаруашылықтарды сумен қамтамасыз ету (құдықтар, ұңғымалар)» жобасының паспорты негізінде шаруашылықтарында орната алады. Күн панельдерін ауылдық аумақтарды дамыту үшін қолданудың мынадай тиімді жақтары бар:

а) салынған инвестициялардың қайтарымдылығы жүзеге асырылады. Агроөнеркәсіп кешен субъектілері сатып алынған және орнатылған күн панельдері бойынша қолдану мерзімі мен субсидиялаудың басты шарттарын толық орындаған кезде шеккен шығыстардың жартысынан астам бөлігін қайтарып алуға мүмкіншіліктері бар;

ә) ауыл тұрғындары тұрақты электр энергиясымен қамтылады. Бұл құрылғылар ауыл шаруашылығы өндірісі жағдайында энергияны тұтынудың шағын көлемі үшін қажетті автономды нысандарды энергиямен жабдықтаудың ұтқыр, жинақы, технологиялық жүйелерін өндіруге және пайдалануға мүмкіндік береді;

б) күн сәулелерін қолдану қоршаған ортаның қауіпсіздігіне әсер етпейді, өйткені күн энергиясының көзі таусылмайды, сондай-ақ ешқандай қалдықтарды кәдеге жаратудың қажеттігі туындамайды.

Қорытынды

Ауылдық аумақтарды дамытудағы күн энергиясын қолданудың мүмкіндіктерін қарастыра отырып мынадай қорытындылар жасауға болады:

– Қазақстан аймақтарында жылжымалы отын электр станциялары қолданылатын орталықтандырылған электрмен жабдықтау жүйесінен алыс фермерлік шаруашылықтар бар. Қазақстан Республикасының ауылдық аумақтарының ғеоғрафиялық координаттарын және NASA электрондық базасының деректерін пайдалана отырып, біз күн радиациясының жиынтық кірісін анықтадық. Күн радиациясының орташа мәнінің ең үлкен кірісі Оңтүстік Қазақстан облысының ауылдық аумақтарында (4.32 кВт/м^2/тәулік) тіркелді, ал Күн сәулесінің ең аз қарқындылығы Солтүстік Қазақстан облысында байқалады (3.28 кВт/м^2/тәулік). Алынған мәліметтерді талдау Қазақстанның ауылдық аумағында күн сәулесінің келуінің орташа мәні айтарлықтай өзгеретінін көрсетті. Сондықтан күн радиациясының қарқындылығы бойынша үш аймақты бөлуге болады: жоғары (5 аймақ), орташа (5 аймақ) және төмен (4 аймақ). Қазақстанның ауылдық аумақтарының айлар бойынша жарық күнінің ұзақтығын есептеу тәуліктің жартысына жуығы күн (күніне 7.48-ден 17 сағатқа дейін), сондай-ақ маусымға қарамастан жарқырайтынын көрсетті. Бұл күн бойы электр энергиясын, сондай-ақ артық электр энергиясының қосалқы бөлшектерін өндіруге және оны тәуліктің қараңғы уақытында пайдалануға кепілдік береді;

– агроөнеркәсіптік кешен субъектілері аккумуляторлы батареясы, инверторы, контроллері бар, қуаты 2 кВт-тан басталатын күн панельдерін «Жайылымдарды суландыру инфрақұрылымын құру

және мал өсіруші шаруашылықтарды сумен қамтамасыз ету (құдықтар, үңғымалар)» жобасының паспорты негізінде шаруашылықтарында орната алады. Күн панельдерін ауылдық аумақтарды дамыту үшін қолданудың мынадай тиімді жақтары бар: салынған инвестиңиялардың қайтарымдылығы жүзеге асырылады; ауыл тұрғындары тұрақты электр энергиясымен қамтылады; күн сәулелерін қолдану қоршаған ортаның қауіпсіздігіне әсер етпейді.

References

Adilet (2018). Investitsiyalyq salymdar kezinde agroonerkasiptik keshen subektisi shekken shygystardyn bir boligin oteu boiynsha subsidiyalau qagidalaryn bekitu turaly Qazaqstan Respublikasy Auyl sharuashylygy ministrinin m.a. 2018 zhylgy 23 shildedegi № 317 buirygy [Order of the Acting Minister of Agriculture of the Republic of Kazakhstan of July 23, 2018 N 317 On approval of the rules for subsidizing part of the expenses incurred by the subject of the agro-industrial complex during Investment investments]. *adilet.zan.kz.* https://www.adilet.zan.kz [in Kazakh].

Ahmetshin, A.T., & Yarmuhametov, U.R. (2015). Povyshenie effektivnosti solnechnykh fotoelektricheskikh ustanovok dlya detsentra-lizovannogo elektrosnabzheniya selskokhozyaistvennykh potrebitelei [Improving solar photovoltaic installation efficiency for decentralized electric power supply of agricultural consumers]. *Vestnik Irkutskogo gosudarstvennogo tekhnicheskogo universiteta — Bulletin of Irkutsk State Technical University*, 8, 150–156 [in Russian].

Albrecht, F., & Nguyen, T. (2020). Prospects of electrofuels to defossilize transportation in Denmark — A techno-economic and ecological analysis. *Energy, 192.* https://www.sciencedirect.com/science/article/abs/pii/S0360544219322066?via%3Dihub

Alferov, Zh.I., Andreev, V.M., & Rumyancev, V.D. (2011). Tendentsii i perspektivy razvitiya solnechnoi fotoenergetiki [Trends and prospects of solar photoenergy development]. *Fizika i tekhnika poluprovodnikov – Physics and technology of semiconductors,* 38, 8, 937–948 [in Russian].

Amerhanov, R.A., & Gar'kavyj, K.A. (2011). Teploakkumulyatsionnaya i teplonasosnaya sistema teplosnabzheniya na osnove vozobnovlyaemykh istochnikov energii [Heat storage and heat pump heat supply system based on renewable energy sources]. *Alternativnaya energetika i ekologiya – Alternative energy and ecology,* 3 (95), 41–43 [in Russian].

Asif, M., Hassanain, M., Nahiduzzaman, K., & Sawalha, H. (2019). Techno-economic assessment of application of solar PV in building sector. *A case study from Saudi Arabia, Smart and Sustainable Built Environment 8(1) 34–52.* https://www.emerald.com/insight/content/doi/10.1108/SASBE-06–2018–0032/full/html

Berrada, A., & Laasmi, M. (2021). Technical-economic and socio-political assessment of hydrogen production from solar energy. *Journal of Energy Storage, 44.* https://www.sciencedirect.com/science/article/abs/pii/S2352152X21011324? via%3Dihub

Bhattacharya, T., Chakraborty, A.K., & Pal, K. (2014). Effects of ambient temperature and wind speed on performance of monocrystalline solar photovoltaic module in Tripura, India. *Journal of Solar Energy, 115.*

David, T., Silva Rocha Rizol, P., Guerreiro Machado, M., & Buccieri, G. (2020). Future research tendencies for solar energy management using a bibliometric analysis. *Heliyon 6(7).* https://linkinghub.elsevier.com/retrieve/pii/S2405844020312962

Graziano da Silva, J., & Del Grossi, M. (2001). Rural non-farm employment and incomes in Brazil: patterns and evolution. *World Dev, 29 (3), 443–454.*

Gusarov, V.A., Lapshin, S.A., & Harchenko, V.V. (2013). Ispolzovanie lokalnoi generatsii ot vozobnovlyaemykh istochnikov energii v tupikovykh uchastkakh protyazhennykh linii elektroperedachi nizkogo napryazheniya [The use of local generation from renewable energy sources in dead-end sections of extended low-voltage power transmission lines]. *Mezhdunarodnyi nauchnyi zhurnal «Alternativnaya energetika i ekologiya» – International scientific journal "Alternative Energy and Ecology",* 7, 15–18 [in Russian].

Hazimov, K.M., Hazimov, J., Sagyndykova, A., & Hazimov, M. (2015). Vliyanie tekhnologicheskikh parametrov na protsess sushki i kachestvennye pokazateli produkta [Influence of technological parameters on the drying process and qualitative indices of the product]. Proceedings from Technical science — from theory to practice: *XLII Mezhdunarodnaya nauchno-prakticheskaya konferentsiya — XLII International Scientific and Practical Conference*, 1 (38), Novosibirsk, 87–95 [in Russian].

NASA Surface meteorology and Solar Energy — Location (2017). www.eosweb.larc.nasa.gov.

Omarbekova, A.D., Pentayev, T.P., Igembayeva, A.K., & Abayeva, K.T. (2017). Analysis of prospects for sustainable land use (lands of agricultural designation) in the republic of Kazakhstan in the context of the development of alternative energy. *International Journal of Energy Economics and Policy,* 7(2), 337–345.

Osnovnye rezultaty doklada REN 21 o Globalnom sostoyanii vozobnovlyaemoi energetiki [The main results of the REN21 Report on the Global State of Renewable Energy 2018] [in Russian].

Peng, J., Lu, L., & Yang, H. (2013). Review on life cycle assessment of energy payback and greenhouse gas emission of solar photovoltaic systems. *Renewable and Sustainable Energy Reviews,* 19, 255–274.

Prabhakar, Y., Davies, P.J., & Sarkodie, S.A. (2019). The prospects of decentralised solar energy home systems in rural communities: User experience, determinants, and impact of free solar power on the energy poverty cycle. Energy Strategy Reviews, 26. https://www.sciencedirect.com/science/article/pii/S2211467X19301166?via%3Dihub

Sahin, A., Uddin, M., Yilbas, B., & Al-Sharafi, A. (2020). Performance enhancement of solar energy systems using nanofluids: An updated review. Renewable Energy, 145, 1126–1148; https://www.sciencedirect.com/science/article/abs/pii/S0960148119309425?via%3Dihub

Sampaio, P.G.V., & González, M.O.A. (2017). Photovoltaic solar energy: Conceptual framework. *Renewable and Sustainable Energy Reviews,* 74, 590–601.

Sarsikeyev, E.Zh., Mustafina, R.M., & Mustafina, D.B. (2016). Tekhniko-ekonomicheskoe sravnenie variantov elektrosnabzheniya v avtonomnykh sistemakh na baze vozobnovlyaemykh istochnikov energii [Technical and economic comparison of electric power supply options in the autonomous systems based on renewable energy sources]. *Vestnik Pavlodarskogo gosudarstvennogo universiteta. Seriya energeticheskaya – Bulletin of Pavlodar State University. Energy series,* 4, 141–149 [in Russian].

Saplin, L.A., Sher'yazov, S.K., Ptashkina-Grina, O.S., & Il'in, Yu.P. (2000). Energosnabzhenie selskokhozyaistvennykh potrebitelei s ispolzovaniem vozobnovlyaemykh istochnikov [Energy supply to agricultural consumers using renewable sources]. Chelyabinsk: ChGAU [in Russian].

Smagulova, S.A., Adil, J., Tanzharikova, A., Imashev, A. (2017). The economic impact of the energy and agricultural complex on greenhouse gas emissions in Kazakhstan. International Journal of Energy Economics and Policy, 7(4), 252–259.

Tyagi, V.V., Rahim, N.A., Rahim, N.A., Jeyraj, A., Selvaraj, L. (2013). Progress in solar PV technology: Research and achievement. *Renewable and Sustainable Energy Reviews*, 20, 443–461.

Vo, T., Ko, H., Huh, J., Park, N. (2021). Overview of solar energy for aquaculture: The potential and future trends. *Energies,* 14(21), 6923. https://doi.org/10.3390/en14216923

Vissarionov ,V.I., Deryugina, G.V., Kuznecova, V.A., & Malinin, N.K. (2008). Solnechnaya energetika [Solar energy]. Moscow: MEI [in Russian].

Zhuravlev, P., Poltarykhin, A., Sharagin, V., Vorobyeva, V., Bezveselnaya, Z., & Khodos, D. (2019). Economic aspects of human capital development in the context of renewable energy. *Journal of Environmental Management and Tourism,* 10(7) 1678–1686. https://doi.org/10.14505/jemt.v10.7(39).24

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Перспективы использования солнечной энергии в развитии сельских территорий

Аннотация:

Цель: Целью статьи является дальнейшее развитие сельскохозяйственного производства на основе широкого использования новых прогрессивных технологий производства и потребления энергетических ресурсов сельских территорий. Изучение теоретико-методических основ и обоснование научно-практических рекомендаций.

Методы: Методологической базой исследования являются абстрактно-логические, статистические, экспертные, сравнительные и структурные методы. Теоретической основой исследования являются фундаментальные труды казахстанских и зарубежных ученых по расширению использования сельских территорий, агропромышленных возобновляемых источников энергии, а также нормативно-правовые акты Республики Казахстан в области государственного регулирования агропромышленного комплекса и сельских территорий.

Результаты: На основе проведенных методов в регионах Казахстана существуют фермерские хозяйства, далекие от централизованной системы электроснабжения, где применяются передвижные топливные электростанции. Используя географические координаты сельских территорий Республики Казахстан и данные электронной базы NASA, мы определили совокупный доход от солнечной радиации. Наибольший доход от средне-

го значения солнечной радиации зафиксирован на сельских территориях Южно-Казахстанской области (4, 32 кВт/m2/сут, а наименьшая интенсивность солнечного излучения наблюдается в Северо-Казахстанской области (3,28 кВт/m2/сут). Анализ полученных данных показал, что среднее значение прихода солнечного света на сельской территории Казахстана существенно изменяется. Поэтому по интенсивности солнечной радиации можно выделить три зоны: высокую (5 зон), среднюю (5) и низкую (4 зоны). Расчет продолжительности светового дня сельских территорий Казахстана по месяцам показал, что около половины суток светит солнце (с 07.48 до 17.00 ч в день), а также независимо от сезона. Это гарантирует производство электроэнергии в течение дня, а также запасных частей к избыточной электроэнергии и использование ее в темное время суток .

Выводы: Субъекты агропромышленного комплекса могут устанавливать солнечные панели с аккумуляторной батареей, инвертором, контроллером мощностью от 2 кВт в своих хозяйствах на основании паспорта проекта «Создание инфраструктуры обводнения пастбищ и водоснабжения животноводческих хозяйств (колодцы, скважины)». Использование солнечных панелей для развития сельских территорий имеет следующие положительные стороны: осуществляется возврат вложенных инвестиций; сельские жители обеспечиваются устойчивой электроэнергией; использование солнечных лучей не влияет на безопасность окружающей среды.

Ключевые слова: сельские территории, энергия, экономический потенциал, методы, международный опыт, ресурс, механизм, анализ, стратегия, процедура, агропромышленность, хозяйство.

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Prospects for the use of solar energy in rural development

Abstract

Object: The purpose of the article is to expand the scope of the use of renewable energy sources as a way for the future development of agricultural production based on the widespread use of new progressive technologies for the production and consumption of energy resources in rural areas. Research of theoretical and methodological foundations and justification of scientific and practical proposals.

Methods: Abstract-logical, statistical, expert, comparative and structural methods.

Results: Based on the used methods, there are farms in the regions of Kazakhstan that are far from the centralized power supply system, where mobile fuel power plants are used. Using the geographical coordinates of rural areas of the Republic of Kazakhstan and data from the NASA electronic database, we determined the total input of solar radiation. The largest input of the average value of solar radiation was recorded in rural areas of the South Kazakhstan region (4.32 kW/m2/day), and the lowest intensity of solar radiation is observed in the North Kazakhstan region (3.28 kW/m2/day). The analysis of the obtained data showed that the average value of solar radiation in rural areas of Kazakhstan varies significantly. Therefore, according to the intensity of solar radiation, three zones can be distinguished: high (5 zones), medium (5 zones), and low (4 zones). The calculation of the duration of the light day in rural areas of Kazakhstan by month showed that almost half of the day is illuminated by the sun (from 7.48 to 17 hours a day), as well as regardless of the season. This guarantees the production of electricity during the day, as well as spare parts for excess electricity and its use in the dark hours of the day.

Conclusions: "Subjects of the agro-industrial complex will be able to install solar panels with a battery, inverter, controller with a capacity of 2 kW in their farms on the basis of the passport of the project" creation of infrastructure for irrigation of pastures and water supply of livestock farms (wells). The use of solar panels for the development of rural areas has the following advantages: the return on investment will be realized; rural residents will be provided with sustainable electricity; the use of solar rays will not affect the safety of the environment.

Keywords: rural areas, energy, economic potential, methods, international experience, resource, mechanism, analysis, strategy, procedure, agro-industrial complex, economy.

References

Albrecht F. Prospects of electrofuels to defossilize transportation in Denmark — A techno-economic and ecological analysis. / F. Albrecht, T., Nguyen // Energy. — 2020. — P. 192. https://www.sciencedirect.com/science/article/abs/pii/S0360544219322066? via%3Dihub

Asif M. Techno-economic assessment of application of solar PV in building sector. / M. Asif, M. Hassanain, K. Nahiduzzaman, H. Sawalha // *A case study from Saudi Arabia, Smart and Sustainable Built Environment*. — 2019. — No. 8(1), — P. 34–52. https://www.emerald.com/insight/content/doi/10.1108/SASBE-06–2018–0032/full/html.

Berrada A. Technical-economic and socio-political assessment of hydrogen production from solar energy / A. Berrada, M. Laasmi // *Journal of Energy Storage*. — 2021. — P. 44. https://www.sciencedirect.com/science/article/abs/pii/S2352152X21011324? via%3Dihub

Bhattacharya T. Effects of ambient temperature and wind speed on performance of monocrystalline solar photovoltaic module in Tripura, India / T. Bhattacharya, A.K. Chakraborty, K. Pal. — *Journal of Solar Energy.* — 2014. — P. 115.

David T. Future research tendencies for solar energy management using a bibliometric analysis. / T. David, P. Silva Rocha Rizol, M. Guerreiro Machado, G, Buccieri. — *Heliyon.* — 2020. — No. 6(7). https://linkinghub.elsevier.com/retrieve/pii/S2405844020312962.

Graziano da Silva J. Rural non-farm employment and incomes in Brazil: patterns and evolution. Graziano da / J. Silva, M. Del Grossi. — *World Dev.* — 2001. — No. 29 (3). — P. 443–454.

NASA Surface meteorology and Solar Energy — Location (2017). www.eosweb.larc.nasa.gov

Omarbekova A.D. Analysis of prospects for sustainable land use (lands of agricultural designation) in the republic of Kazakhstan in the context of the development of alternative energy / A.D.Omarbekova, T.P. Pentayev, A.K. Igembayeva, K.T. Abayeva // International Journal of Energy Economics and Policy. — 2017. — No. 7(2). — P. 337–345.

Zhuravlev P. Economic aspects of human capital development in the context of renewable energy / P. Zhuravlev, A. Poltarykhin, V. Sharagin, V. Vorobyeva, Z. Bezveselnaya, D. Khodos // *Journal of Environmental Management and Tourism.* — 2019. — No. 10(7), — P. 1678–1686. https://doi.org/10.14505/jemt.v10.7(39).24

Peng J. Review on life cycle assessment of energy payback and greenhouse gas emission of solar photovoltaic systems / J. Peng, L. Lu, H. Yang // Renewable and Sustainable Energy Reviews. — 2013. — No. 19. — P. 255–274.

Prabhakar Y. The prospects of decentralised solar energy home systems in rural communities: User experience, determinants, and impact of free solar power on the energy poverty cycle. / Y. Prabhakar, J. Peter Davies, A. Samuel Sarkodie // Energy Strategy Reviews. — 2019. — Vol. 26. https://www.sciencedirect.com/science/article/pii/S2211467X19301166?via%3Dihub

Sahin A. Performance enhancement of solar energy systems using nanofluids: An updated review. / A. Sahin, M. Uddin, B. Yilbas, A. Al-Sharafi // Renewable Energy. —2020. — No. 145. — P. 1126–1148. https://www.sciencedirect.com/science/article/abs/pii/S0960148119309425?via%3Dihub

Sampaio P.G.V. Photovoltaic solar energy: Conceptual framework / P.G.V. Sampaio, M.O.A. González // Renewable and Sustainable Energy Reviews. — 2017. — No. 74. — P. 590–601.

Smagulova S.A. The economic impact of the energy and agricultural complex on greenhouse gas emissions in Kazakhstan / S.A. Smagulova, J. Adil, A. Tanzharikova, A. Imashev // International Journal of Energy Economics and Policy. — 2017. — No. 7(4). — P. 252–259.

Tyagi V.V. Progress in solar PV technology: Research and achievement / V.V. Tyagi, N.A. Rahim, N.A. Rahim, A. Jeyraj, L. Selvaraj // Renewable and Sustainable Energy Reviews. — 2013. — No. 20. — P. 443–461.

Vo T. Overview of solar energy for aquaculture: The potential and future trends / T. Vo, H. Ko, J. Huh, N. Park // Energies. — 2021. — No. 14(21). — P. 6923. https://doi.org/10.3390/en14216923

Ахметшин А.Т. Повышение эффективности солнечных фотоэлектрических установок для децентрализованного электроснабжения сельскохозяйственных потребителей / А.Т. Ахметшин, У.Р. Ярмухаметов // Вестн. Иркут. гос. техн. ун-та. — 2015. — № 8. — С. 150–156.

Алферов Ж.И. Тенденции и перспективы развития солнечной фотоэнергетики / Ж.И. Алферов, В.М. Андреев, В.Д. Румянцев // Физика и техника полупроводников. — 2004. — Т. 38. — № 8. — С. 937–948.

Амерханов Р.А. Теплоаккумуляционная и теплонасосная система теплоснабжения на основе возобновляемых источников энергии / Р.А. Амерханов, К.А. Гарькавый // Альтернативная энергетика и экология. — 2011. — № 3(95). — С. 41–43.

Виссарионов В.И. Солнечная энергетика / В.И. Виссарионов, Г.В. Дерюгина, В.А. Кузнецова, Н.К. Малинин. — М.: МЭИ, 2008. — 320 с.

Гусаров В.А. Использование локальной генерации от возобновляемых источников энергии в тупиковых участках протяженных линий электропередачи низкого напряжения / В.А. Гусаров, С.А. Лапшин, В.В. Харченко // Междунар. науч. журн. «Альтернативная энергетика и экология». — 2013. — № 7. — С. 15–18.

Инвестициялық салымдар кезінде агроөнеркәсіптік кешен субъектісі шеккен шығыстардың бір бөлігін өтеу бойынша субсидиялау қағидаларын бекіту туралы Қазақстан Республикасы Ауыл шаруашылығы министрінің м.а. 2018 жылғы 23 шілдедегі № 317 бұйрығы. www.adilet.zan.kz.

Основные результаты доклада REN 21 о Глобальном состоянии возобновляемой энергетики. — 2018. www.ren21.net.

Сарсикеев Е.Ж. Технико-экономическое сравнение вариантов электроснабжения в автономных системах на базе возобновляемых источников энергии / Е.Ж. Сарсикеев, Р.М. Мустафина, Д.Б. Мустафина // Вестн. Павлодар. гос. ун-та. Сер. энергетическая. — 2016. — № 4. — С. 141–149.

Саплин Л.А. Энергоснабжение сельскохозяйственных потребителей с использованием возобновляемых источников: учеб. пос. / Л.А. Саплин, С.К. Шерьязов, О.С. Пташкина-Грина, Ю.П. Ильин. — Челябинск: ЧГАУ, 2000. — С. 9–18.

Хазимов К.М. Влияние технологических параметров на процесс сушки и качественные показатели продукта / К.М. Хазимов, Ж.М. Хазимов, А. Сагындыкова, М. Хазимов // Технические науки — от теории к практике: сб. ст. по матер. XLII Междунар. науч.-практ. конф. — Новосибирск: СибАК, 2015. — № 1(38).

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Қазақстан Республикасында күн энергиясын дамытуды мемлекеттік қолдаудың ерекшеліктері

Аңдатпа

Мақсаты: Мақалада Қазақстан Республикасында күн энергиясын дамытуды мемлекеттік қолдаудың тетіктері кеңінен қарастырылған. Авторлар күн энергиясын дамытуды мемлекеттік қолдаудың қаржылық және қаржылық емес құралдарын зерттеген.

Әдістері: Жалпы ғылыми зерттеу әдістерінің, сондай-ақ статистикалық және салыстырмалы талдау әдістерінің көмегімен күн энергиясын енгізудің бастапқы кезеңінде оны дамытуды мемлекеттік қолдау қажеттілігі туралы қорытынды жасалған. Пайдаланылған әдістер күн энергиясын дамыту жөніндегі ресми статистикалық мәліметтерден алынған нәтижелерге сүйенеді.

Нәтижелері: Мақалада күн энергиясын пайдаланудың кең таралған тәсілдерін бөліп көрсететін ғалымдардың зерттеулеріне назар аударылады: оны қамтамасыз ету қарапайым және қоршаған ортаға әсері төмен. Мақала авторлары күн энергиясын мемлекеттік қолдауды дамытудың нақты бағыттарын анықтап берген.

Қорытындылар: Күн энергиясын дамытуды мемлекеттік қолдау жүйесі заңнамалық деңгейде қаржылық және қаржылық емес құралдар арқылы реттеледі. Күн энергиясы дамуының ағымдағы жай-күйін талдау күн электр станңиялары өндіретін электр энергиясы көлемінің жыл сайын үлғайып отырғандығын көрсетеді. Күн энергетикасын одан әрі жетілдіру мақсатында күн электр станңияларын салудың ең оңтайлы орындарын анықтап табу қажет, бұл экономиканың, қоғамның, қоршаған орта мен климаттың теңгерімін талап етеді.

Кілт сөздер: энергия, күн энергиясы, жаңартылатын энергия көздері, мемлекеттік қолдау, тариф, аукңиондық баға, электр станңиясы.

Кіріспе

Қазіргі уақытта Қазақстан Республикасында энергетикалық қажеттіліктерді қанағаттандыру үшін көмір сияқты жаңартылмайтын энергия көздері едәуір дәрежеде пайдаланылады. Алайда оны пайдалану қоршаған ортага және қоғамның ұзақ мерзімді өсуіне кері әсер ететін зиянды газдардың едәуір шығарылуына әкеледі. Сондықтан Қазақстан Республикасы жаңартылатын энергия көздеріне (ЖЭК) көп үміт артады. ЖЭК ішінде күн энергиясы тазалықтың және көмірқышқыл газының төмен деңгейінің артықшылықтарына ие, бұл оны біздің өмірімізде кеңінен қолдануға мүмкіндік береді. Соңғы жылдары күн энергиясы энергетикалық қажеттіліктерді қанагаттандыру және қоршаган ортаны қорғау үшін әлемнің әртүрлі елді мекендерінде дамып келеді.

Күн энергиясы энергетиканы дамыту стратегиясының маңызды құрамдас бөлігі болып табылады. Күн электр станңияларын орнататын алаңды таңдау энергия өндірісінің құнына айтарлықтай әсер етеді. Қолайлы жағдай қаражатты едәуір үнемдеуге және электр энергиясын өндіру тиімділігін арттыруға алып келеді.

Болжам бойынша, жақын арада күн энергиясын өндіру, әсіресе ауылдық жерлерде, айтарлықтай дамиды. Қала халқының тез өсуіне байланысты адамдардың әлеуметтік ықпалына және мінез-құлқына байланысты факторлар күн электр станңияларын орнату туралы шешім қабылдаушылар арасында үлкен алаңдаушылық туғызады. Бұл бағытта экономиканы, технологияны, қоғамды, орналасқан жерін және қоршаган ортаны ескеретін жер телімдерін таңдау қажет.

Күн энергиясын өндіретін технологияны енгізуде мемлекеттің араласуы бага қалыптастыру кезінде нарықтық кедергілерге әкелуі мүмкін. Күн энергиясын дамытуды мемлекеттік қолдау жақын арада төмендемейтін сияқты. Мемлекет құрған ЖЭК қолдау орталықтары ұзақ мерзімді сипатқа ие.

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Сондықтан мемлекет күн электр станцияларын дамуын қолдай отырып, осы жобаларды қаржыландырудың тиімді көздерін айқындауы тиіс.

Әдебиеттерге шолу

Соңғы жылдары көптеген елдер дәстүрлі энергетикадан ЖЭК көшуді жоспарлаған, бірақ бұл мемлекеттік қолдаудың әртүрлі кедергілеріне тап болып отыр.

Киаррета А. және басқалардың (2017) зерттеулерінде жаңартылатын энергияны қолдау саясатын қолданудың маңыздылығы атап өтілген. Олардың ойынша, қазіргі уақытта мемлекет тарапынан қолдау саясаты болмаса, жаңартылатын технологиялар дәстүрлі энергетикалық технологиялармен бәсекелесе алмайды.

Мемлекет тарапынан жеңілдікті тарифтер, жаңартылатын энергия портфелінің стандарттары, квота жүйелері, салық жеңілдіктері және бәсекеге қабілетті тендерлер сияқты көптеген қолдау стратегиялары бар. Гробер Д. және Дэниэлс В. (2017) зерттеулеріне сәйкес жеңілдікті тариф – ЖЭК енгізуді қолдау үшін әртүрлі елдер пайдаланатын басты құрал болып табылады.

Марченко О.В. және Солмин С.В. (2020) ЖЭК енгізуді ынталандыратын түрлі әдістерді зерттейді: жаңартылатын энергия ресурстарында энергия көздерінен электр энергиясын сатуға тіркелген тарифтерді енгізу, инвесторларға субсидиялар (капитал салымдарын өтеу), инвестицияларды қайтару кепілдіктері, «жасыл сертификаттарды» енгізе отырып квоталар белгілеу және басқалар.

Әрине, ЖЭК мемлекеттік қолдау құралдары энергия көздерін өндіру технологияларына, тұтынушылардың талабына, нарықтағы бәсекеге байланысты өзгеріп отыруы мүмкін. Күн энергиясын енгізудің өзіндік талаптары бар.

Кихлстром В. және басқалар (2021) климаттық мақсаттарға қол жеткізу үшін энергияны өндіру мен тұтынуды жаңартылатын баламаларға жаһандық ауыстыру қажет екенін атап өтті. Күн сәулесін электр энергиясына айналдыратын күн фотоэлектрлік жүйелер – бұл көбірек көңіл бөлінетін энергия көзі. Алайда, фотоэлектрлік жүйелер энергетикалық нарықта бәсекеге қабілетсіз, сондықтан олар енгізілген сәттен бастап нарықтық интервенция арқылы мемлекеттік қолдауға тәуелді.

Зогхи М. және басқалар (2017) күн энергиясын ең арзан, экологиялық таза және таусылмайтын ЖЭК бірі ретінде сипаттайды. Олардың ойынша, күн энергиясын коммерциялық және өнеркәсіптік орталықтарды жылу, ыстық су, электр қуатын қамтамасыз ету және салқындату үшін қолдану үшін барынша пайдалану қажет.

Күн энергиясы сенімді, келешегі бар және пайдалы энергия көзі болып саналады. Ол ластанудың болмауы, ұзақ қызмет мерзімі, төмен техникалық қызмет көрсету және тағы басқа сияқты әртүрлі артықшылықтарға ие (Гупта А. және басқалар, 2016).

Күн энергиясы атмосферадан өтетін күн сәулесінен алынады және фотосинтез сияқты табиғи үдерістердің химиялық реакцияларын бастауға қосымша суды жылыту немесе электр энергиясын өндіру жүйелері сияқты әртүрлі үдерістер үшін қолданылады (Дорвло А. және басқалар, 2002).

Эллаббан О. және басқалар (2014) қазба отынына қарағанда күн энергиясы тегін, таусылмайтын және қоршаған ортаны ластамайтынын атап өтті. Күн әлемдегі ең үлкен энергия көзі болғандықтан, фотогальваникалық жүйелер шығаратын күн энергиясы әлемдегі екінші ірі энергия көзі болып табылады, одан кейінгі орынды жағалау желдері мен гидроэнергетика алады.

Соңғы бірнеше жылда күн сәулесін тікелей электр энергиясына айналдыратын фотоэлектрлік модульдердің қондырғыларының саны едәуір өсті. Болашақта жаңартылатын энергия көздерінің қуаты 50% - ға ұлғаюы тиіс (Киванч Б. және басқалар, 2020).

Лаврик А.Ю. және басқалар (2020) гибридті электр станциялары әлемде кеңінен таралуда, оның ішінде екі немесе одан да көп жаңартылатын көздер, әдетте күн және жел электр станциялары бар. Ең алдымен, оларды пайдалануды электрмен жабдықтауды дәстүрлі түрде әкелінетін отынмен жұмыс істейтін дизель электр станциялары жүзеге асыратын жерлерде қарастырған жөн.

Қазақстандық ғалымдар ЖЭК, оның ішінде күн энергиясын мемлекеттік қолдаудың бірнеше бағыттарын зерттеген. Мәселен, олар күн энергиясын ауылдық аумақтарда енгізу келешегін (Абаев А., 2018), ЖЭК енгізудегі мемлекеттік қолдауда бага құралдарын баса қолдану талаптарын (Тасмағанбетов А., 2020), электр энергиясында көтерме нарық құралдарын (Бекулова С.Р., 2020) және аукциондық сауда технологиясын дамыту қажеттілігін талдаған.

Сонымен, шетелдік және отандық галымдар күн энергиясын дамытудың тиімді жақтарын зерттей отырып, мемлекет тарапынан қаржылық қолдаудың керектігін атап өткен. Сонымен бірге, мемле-

кет қабылдайтын кез келген шаралар қолданыстағы нарықтық тетіктерді толықтыруға бағытталуы тиіс.

Зерттеу әдістері

Зерттеудің әдістері жалпы гылыми зерттеу тәселдерінен, сондай-ақ статистикалық және салыстырмалы талдау әдістерінен тұрады. Пайдаланылған әдістер күн энергиясын дамыту жөніндегі ресми статистикалық мәліметтерден алынган нәтижелерге сүйенеді. Отандық және шетелдік ғалымдардың гылыми мақалаларына шолу, нормативтік құжаттарды зерттеу, статискалық және салыстырмалы талдауларды жүргізу күн энергиясын енгізуге қатысты мемлекеттік қолдау құралдарының тиімді қолдануын анықтауға мүмкіндік бреді.

Нәтижелер және талқылау

Қазақстан Республикасында күн энергиясының дамуын мемлекеттік қолдау «Жаңартылатын энергия көздерін пайдалануды қолдау туралы» Заң (2009) арқылы жүзеге асырылады. Заң шеңбері аясында мемлекет қолдау қаржылық және қаржылық емес мынадай құралдарды қамтиды: ЖЭК пайдалану объектілерін орналастыру жоспарын бекіту және іске асыру; тіркелген тарифтерді және шекті аукциондық бағаларды белгілеу; атаулы көмек үсыну; кадрларды даярлау және гылыми зерттеулер жүргізуге жағдайлар жасау; техникалық реттеу; нормативтік құқықтық актілерді қабылдау.

Қаржылық емес құралдардың қатарына күн энергиясын дамытуға қатысты ресми ақпаратты тарату, желілерге кепілді қол жеткізу, жеңілдікті тарифтер, таза өлшеу жүйелері және таза сатып алу/сату жатады. Қаржылық қолдаудың жалпы құралдарына инвестициялық субсидиялар, несиелік субсидиялар, төмендетілген пайыздық мөлшерлемелер, салықтық жеңілдіктер немесе салықтан босату және гылыми зерттеулерге кеткен мемлекеттік шығындар кіреді.

Қаржылық және қаржылық емес құралдарды қолдану уақыт талабына байланысты – табиғи-климаттық жағдайларды және олардың болашақ маманданyын ескере отырып, шаруашылық жүргізуші субъектілердің басқару құрылымын оңтайландыру есебінен энергия ресурстарын жан-жақты үнемдеу және үтымды пайдалану. Бүл ретте берілген сапалық және сандық сипаттамалары бар күн электр станциялары орнатылатын жер телімдерінің құрылымын жетілдіру есебінен энергия ресурстарының ықтимал үнемделуін ескеру керек.

Мемлекет тарапынан көрсетілген көмек 2016 жылы орнатылған 295,7 МВт энергия қуатын 2020 жылы ЖЭК объектілерінде 1634,7 МВт мөлшеріне жеткізуге мүмкіндік берді (кесте 1).

Кесте 1. Қазақстан Республикасындағы күн энергиясының 2016-2020 жылдар аралығындағы ЖЭК объектілеріндегі алатын орны

№	Көрсеткіштер	Өлшем бірлігі	2016	2017	2018	2019	2020
1	ЖЭК объектілерінің белгіленген жалпы қуаты, оның ішінде	МВт	295,7	342,7	531,0	1050,1	1634,7
1.1	- күн электрстанңиялары	МВт	57,2	58,8	209,0	541,7	911,6
1.2	- күн энергиясының үлесі	%	19,3	17,2	39,4	51,6	55,8
2	ЖЭК объектілерінің электр энергиясын өндіруі, оның ішінде	Млн. кВт сағ	927,9	1102,5	1352,9	2400,7	3245,1
2.1	- күн электрстанңиялары	Млн. кВт сағ	86,8	114,3	142,3	563,14	1349,7
2.2	- күн энергиясының үлесі	%	9,4	10,4	10,5	23,5	41,6

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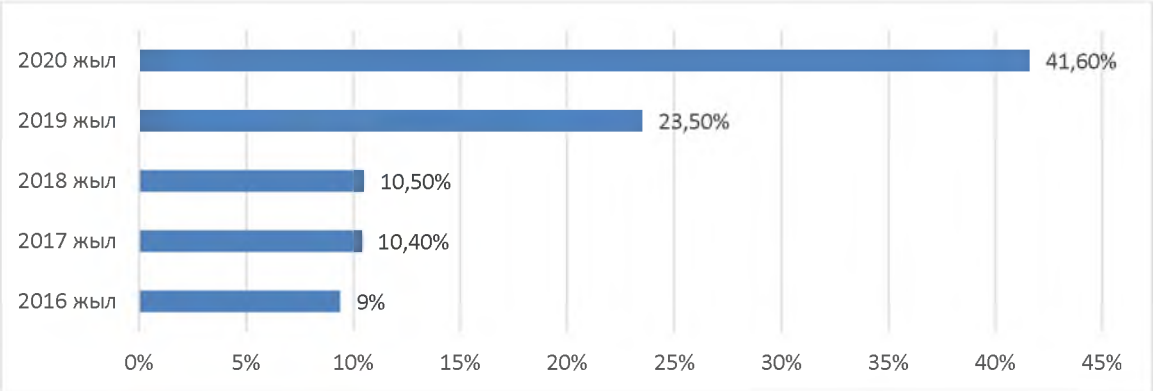
2016-2020 жылдар аралығында күн энергиясының жалпы ЖЭК объектілері орнатылган энергия қуатындағы үлесі 19,3 % -дан 55,8 % - га дейін өскен. Бүл нәтижеге қол жеткізу күн энергиясын өндіруге багытталган жаңа технологиялық қондырғыларды орнатумен тікелей байланысты. Әрине, жаңа технологияларды қолдану айтарлықтай инвестицияларды қажет етеді, оларды техникалық параметрлер бойынша да, материалдық шығындардың жекелеген түрлерінің нақты салмағы бойынша да бағалау керек.

Соңғы бес жыл ішінде күн электрстанңиялары өндіретін элекр энергиясының ЖЭК ішіндегі үлесі өсіп келеді (сурет 1).



Сурет 1. 2016-2020 жылдары күн энергиясының ЖЭК ішіндегі үлесі

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1-сурет көрсетін отырғандай, 2020 жылы күн энергиясының ЖЭК объектілері арқылы өндірілген электр энергиясының 41,6 % мөлшерін құрады. Мұндай жетістік күн энергиясының қарқынды дамуына ақпараттық түсіндірмелерді жүргізу, ең алдымен, жаңа технологиялардың сипаттамалары және олардың экономикалық тиімділігі жайында мәліметтерді насихаттау әсер етті. Мысалы, салыстырылатын технологиялардың бірі бойынша пайдалану шығындарындағы шамалы ауытқулар кезінде ресурс сыйымдылығының көрсеткіштері елеулі болуы мүмкін. Бұл жағдайда қымбат және тапшы ресурстарды аз тұтынумен сипатталатын технологияға артықшылық беру керек.

Осы тұрғыда күн электр станңияларын ұтымды ұйымдастыру және пайдалану энергия тұтынуды оңтайландыруда ғана емес, ресурстарды үнемдеуде де маңызды рөл атқарады. Күн энергиясын тиімді пайдаланудың мынадай бағыттарын көрсетуге болады:

- біріншіден, энергия қондырғыларына білікті және уақытылы техникалық қызмет көрсету, олардың жұмысын үнемі бақылау қажет;

- екіншіден, технологиялық жабдықты үнемі жаңарту негізінде энергияны пайдаланудың нормативтік деңгейіне қол жеткізу және шығындарды үнемдеу, өйткені орнату мерзімі аяқталған күн панельдері тұрақты және үнемді жұмысты қамтамасыз етпейді;

- үшіншіден, техникалық үдеріске қол жеткізуді уақытылы бағдарлау, өйткені жаңа күн қондырғылары мен технологияларын пайдалану кезінде шығындарды үнемдеу іске асады;

- төртіншіден, тұтынушылардың күн энергиясын үнемдеуі мен ұтымды пайдалануын ынталандырудың экономикалық тетігін әзірлеу керек.

Қазақстан Республикасында «ЖЭК қолдау жөніндегі есеп айырысу-қаржы орталығы» (ЖЭККҚЕСҚО) жауапкершілігі шектелген серіктестігі (ЖШС) мемлекет тарапынан күн электрстанңиялары арқылы өндірілген электр энергиясын сатып алумен айналысады. 2020 жылы «ЖЭККҚЕСҚО» ЖШС күн электрстанңиялары арқылы өндірілген 227,3 млн. кВт саг электр энергиясын сатып алған (кесте 2).

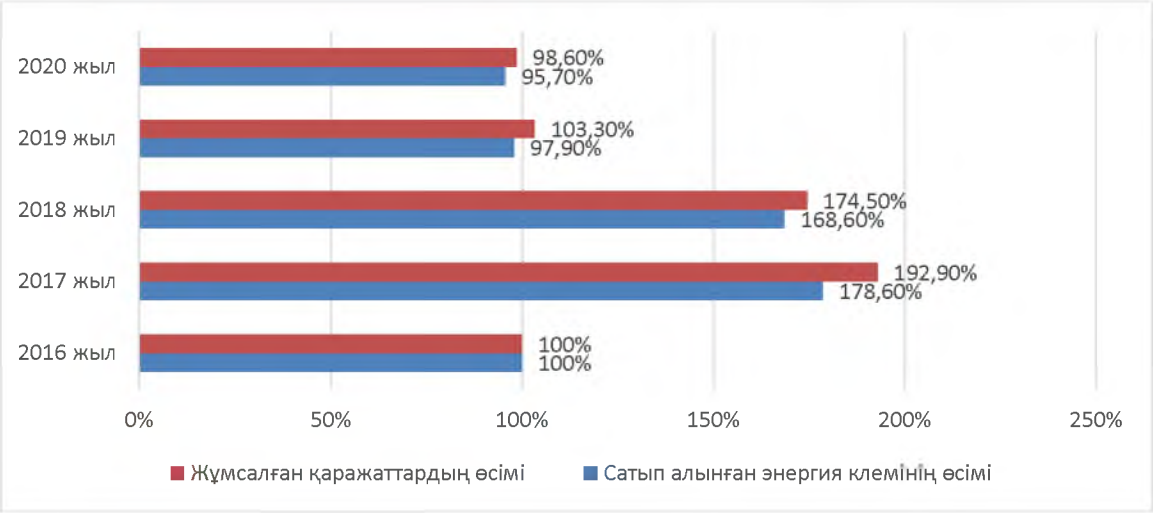
Кесте 2. Күн электрстанңиялары арқылы өндірілген электр энергиясына мемлекеттік қолдау көрсеткіштері

Көрсеткіштер	Өлшем бірлігі	2016 жыл	2017 жыл	2018 жыл	2019 жыл	2020 жыл
Сатып алынған электр энергиясының көлемі	млн. кВт саг	80,5	143,8	242,4	237,5	227,3
Энергия көлемінің өткен жылмен салыстырғандағы өсімі	%	100	178,6	168,6	97,9	95,7
Жұмсалған мемлекеттік қаржы ресурстары	млн. теңге	1246,2	2403,6	4194,5	4331,4	4271,8
Қаржы мөлшерінің өткен жылмен салыстырғандағы өсімі	%	100	192,9	174,5	103,3	98,6

Дереккөз: «ЖЭККҚЕСҚО» ЖШС деректері бойынша авторлар жасаған

Кесте мәліметтері 2016-2019 жылдар аралығында күн энергиясына кеткен қаржы мөлшерінің өсуін, тек 2020 жылы жұмсалған мемлекеттік қаржының төмендегенін көрсетіп тұр. 2020 жылы COVID-19 пандемиясы күн энергиясын өндіруге теріс әсерін тигізді.

Күн электрстанциялары көмегімен өндірілген электр энергиясының салыстырмалы өсу деңгейін байқауға болады (сурет 2).



Сурет 2. 2016-2020 жылдары күн энергиясының мемлекеттік қолдау көрсеткіштерінің өсімдері

Дереккөз: «ЖЭККҚЕСҚО» ЖШС деректері бойынша авторлар жасаған

2018 жылдан бастап күн энергиясына жіберілетін қаражат мөлшерінің өсімі біртіндеп төмендеп келеді. Бұған басты себеп тіркелген тарифтердің орнына шекті аукциондық бағаларды белгілеу тетіктерін енгізу себеп болды. Шекті аукциондық бағаларды енгізу мемлекеттен бөлінетін қаржы ресурстарын үнемдеуге мүмкіндік береді.

Жүргізілген талдау нәтижелері күн энергиясын дамытудың әлеуметтік маңыздылығын қалыптастырады:

– күн энергиясын өндіру және пайдалану әлеуметтік инфрақұрылымды дамытуға, өндірісті кеңейту есебінен жаңа жұмыс орындарын құруға және қызметкерлердің табыс деңгейін арттырады;

– азаматтардың тұрмыстық қажеттіліктеріне энергия тұтыну деңгейін арттыруға және оның неғұрлым арзан түрлері есебінен халықтың әл-ауқатының өсуіне ықпал етеді;

– жоғары технологиялық күн энергиясы қондырғыларын енгізу оларды пайдалану тиімділігін арттырып қана қоймайды, сонымен қатар өндіріс мәдениетін айтарлықтай арттырады, жұмысшылар мен мамандардың кәсіби дағдыларын жетілдіреді.

Қорытынды

Қазақстан Республикасында күн энергиясын мемлекеттік қолдау ерекшеліктерін зерттей отырып, мынадай нақты қорытындылар жасаған жөн:

– заңнамалық деңгейде күн энергиясын мемлекеттік қолдау қаржылық және қаржылық емес құралдар арқылы реттеледі. Бұл құралдар негізінен бір мезгілде бірнеше мақсаттарға қол жеткізуге бағытталған: өндіріс шығындарын азайту, жұмыс орындарын құру, электр энергиясының ішкі өндірісін ұлғайту;

– күн энергиясы дамуының ағымдағы жай-күйін талдау күн электр станциялары өндіретін электр энергиясы көлемінің жыл сайын ұлғайып отырғандығын көрсетеді. Көптеген компаниялар өндірілген электр энергиясы үшін нарықтық мөлшерлеме бойынша өтемақы ала отырып, өздерінің күн элетростанцияларының технологиялық бәсекеге қабілеттілігін жақсартты;

– күн энергетикасын одан әрі жетілдіру мақсатында күн электр станцияларын салудың ең оңтайлы орындарын табу қажет, бұл экономиканың, қоғамның, қоршаған орта мен климаттың теңгерімін талап етеді. Мемлекет күн энергиясын дамытуды негізінен ЖЭК объектілерін салуға инвестициялар іздеу және тарту үшін жағдай жасау арқылы іске асырылуы тиіс.

Қосымша мәліметтер

Мақаланы ҚР Ғылым және жоғары білім министрлігінің Ғылым комитеті қаржыландырған (грант № AP14972410).

Әдебиеттер тізімі

Abayev A. Possibilities of solar energy utilization for the development of rural areas of the Republic of Kazakhstan / A. Abayev // *International Journal of Energy Economics and Policy.* — 2018. — No. 8(2). — P. 89–94.

Бекулова С.Р. Формирование институциональной среды, способствующей развитию возобновляемой энергетики в России / С.Р. Бекулова // Теоретическая и прикладная экономика. — 2020. — № 4. — С. 66–80. DOI: 10.25136/2409–8647.2020.4.34431 URL: https://nbpublish.com/library_read_article.php? id=34431

Ciarreta A. Optimal regulation of renewable energy: A comparison of Feed-in Tariffs and Tradable Green Certificates in the Spanish electricity system / A. Ciarreta, M.P. Espinosa, C. Pizarro-irizar // Energy Economics. — 2017. — No. 67. — P. 387–399.

Gupta A. A comparative investigation of maximum power point tracking methods for solar PV system / A. Gupta, Y.K. Chauhan, R.K. Pachauri // Solar Energy. — 2016. — No. 136. — P. 236–253. https://doi.org/10.1016/j.solener.2016.07.001

Годовой отчет ТОО «Расчетно-финансовый центр по поддержке возобновляемых источников энергии». — 2020. — 76 с. // https://rfc.kegoc.kz/media/Годовой%20отчет/Годовой%20отчет%202020г.pdf

Grover, D. Social equity issues in the distribution of feed-in tariff policy benefits: A cross sectional analysis from England and Wales using spatial census and policy data / D. Grover, B. Daniels // Energy Policy. — 2017. — No. 106. — P. 255–265.

Dorvlo A.S. Solar radiation estimation using artificial neural networks / A.S. Dorvlo, J.A. Jervase, A. Al-Lawati // *Appl. Energy.* — 2002. — N 71 (4). — P. 307– 319.

Ellabban O. Renewable energy resources: current status, future prospects and their enabling technology / O. Ellabban, H. Abu-Rub, F. Blaabjerg // *Renew. Sust. Energy Rev.* — 2014. — No. 39. — P. 748– 764.

Закон Республики Казахстан «О поддержке использования возобновляемых источников энергии» от 4 июля 2009 г. № 165–IV// http://adilet.zan.kz/rus/docs/Z090000165.

Kihlström V. Constructing Markets for Solar Energy / V. Kihlström, J. Elbe // A Review of Literature about Market Barriers and Government Responses. Sustainability. — 2021. — No. 13. — P. 3273. https://doi.org/10.3390/su13063273.

Başaran K. Systematic literature review of photovoltaicoutput power forecasting IET Renew. / K. Başaran, F. Bozyiğit, P. Siano, P.Y. Taşer, D. Kılınç // Power Gener. — 2020. — Vol. 14. — Iss. 19. — P. 3961–3973. https://doi.org/10.1049/iet-rpg.2020.0351.

Лаврик А.Ю. Особенности выбора оптимального состава ветро-солнечной электростанции с дизельными генераторами / А.Ю. Лаврик, Ю.Л. Жуковский, А.Ю. Лаврик, А.Д. Булдыско // Изв. высш. учеб. завед. Проблемы энергетики. — 2020. — Т. 22, № 1. — С. 10–17. doi:10.30724/1998–9903–2020–22–1-10–17.

Марченко О.В. Конкурентоспособность солнечных и ветровых электростанций в странах СНГ / О.В. Марченко, С.В. Соломин // Энергетика. Изв. высш. учеб. заведений и энерг. объед. СНГ. — 2020. — Т. 63, № 4. — С. 301–311. https://doi.org/10.21122/ 1029–7448–2020–63–4-301–311.

Zoghi M. Optimization solar site selection by fuzzy logic model and weighted linear combination method in arid and semi-arid region: A case study Isfahan-IRAN / M. Zoghi, A. Ehsani, M. Sadat, M. Amiri, S. Karimi // Renewable and Sustainable Energy Reviews. — 2017. — N 68. — P. 986–996. https://doi.org/10.1016/j.rser.2015.07.014

Tasmaganbetov A.B. Future Development of Price Instruments of State Support for the use of Renewable Energy Sources in Kazakhstan / A.B. Tasmaganbetov // International Journal of Energy Economics and Policy. — 2020. — No. 10(1). — P. 140–144.

Суйеубаева С.Н. Инвестиции в возобновляемые источники энергии как рычаг достижения целей устойчивого развития Республики Казахстан / С.Н. Суйеубаева, Е.В. Варавин, М.В. Козлова, И.Б. Бетимбаева // Вестн. Университета «Туран». — 2022. — № 2. — С. 89–99. https://doi.org/10.46914/1562–2959–2022–1-2–89–99.

А.А. Абаев, Б.С. Есенгельдин, А.К. Калыков

Особенности государственной поддержки развития солнечной энергии в Республике Казахстан

Аннотация:

Цель: В статье рассмотрены механизмы государственной поддержки развития солнечной энергии в Республике Казахстан. Авторами статьи исследованы финансовые и нефинансовые инструменты государственной поддержки развития солнечной энергии.

Методы: С помощью общенаучных методов исследования, а также методов статистического и сравнительного анализа сделаны выводы о необходимости государственной поддержки развития солнечной энергии на первоначальном этапе его внедрения. Использованные методы опираются на результаты, полученные из официальной статистики по развитию солнечной энергии.

Результаты: В статье основное внимание уделено исследованиям ученых, которые выделяют распространенные способы использования солнечной энергии: простота ее обслуживания и низкое воздействие на окружающую среду. Авторами статьи определены конкретные направления развития государственной поддержки солнечной энергии.

Выводы: Система государственной поддержки развития солнечной энергии регулируется с помощью финансовых и нефинансовых инструментов на законодательном уровне. Анализ текущего состояния развития солнечной энергии свидетельствует об ежегодном увеличении объема электрической энергии, вырабатываемой солнечными электростанциями. Для дальнейшего совершенствования солнечной энергетики необходимо найти оптимальное место для строительства солнечных электростанций, что требует баланса экономики, общества, окружающей среды и климата.

Ключевые слова: энергия, солнечная энергия, возобновляемые источники энергии, государственная поддержка, тариф, аукционная цена, электростанция.

A.A. Abayev, B.S. Yessengeldin, A.K. Kalykov

Features of state support for the development of solar energy in the Republic of Kazakhstan

Abstract

Object: The article covers the mechanisms of state support for the development of solar energy in the Republic of Kazakhstan. The authors of the article investigated financial and non-financial instruments of state support for the development of solar energy.

Methods: General scientific research methods, methods of statistical and comparative analysis.

Results: The article focuses on the research of scientists who identify common ways of using solar energy: ease of maintenance and low environmental impact. The authors of the article identified specific directions for the development of state support for solar energy.

Conclusions: The system of state support for the development of solar energy is regulated by financial and non-financial instruments at the legislative level. An analysis of the current state of solar energy development shows an annual increase in the amount of electric energy generated by solar power plants. To further improve solar energy, it is necessary to find the optimal place for the construction of solar power plants, which requires a balance of economy, society, environment and climate.

Keywords: energy, solar energy, renewable energy sources, government support, tariff, auction price, power plant.

References

Abayev, A. (2018). Possibilities of solar energy utilization for the development of rural areas of the Republic of Kazakhstan. *International Journal of Energy Economics and Policy, 8(2), 89–94.*

Başaran, K., Bozyiğit, F., Siano, P., Taşer, P.Y., & Kılınç, D. (2020). Systematic literature review of photovoltaic output power forecasting IET Renew. *Power Gener.,* 14, 19, 3961–3973. https://doi.org/10.1049/iet-rpg.2020.0351

Bekulova, S.R. (2020). Formirovanie institutsionalnoi sredy, sposobstvuyushchei razvitiyu vozobnovlyaemoi energetiki v Rossii [Formation of an institutional environment conducive to the development of renewable energy in Russia]. *Teoreticheskaya i prikladnaya ekonomika — Theoretical and applied economics, 4, 66—80.* DOI: 10.25136/2409–8647.2020.4.34431 Retrieved from https://nbpublish.com/library_read_article.php? id=34431 [in Russian].

Ciarreta, A., Espinosa, M. P., & Pizarro-irizar, C. (2017). Optimal regulation of renewable energy: A comparison of Feed-in Tariffs and Tradable Green Certificates in the Spanish electricity system. *Energy Economics, 67, 387–399.*

Dorvlo, A.S., Jervase, J.A., & Al-Lawati, A. (2002). Solar radiation estimation using artificial neural networks. *Appl. Energy, 71, (4), 307– 319.*

Ellabban, O., Abu-Rub, H., & Blaabjerg, F. (2014). Renewable energy resources: current status, future prospects and their enabling technology. Renew. *Sust. Energy Rev., 39, 748– 764.*

Godovoi otchet TOO «Raschetno-finansovyĭ tsentr po podderzhke vozobnovlyaemykh istochnikov energii» [Annual report of LLP "Settlement and Financial Center for support of renewable energy sources"] (2020). https://rfc.kegoc.kz/media/Godovoj%20otchet/Godovoj%20otchet%202020g.pdf [in Russian].

Grover, D., & Daniels, B. (2017). Social equity issues in the distribution of feed-in tariff policy benefits: A cross sectional analysis from England and Wales using spatial census and policy data. *Energy Policy, 106, 255–265.*

Gupta, A., Chauhan, Y. K., & Pachauri, R. K. (2016). A comparative investigation of maximum power point tracking methods for solar PV system. *Solar Energy, 136, 236–253.* https://doi.org/10.1016/j.solener.2016.07.001

Kihlström, V., & Elbe, J. (2021). Constructing Markets for Solar Energy — A Review of Literature about Market Barriers and Government Responses. *Sustainability, 13, 3273.* https://doi.org/ 10.3390/su13063273

Lavrik, A.Yu., Zhukovskii, Yu.L., Lavrik, A.Yu., & Buldysko, A.D. (2020). Osobennosti vybora optimalnogo sostava vetro-solnechnoi elektrostantsii s dizelnymi generatorami [Features of choosing the optimal composition of a wind-solar power plant with diesel generators]. Izvestiya vysshikh uchebnykh zavedenii. Problemy energetiki – Power engineering: research, equipment, technology, 22, 1, 10–17. https://doi.org/10.30724/1998–9903–2020–22–1-10–17 [in Russian].

Marchenko, O.V. (2020). Konkurentosposobnost solnechnykh i vetrovykh elektrostantsii v stranakh SNG [Competitiveness of solar and wind power plants in the CIS countries]. *Energetika. Izvestiya vysshykh uchebnykh zavedenii i energeticheskikh obedinenii SNG — Energy. Proceedings of Higher Educational Institutions and Energy Associations of the CIS,* 63, 4, 301–311. https://doi.org/10.21122/ 1029–7448–2020–63–4-301–311 [in Russian].

Sujeubaeva, S.N., Varavin, E.V., Kozlova, M.V., & Betimbaeva, I.B. (2022). Investitsii v vozobnovlyaemye istochniki energii kak rychag dostizheniya tselei ustoichivogo razvitiya Respubliki Kazakhstan [Investments in renewable energy sources as a lever to achieve the Sustainable Development Goals of the Republic of Kazakhstan]. *Vestnik Universiteta «Turan» — Bulletin of the University of Turan,* (2), 89–99. https://doi.org/10.46914/1562–2959–2022–1-2–89–99 [in Russian].

Tasmaganbetov, A.B. (2020). Future Development of Price Instruments of State Support for the use of Renewable Energy Sources in Kazakhstan. *International Journal of Energy Economics and Policy, 10(1), 140–144.*

Zakon Respubliki Kazakhstan «O podderzhke ispolzovaniya vozobnovlyaemykh istochnikov energii» ot 4 iyulya 2009 g. № 165–IV [The Law of the Republic of Kazakhstan On support for the use of Renewable Energy Sources of July 4, 2009 N 165–IV]. http://adilet.zan.kz/rus/docs/Z090000165 [in Russian].

Zoghi, M., Ehsani, A., Sadat, M., Amiri, M., & Karimi, S. (2017). Optimization solar site selection by fuzzy logic model and weighted linear combination method in arid and semi-arid region: A case study Isfahan-IRAN. *Renewable and Sustainable Energy Reviews,* 68, 986–996. https://doi.org/10.1016/j.rser.2015.07.014

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Конкурентоспособность региональных систем здравоохранения в Республике Казахстан

Аннотация:

Цель: Выявить конкурентные преимущества региональных социально-экономических систем регионов Республики Казахстан, а именно систему здравоохранения, так как одной из цепочек социально-экономических систем регионов является здравоохранение.

Методы: С помощью анализа статистических данных системы здравоохранения Республики Казахстан за 4-летний период раскрыть проблемы и конкурентные преимущества, произошедшие в каждом из регионов страны.

Результаты: Показаны региональные показатели, особое внимание сосредоточено на статистических показателях, которые предоставляют государственные органы. Результаты исследований в данном направлении могут быть использованы национальными и региональными врачами-медиками, учеными, представителями систем здравоохранения и политиками в области общественного здравоохранения.

Выводы: Абсолютные показатели здравоохранения отражают количество больничных организаций и коек для больных, количество врачей дает динамическую картину обеспеченности населения медицинским обслуживанием в каждом из регионов Казахстана. На основе анализа динамической картины относительных показателей здравоохранения авторами сформирован рейтинг конкурентоспособности регионов Республики Казахстан. Кроме того, определены направления дальнейших поисковых исследований, отражающих развитие региональной конкурентоспособности.

Ключевые слова: население регионов, регионы Казахстана, конкурентоспособность регионов, больничные койки, больничные организации, врачи, показатели здравоохранения, рейтинг конкурентоспособности регионов.

Введение

В мировом сообществе конкурентоспособность регионов, в основном, рассматривают через призму социально-экономических систем, так как социально-экономические системы охватывают довольно широкий спектр влияния на экономику. В данной статье конкурентоспособность региональных социально-экономических систем изучена через конкурентосбность здравоохранения в регионах Казахстана.

Конкурентоспособность здравоохранения имеет влияние на систему конкурентоспособности региональных социально-экономических систем. Субъекты медицинских услуг как в страховых, так и в налоговых системах здравоохранения пытаются улучшить общее здоровье населения. Ключевой целью для региональных больниц является работа с цепочкой из обширных задач, которые утверждает правительство. На сегодняшний день большинство исследований сосредоточено на различиях между системами здравоохранения с точки зрения регулирования, инструментов и свободы, которой обладают именно потребители медицинских услуг. Однако это не объясняет, как такие разные характеристики систем здравоохранения приводят к разным стратегиям и действиям при конкурентоспособности здравоохранения. Лучшее понимание этой связи между характеристиками системы здравоохранения регионов и поведением потребителей медицинских услуг поможет правительству улучшить качество медицинских услуг.

Вследствие того, что на данный период весь мир охватила короновирусная пандемия, период анализа берется с 2017 года по 2020 год, т.е до пандемии и после.

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Объект исследования представляет собой систему здравоохранения областей Казахстана. Цель работы заключается в анализе системы здравоохранения, оценке обеспеченности населения медицинским обслуживанием в различных регионах Казахстана за 2017 и 2020 годы и выявления конкурентных преимуществ каждого региона.

Официальная статистическая информация является исходной информацией для анализа определенных категорий здравоохранения областей Казахстана, а также официальных данных Министерства здравоохранения Республики Казахстан. В динамической информации анализа, помимо 14 областей, отдельно выводятся данные трёх крупных городов Казахстана (Астана, Алматы и Шымкент).

Литературный обзор

Развитие теории конкурентоспособности берут свое начало еще со времен А. Смита, который сформулировал теорию абсолютных преимуществ. (Smith, 1997). Дж. Стиглер отмечает, что конкуренция — это процесс реакции на новую силу и способ достижения нового равновесия, сущностью которого является борьба конкурентов за относительные преимущества (Stigler, 2000). Продолжил развитие теории сравнительных преимуществ известный американский экономист Майкл Портер. Разыскания Майкла Портера аргументируют и поясняют процессы относительных преимуществ в международной конкуренции (Porter, 1993).

Конкурентную среду в здравоохранении составляют следующие элементы: рынок медицинских услуг, медицинская услуга, потребители медицинских услуг (население), учреждения здравоохранения, участники рынка страхования, правительство (Greenberg, 1991). Практика показывает, что неодинаковое распределение врачей и медицинских коек существенно влияет на качество и эффективность здравоохранения, в то время как теоретическое понимание и соответствующие эмпирические исследования все еще отсутствуют. В этом исследовании утверждается, что расходящиеся распределения заложены в медицине (т. е. соотношение врачей и койко-мест варьируется для лечения различных заболеваний) и в значительной степени определяется системой оказания медицинской помощи, которая определяет, где следует лечить различные заболевания.

Проблематика параметров конкурентоспособности национальных систем здравоохранения является отдельной самостоятельной частью общего экономического анализа, направления которого многообразны и неравнозначны с позиции методологических, прикладных, страновых особенностей. Так, можно выделить следующие векторы исследований в этой сфере.

Во-первых, это значительный методологический пласт исследований связан с общим анализом эффективности и конкурентоспособности системы здравоохранения, начиная от традиционного определения эффективности к специфике эффективности в здравоохранении (Peacock et.al., 2001; Вялков, 2004; Орлова, Соколова, 2010; Туренко, 2013; Швец, 2016).

Второй методологический сегмент вырастает из выделения медицинских услуг как фундаментального блага (Grossman, 1972; Becker, 1974; Culyer, Newhouse, 2000), общественного блага (Пономаренко, Исаев, 2007), социально-значимого блага (Якобсон, 2015). Данные подходы детерминируют обоснование тезиса о том, что вся система здравоохранения имеет эклектичную природу, сочетая в себе производство и предоставление как смешанных общественных, так и частных рыночных благ. Это, в свою очередь, определяет многосекторную и многофакторную специфику данной сферы.

Данный теоретико-методологический конструкт обусловливает существование третьего исследовательского блока, связанного с компаративистским анализом эффективности и конкурентоспособности страновых моделей национальных систем здравоохранения. Большинство исследований по данному направлению связаны с анализом универсалистской модели Бевериджа (Кучеренко, Данишевский, 2000; Davis et.al, 2014; Салтман, Фигейрас, 2016), модели социального страхования Бисмарка (Борисов, Задворная, 2012; Рагозин и др., 2015; Садовничий и др., 2017), а также моделей частного здравоохранения (Кимбол, 2007; Enthoven, 2015). На сочетании элементов этих трех первичных моделей здравоохранения, различных с точки финансово-экономической институциональности, строятся различные страновые варианты организационно-экономического механизма развития национальных систем здравоохранения.

Однако, несмотря на значительное исследовательское поле, следует отметить, что большинство проблем эффективности системы здравоохранения и ее конкурентоспособность анализируются отдельно друг от друга. В то же время разработка общих механизмов и алгоритмов повышения конкурентоспособности систем здравоохранения в контексте параметров ее эффективности приводит расширению конкурентной среды и эффективному развитию регионов и территорий. Потому актуализи-

руются вопросы исследования как специфических видов эффективности (медицинской, социальной, экономической) здравоохранения, так и синергетических эффектов их влияния на параметры конкурентоспособности национальных здравоохранительных.

В настоящее время в научном сообществе идет дискуссия о реальном влиянии этих факторов на качество больниц. Априорные эмпирические данные подтверждают, что обеспеченность врачами, больничными организациями, количество больничных коек влияет на конкурентоспособную среду в здравоохранении регионов страны. Некоторые исследования подтверждают гипотезу о том, что усиление конкуренции между больницами ведет к развитию здравоохранения в регионах (Bloom, Propper, 2015), другие исследования сообщают об отсутствии существенной связи между качеством и конкуренцией (Gaynor, Sailer, 2016), пока еще другие исследования свидетельствуют о том, что усиление конкуренции может даже нанести ущерб здоровью людей (Propper, Burgess, 2018). Одна общая черта этих исследований заключается в том, что они предполагают, что больницы конкурируют с заранее определенным набор поставщиков на их местном рынке или в зоне охвата площади (Berta, Seghieri, 2013).

Поставщики медицинских услуг теперь более четко видят в пациенте конечного потребителя медицинских услуг; таким образом, как и в любом другом бизнесе, концепция удовлетворенности и лояльности пациентов стала главной заботой организаций здравоохранения.Чем больше пациенты вовлечены в собственное здоровье, тем лучше результаты с точки зрения качества, стоимости и эффективности.

Методы

Анализ динамики показателей здравоохранения Казахстана за четырехгодичный период с 2017 по 2020 гг., построение по регионам относительных и агрегированных показателей (коэффициентов здравоохранения) и определение наиболее и наименее благополучных регионов Казахстана по здравоохранению. Эмпирический анализ проводится путем описания таких показателей, как обеспеченность населения больничными организациями, больничными койками, врачами в период с 2017 по 2020 годы.

Результаты

Учитывая отличия в численности населения, проживающего в различных областях и крупных городах, сравнительно по регионам, в конечном итоге, подлежат относительные показатели здравоохранения, которые определяются в расчете на 10 тыс. жителей или на 100 тыс. жителей, проживающих в регионе (Нигметова, Тасболатова, 2019).

Уровень государственных расходов на здравоохранение воздействует на результаты состояния здоровья населения Казахстана. За расходование бюджета на здравоохранение на благо масс отвечает правительство. Принято считать, что в условиях демократии социально-экономическая конкуренция заставляет избранное правительство тратить больше средств на здравоохранение, образование, инфраструктуру на благо граждан. Мы эмпирически утверждаем, что конкуренция между регионами вынуждает действующее правительство тратить больше средств на здравоохранение, чтобы улучшить качество жизни населения регионов страны.

В таблице 1 показано распределение населения Казахстана по регионам. Разнородная динамика численности населения по регионам влияет на относительные показатели здравоохранения.

Различия в установках наблюдались в разных региональных группах. Таким образом, рассмотренная до сих пор литература указывает на то, что на поведение людей, стремящихся к здоровью, влияют культурные установки, ценности. Кроме того, это отчасти связано с низким уровнем образования населения в целом, что, как известно, влияет на знания и понимание здоровья и болезней и последующее поведение в поисках здоровья.

Вопрос: «Обеспечило ли здравоохранение Казахстана онлайн-системы направлений в медицинских учреждениях?», а также соблюдение правил безопасности в медицинских учреждениях регионов вызывают серьезную обеспокоенность из-за продолжающегося дефицита кадров. В этом исследовании изучается количественная характеристика в региональном разрезе на период с 2017 по 2020 гг. Чтобы предоставить всесторонний анализ того, как общество реагирует на изменения в системе здравоохранения, необходимо проводить не только статистический метод, но и проводить анкетирования в этой области исследования, например, связанного с обращением за медицинской помощью, использования альтернативного лечения и состояния здоровья.

Таблица 1

Распределение населения Казахстана по регионам*

Наименование	Чел., на начало 2017 г.	Чел., на начало 2020 г.	Наименование	Чел., на начало 2017 г.	Чел., на начало 2020 г.
Республика Казахстан	17918214	18631779	Кызылординская	773143	803531
Акмолинская	734369	736735	Мангистауская	642824	698796
Актюбинская	845679	881651	Павлодарская	757014	752169
Алматинская	1983465	2055724	Северо-Казахстанская	563300	548755
Атырауская	607528	645280	Туркестанская*	1966336	2016037
Западно-Казахстанская	641513	656844	Восточно-Казахстанская	1389568	1369597
Жамбылская	1115307	1130099	г. Нур-Султан	972692	1136156
Карагандинская	1382734	1376882	г. Алматы	1751308	1916822
Костанайская	879134	868549	г. Шымкент	912300	1038152

**Примечание.* Составлено авторами на основе официальных статистических данных Республика Казахстан.

Число больничных организаций. В абсолютном выражении в 2020 г. в стране функционировали 773 больничные организации (рис. 1). В Туркестанской, Кызылординской, Восточно-Казахстанской, Акмолинской областях их количество сократилось до 70 %. Такую резкую динамику можно объяснить сложной эпидемиологической ситуацией по коронавирусной инфекции в мире и стране, которая появилась 2020 г. Во время короновирусной пандемии большинство мероприятий в учреждениях первичной медико-санитарной помощи были скорее лечебными или реабилитационными, чем профилактическими. Поэтому важно понимать формы продвижения и медицинских услуг, которые могли бы улучшить здоровье мужчин и женщин.

Для понимания феноменов, возникающих при напряженном состоянии государства, из-за перемен режима работ медицинских учреждений во время короновирусной пандемии, необходимы мобильная организация и расширение больничных коек и больниц.

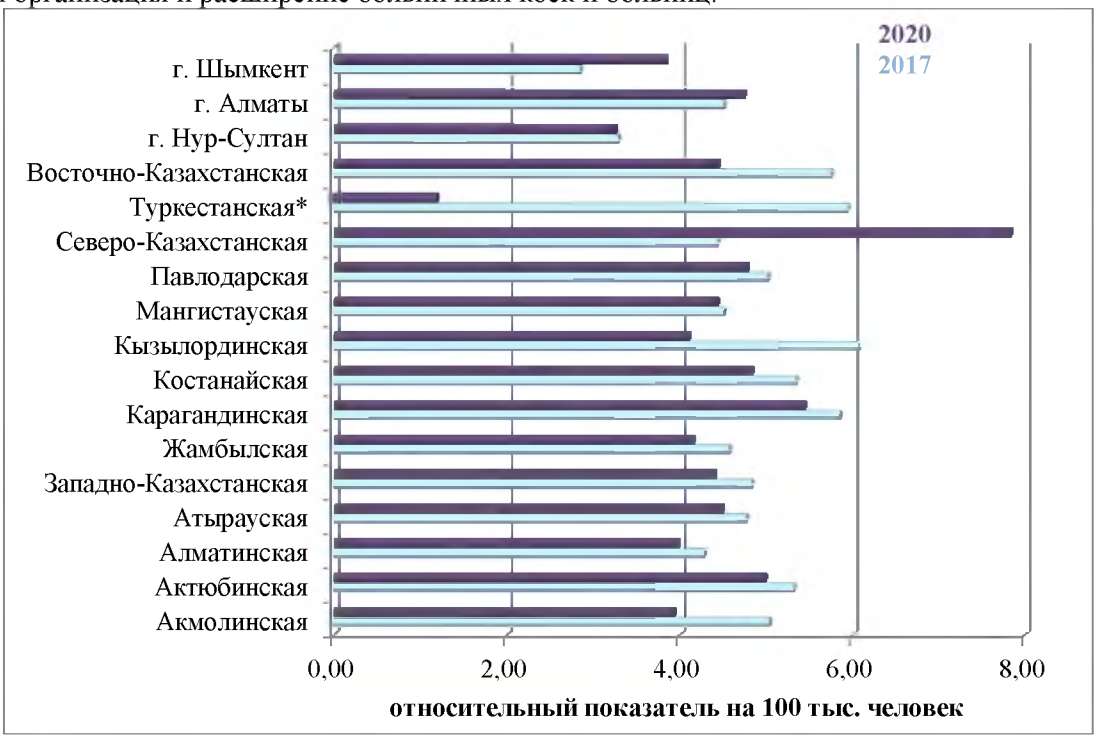

Рисунок 1 . Обеспеченность населения больничными организациями в регионах Казахстана (на 100 тыс. населения) в 2017–2020 гг.*

**Примечание.* Составлен авторами на основе официальных статистических данных Республики Казахстан.

Туркестанский регион является густонаселенным, однако при этом с наименьшим количеством медицинских учреждений и медицинских работников, поэтому вполне логично, что процесс реализации государственных программ будет осуществляться в данном регионе. Кроме того, на рисунках 1–3 поясняются закономерности между медицинскими учреждениями, больничными койками и врачами. Наиболее прямую связь можно наблюдать между медицинскими учреждениями и больничными койками. Так как они относятся больше к инфраструктурному развитию региона. Мы обнаружили, что город Нур-Султан увеличил больничные койки на 5,08 %, что сыграло основную роль в рейтинге всех областей, включая 3 крупных города Казахстана.

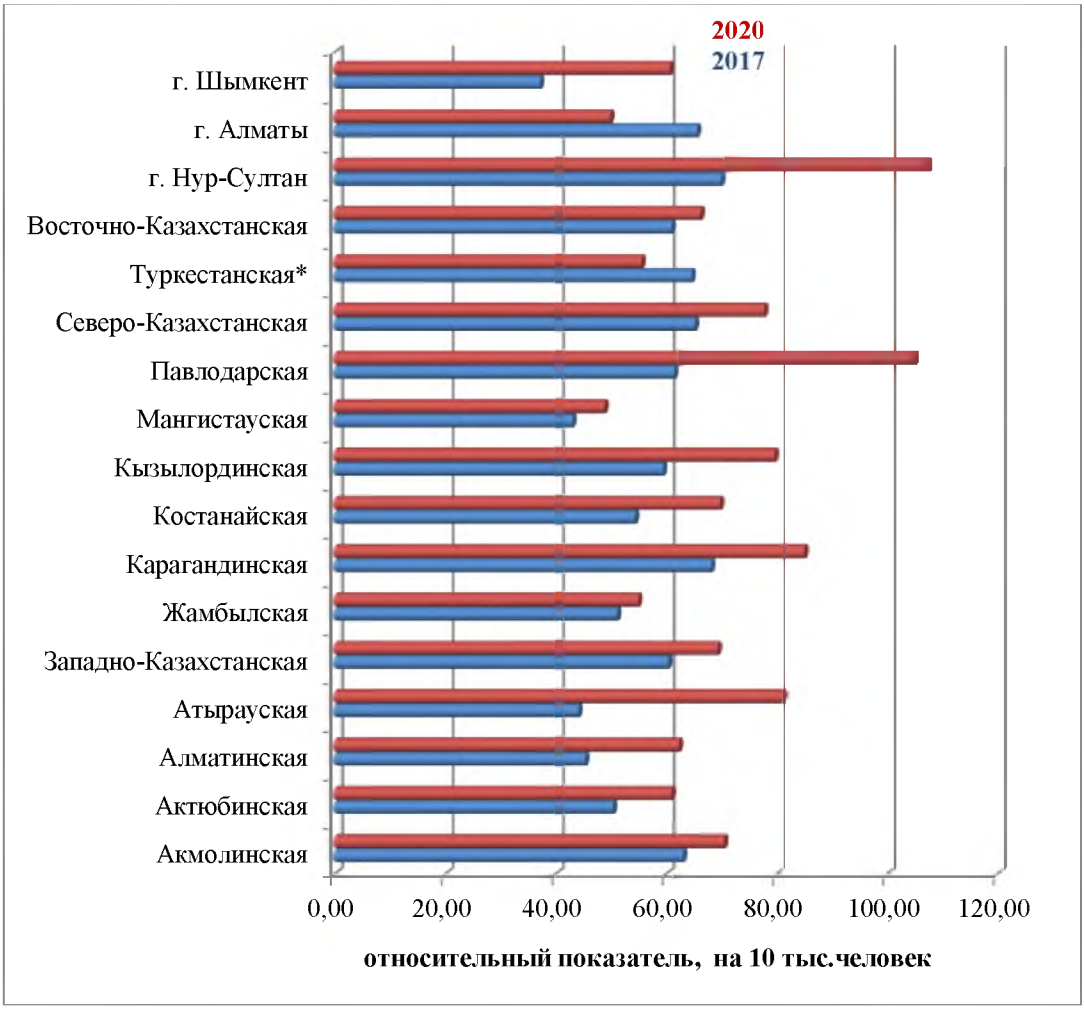

Рисунок 2. Обеспеченность населения больничными койками
в регионах Казахстана (на 10 тыс. населения) в 2017–2020 гг.

**Примечание.* Составлен авторами на основе официальных статистических данных Республики Казахстан.

Численность врачей всех специальностей в стране увеличилась с 72,1 тыс. врачей в 2017 г. до 76,4 тыс. врачей в 2020 г., т.е. на 4–5 %. Это в среднем по стране. Обеспеченность населения врачами по регионам имеет более равномерную динамику роста.

Показатели обеспеченности населения врачами на 10 тыс. населения также различаются (рис. 3). Наибольшее количество врачей распределены в гг. Нур-Султане и Алматы.

**Примечание.* Составлен авторами на основе официальных статистических данных Республики Казахстан.

Численность врачей всех специальностей в стране увеличилась с 72,1 тыс. врачей в 2017 г. до 76,4 тыс. врачей в 2020 г., т.е. на 4–5 %. Это в среднем по стране. Обеспеченность населения врачами по регионам имеет более равномерную динамику роста.

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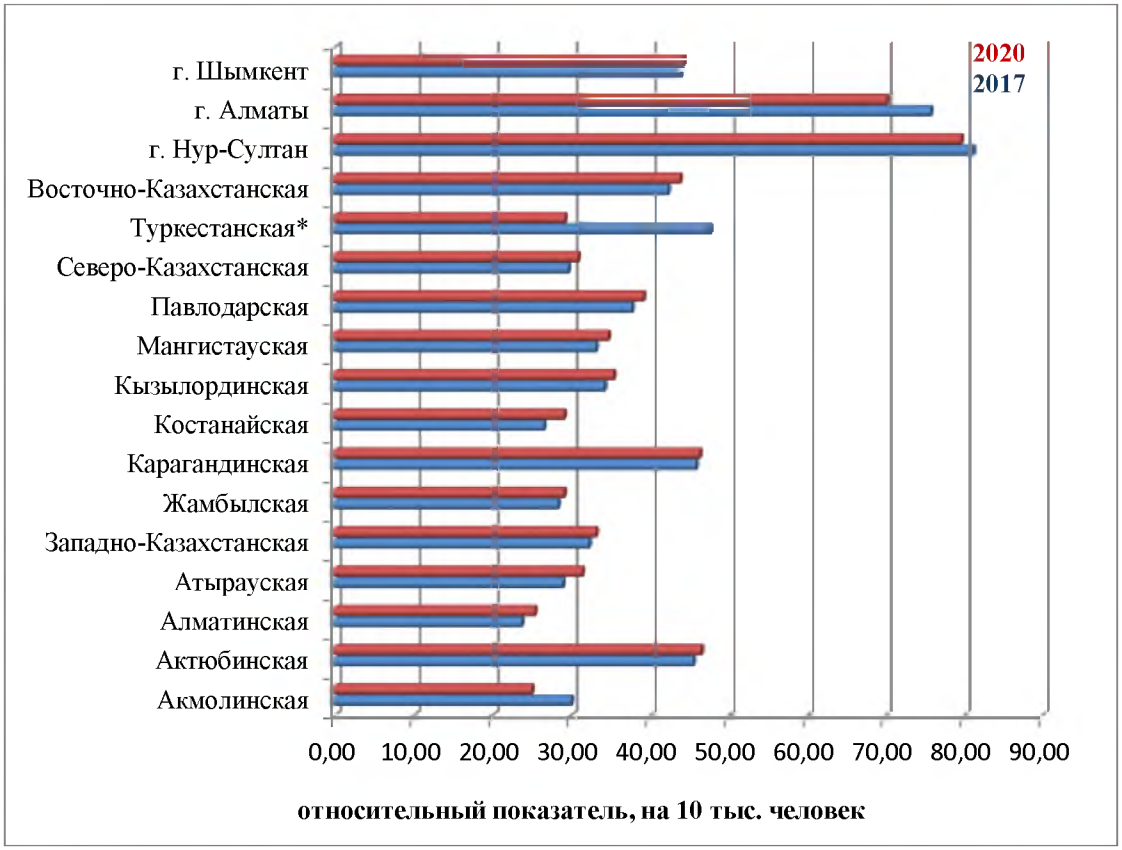

Рисунок 3 . Обеспеченность населения врачами всех специальностей в регионах Казахстана (на 10 тыс. населения) в 2017–2020 гг.

**Примечание.* Составлен авторами на основе официальных статистических данных Республики Казахстан.

Обсуждение

Представленные показатели, характеризующие региональные системы здравоохранения, позволяют определить обобщающий показатель обеспеченности населения медицинским обслуживанием и его динамику в каждом из регионов. Для этого все рассматриваемые показатели приводятся к рейтингу по обеспеченности медицинским обслуживанием в регионах Казахстана. Сначала показатели здравоохранения в каждом из регионов ранжируются (с 1-го по 17-е место) за анализируемый период (табл. 2).

В таблице можно видеть, что по итоговому рейтингу Карагандинская область занимает 1-е место по обеспеченности медицинским обслуживанием, следом за ней 2-е место занимает Павлодарская и 3-е место — Актюбинская область. Заметное снижение коэффициентов здравоохранения наблюдается в Туркестанской, Жамбылской, Атырауской и Алматинской областях.

Таблица 2

Итоговый рейтинг по обеспеченности медицинским обслуживанием в регионах Казахстана

Регионы Республики Казахстан	Рейтинг по обеспеченности населения больничными организациями в регионах Казахстана (на 100 тыс. населения)	Рейтинг по обеспеченности населения больничными койками в регионах Казахстана (на 10 тыс. населения)	Рейтинг по обеспеченности населения врачами всех специальностей в регионах Казахстана (на 10 тыс. населения)	Итоговый рейтинг по обеспеченности медицинским обслуживанием в регионах
1	2	2	3	4
Акмолинская	14	7	17	11
Актюбинская	3	12	3	3
Алматинская	13	11	16	12

1	2	2	3	4
Атырауская	7	4	11	5
Западно-Казахстанская	10	9	10	9
Жамбылская	11	15	14	12
Карагандинская	2	3	4	1
Костанайская	4	8	15	8
Кызылординская	12	5	8	7
Мангистауская	3	17	9	9
Павлодарская	5	2	7	2
Северо-Казахстанская	1	6	12	4
Туркестанская*	17	14	13	13
Восточно-Казахстанская	8	10	6	6
г. Нур-Султан	16	1	1	3
г. Алматы	6	16	2	6
г. Шымкент	15	13	5	10
Примечание. Составлено авторами на основе официальных статистических данных Республики Казахстан.				

Наши результаты подчеркивают сочетание неправильных представлений о региональной социально-экономической системе на индивидуальном уровне региона, а также проблемы на институциональном уровне, ограничивающие конкурентоспособность регионов. Полученные данные указывают на настоятельную необходимость обеспечения целевого образования и коммуникации в каждом регионе. Вместо того, чтобы предоставлять больше данных, мы рекомендуем широко распространяемый, собранный на местном уровне синтез, посвященный конкретным проблемам колеблющихся медработников. Следует рассмотреть возможность адаптации мероприятий к конкретным профессиональным группам. Институциональные нормы и культура могут оказывать сильное влияние на установление поведения по умолчанию: необходимы дополнительные усилия для улучшения продвижения значимости врачей и медицинских работников.

Система здравоохранения развивается, но не всегда темпы развития системы здравоохранения региона соответствуют темпам динамики численности населения в регионе (Естурлиева, Утебалиева, 2019).

Механизм регулирования региональной экономики должен содержать антикризисные меры, которые смогут вывести экономику из скачковых кризисов и способствовать развитию конкурентоспособности регионов (Озина, Чернышев, 2017).

Между тем менее развитые области находятся в невыгодном положении с точки зрения привлечения врачей, поскольку политические, экономические и медицинские технологические силы действовали совместно, чтобы определить распределение ресурсов здравоохранения. Необходим новый подход к распределению ресурсов здравоохранения, в котором основное внимание уделяется совместному размещению различных ресурсов, и предполагается, что для координации и оптимизации распределения ресурсов здравоохранения по всей стране требуется более комплексная политика.

Выводы

Проблемы регионального медицинского обеспечения в регионах Казахстана заключаются в том, что в стране нет масштабного производства медицинского оборудования, широкого ассортимента выпуска лекарственных препаратов (Айтмурзина, Нурумов, 2019). Темпы мировой глобализации и цифровизации ускорились, поэтому оснащать больницы новыми медицинскими оборудованиями становится более затратным. Появились новые цифровые платформы баз данных для медицинских учреждений, которые, в свою очередь, нуждаются в постоянной цифровой защите.

В сфере здравоохранения разумное и обоснованное распределение ресурсов, а также их сбалансированное распределение не налагают никаких обременений на систему здравоохранения общества, предотвращая негативные последствия.

Составленная авторами рейтинговая таблица по обеспеченности медицинским обслуживанием помогает выявить слабые регионы и стимулировать самостоятельную стратегию развития. Выводы были определены как полезные для систем здравоохранения для выявления и улучшения слабых процессов и их подпроцессов, чтобы обеспечить конкурентное преимущество перед конкурентами.

Список литературы

Berta P. Comparing health outcomes in hospitals: the experience of the Lombardy region / P. Berta, C. Seghieri, G. Vittadini // *Health Department, scientific.* — 2013. — No. 16(3). — P. 245–257.

Bloom N. The impact of competition on governance quality: Evidence from public hospitals / N. Bloom, K. Propper, S. Seiler, J. Van Reenen // *Reverend Econom. Stud.* — 2015. — No. 82(2). — P. 457–489.

Culyer A.J. Handbook of Health Economics / A.J. Culyer, J.P. Newhouse (Ed). Amsterdam: Elsevier. — 2000.

Davis K. Mirror, mirror on the wall. How the performance of the US health care system compares internationally / K. Davis, C. Schoen, K. Stremikis. https://www.commonwealthfund.org /sites/default/files/documents/mediailes_publications_fund_report_2014_jun_1755_davis_mirror_mirror_2014.pdf

Enthoven A.C. The history and principles of managed competition / A.C. Enthoven // Health affairs. — 2015. Vol. 12, No. 1. — P. 24–48.

Gaynor M. Free choice. Reform, selection and review sets in the English National Health Service / M. Gaynor, K. Propper, S. Sailer // Economy open. — 2016. — No. 106 (11). — P. 3521–3557.

Greenberg W. Competition, Regulation and Rationing in Health Care / W. Greenberg // *Ann Arbor: Health Administration Press.* — 1991. — 188 p.

Grossman M. On the concept of health capital and the demand for health / M. Grossman // *The Journal of Political Economy.* — 1972. — Vol. 80, No. 2. — P. 223–255.

Peacock, S. Techniques for Measuring Efficiency in Health Services / S. Peacock, C. Chan, M. Mangolini, D. Johansen // *Productivity Commission Staff Working Paper.* — 2001. — July.

Propper S. Competition and Quality: NHS Domestic Market Evidence 1991–1999 / S. Propper, S. Burgess, D. Gossage // *Economy J.* — 2018. — No. 118. — P. 138–170.

Айтмурзина Б.Т. Проблемы регионального обеспечения в Казахстане / Б.Т. Айтмурзина, А.А. Нурумов, М.Ж. Каменова, С.К. Капышева // Вестн. КазУЭФМТ. — 2019. — № 4. — С. 145.

Борисов К.Н. Реформы здравоохранения в Германии: плюсы и минусы / К.Н. Борисов, О.Л. Задворная // Международное здравоохранение. — 2012. — Т. 3 (2). URL: http://rosmedportal. com/index.php? option=com_content&view=article&id=1687:20.

Вялков А.И. Оценка эффективности деятельности медицинских организаций / А.И. Вялков. — М.: ГЭОТАР-МЕД, 2004. — 112 с.

Естурлиева А.И. Анализ системы здравоохранения Казахстана — одного из основных факторов повышения социально-экономического состояния страны / А.И. Естурлиева, Д.Б. Утебалиева // Социальные и экономические системы. Экономика. — 2019. — № 2. — С. 126–140.

Кимбол А.М. Система здравоохранения США: сравнительное исследование / А.М. Кимбол // Управление в здравоохранении России и США: Опыт и проблемы. — Новосибирск: НГАЭиУ, 2007. — С. 50–64.

Кучеренко В.З. Наиболее известные системы здравоохранения развитых стран / В.З. Кучеренко, К.Д. Данишевский // Экономика здравоохранения. — 2000. — № 7. — С. 5–12.

Нигметова Г.Ж. Региональные различия в здравоохранении Казахстана / Г.Ж. Нигметова, А.А. Тасболатова // Журн. Каспийский гос.ун-т технологий и инжиниринга им. Ш. Есенова. — 2019. — № 2(8).— С. 142–162.

Озина А. Методология и инструментарии создания региональной системы социального партнерства в здравоохранении и образовании / А. Озина, А.Н. Чернышев // Вестн. НГИЭИ. — 2017. — № 11(78). — С. 120–129.

Орлова Е.М. Категория эффективности в системе здравоохранения / Е.М. Орлова, О.Н. Соколова // Фундамен¬тальные исследования. — 2010. –№ 4. — С. 70–75.

Официальная статистическая информация (по отраслям) / Офиц. сайт. Комитет по статистике Республики Казахстан. URL: http://stat.gov.kz.

Пономаренко Е.В. Экономика и финансы общественного сектора / Е.В. Пономаренко, В.А. Исаев. — М.: ИНФРА-М, 2007. — С. 82–96.

Портер М. Международная конкуренция / М. Портер, пер. с англ.; под ред.В.Д. Щетинина. — М., 1993. — 157 с.

Рагозин А. Сравнение национальных систем здравоохранения стран, использующих «страховую» и «бюджетную» модели финансирования / А. Рагозин, Н.А. Кравченко, В.Б. Розанов // Здравоохранение. — 2015. — № 12. — С. 30–39.

Садовничий В.А. От традиций к инновациям. Реформы здравоохранения в современном мире / В.А. Садовничий, Н.С. Григорьева, Т.В. Чубарова. — М.: Экономика, 2017. — 286 с.

Салтман Р.Б. Реформы системы здравоохранения в Европе. Анализ современных стратегий / Р.Б. Салтман, Дж. Фигейрас. — М.: ГЭОТАР-Медиа, 2016. — 432 с.

Смит А. Исследование о природе и причинах богатства народов / А. Смит. — М.: Ось-89, 1997. — 255 с.

Стиглер Дж. Совершенная конкуренция: исторический ракурс / Дж. Стиглер; под ред. В.М. Гальперина // Вехи экономической мысли: теория фирмы: [В 3 т.].— СПб.: Экон. шк., 2000. — Т. 2. — 300 с.

Статистика: Основные показатели за 10 лет. / Офиц. сайт. Министерство здравоохранения Республики Казахстан. URL: http://dsm.gov.kz/ru/kategorii/statistika.

Туренко Т.А. Методические подходы к оценке результативности и эффективности в системе здравоохранения на основе данных официальной статистики / Т.А. Туренко // Изв. Иркут. гос. экон. акад. — 2013. — № 4. — С. 120–125.

Швец Ю.Ю. Теоретические и методологические подходы к определению эффективности медицинской услуги / Ю.Ю. Швец // Вестн. ВГУИТ. — 2016. — № 4. — С. 308–313. doi:10.20914/2310–1202–2016–4–308–313.

Якобсон Л.И. Экономика общественного сектора: учеб. для вузов / Л.И. Якобсон. — М.: Юрайт, 2015. — С. 13–38.

А.А. Агилбаева, Б.Т. Смайлов, Е.А. Вечкинзова

Қазақстан Республикасындағы аймақтық денсаулық сақтау жүйелерінің бәсекеге қабілеттілігі

Аңдатпа

Мақсаты. Мақаланы жазудың мақсаты Қазақстан Республикасы аймақтарының өңірлік әлеуметтік-экономикалық жүйелерінің, атап айтқанда денсаулық сақтау жүйесінің бәсекелестік артықшылықтарын анықтау, өйткені өңірлердің әлеуметтік-экономикалық жүйелерінің бір тізбегі денсаулық сақтау саласы болып табылады.

Әдістер. Қазақстан Республикасының денсаулық сақтау жүйесінің 4 жылдық кезеңдегі статистикалық деректерін талдау арқылы еліміздің әрбір өңірінде орын алған мәселелер мен бәсекелестік артықшылықтар зерттелді.

Қорытынды. Мемлекеттік органдар ұсынатын статистикалық көрсеткіштерге тоқталып, аймақтық көрсеткіштердің көрнекілігі тұжырымдалды. Осы бағыттағы зерттеу нәтижелерін республикалық және аймақтық медицина дәрігерлері, ғалымдар, денсаулық сақтау жүйесінің өкілдері және қоғамдық денсаулық сақтау саласындағы саясаткерлер пайдалана алады.

Тұжырымдама. Денсаулық сақтаудың абсолютті көрсеткіштері ауруханалық ұйымдардың санын және олардағы науқастарға арналған төсек-орындарды, дәрігерлер санын көрсетеді, Қазақстанның әрбір өңіріндегі халықты медициналық көмекпен қамтамасыз етудің динамикалық көрінісін береді. Салыстырмалы денсаулық көрсеткіштерінің динамикалық бейнесін талдау негізінде авторлар Қазақстан Республикасы аймақтарының бәсекеге қабілеттілік рейтингісін қалыптастырды. Сондай-ақ, мақалада аймақтық бәсекеге қабілеттілікті дамытуды көрсететін іздестіру-зерттеу жұмыстарын одан әрі жүргізу бағыттары белгіленген.

Кілт сөздер: облыстардың халқы, Қазақстан аймақтары, өңірлердің бәсекеге қабілеттілігі, аурухана төсек-орындары, аурухана ұйымдары, дәрігерлер, денсаулық көрсеткіштері, өңірлердің бәсекеге қабілеттілік рейтингісі.

A.A. Agilbaeva, B.T. Smaylov, E.A. Vechkinzova

Competitiveness of regional healthcare systems in the Republic of Kazakhstan

Abstract

Object: The purpose of this article is to identify the competitive advantages of the regional socio-economic systems of the regions of the Republic of Kazakhstan, namely the healthcare system since one of the chains of the socio-economic systems of the region is healthcare.

Methods: The method of analysis.

Results: The visibility of regional indicators is revealed, focusing on the statistical indicators provided by government agencies. The results of research in this direction can be used by national and regional medical doctors, scientists, representatives of health systems, and politicians in the field of public health.

Conclusions: Absolute indicators of health care reflect the number of hospital organizations and beds in them for patients, the number of doctors, giving a dynamic picture of the provision of the population with medical care in each of the regions of Kazakhstan. Based on the analysis of the dynamic picture of relative health indicators, the authors formed a competitiveness rating of the regions of the Republic of Kazakhstan. The authors also identified areas for further exploratory research reflecting the development of regional competitiveness.

Keywords: population of regions, regions of Kazakhstan, competitiveness of regions, hospital beds, hospital organizations, doctors, health indicators, competitiveness rating of regions.

References

Aitmurzina, B.T., Nurumov, A.A., Kamenova, M.Zh., & Kapysheva, S.K. (2019). Problemy regionalnogo obespecheniya v Kazakhstane [Problems of regional provision in Kazakhstan]. *Vestnik Kazakhskogo universiteta ekonomiki, finansov i mezhdunarodnoi torgovli — Bulletin of the Kazakh University of Economics, Finance and International Trade,* 4, 145 [in Russian].

Berta, P., Seghieri, C., & Vittadini, G. (2013). Comparing health outcomes in hospitals: the experience of the Lombardy region. *Health Department, scientific, 16(3), 245–257.*

Bloom, N., Propper, K., Seiler, S., & Van Reenen, J. (2015). The impact of competition on governance quality: Evidence from public hospitals. *Reverend Econom. Stud, 82(2), 457–489.*

Borisov, K.N., & Zadvornaya, O.L. (2012). Reformy zdravookhraneniya v Germanii: plyusy i minusy [Healthcare reforms in Germany: Pros and cons]. *Mezhdunarodnoe zdravookhranenie — International Healthcare, 3 (2).* Retrieved from http://rosmedportal.com/index.php? op-tion=com_content&view=article&id=1687:20 [in Russian].

Culyer, A.J., & Newhouse, J.P. (ed). (2000). Handbook of Health Economics. Amsterdam: Elsevier.

Davis, K., Schoen, C., & Stremikis, K. (2014). Mirror, mirror on the wall. How the performance of the US health care system compares internationally. https://www.commonwealthfund.org /sites/default/files/documents/mediailes_publications_fund_report_2014_jun_1755_davis_mirror_mirror_2014.pdf

Enthoven, A.C. (2015). The history and principles of managed competition. *Health affairs,* 12, 1, 24–48.

Esturlieva, A.I., & Utebalieva, D.B. (2019) Analiz sistemy zdravookhraneniya Kazakhstana — odnogo iz osnovnykh faktorov povysheniya sotsialno-ekonomicheskogo sostoyaniya strany [Analysis of the healthcare system of Kazakhstan as one of the main factors increasing social-economic state of the country]. *Sotsialnye i ekonomicheskie sistemy. Ekonomika — Social and economic systems. Economy,* 2, 126–140 [in Russian].

Gaynor, M., Propper, K., & Sailer, S. (2016). Free choice. Reform, selection and review sets in the English National Health Service. *Economy open,* 106 (11), 3521–3557.

Greenberg, W. (1991). Competition, Regulation and Rationing in Health Care. Ann Arbor: Health Administration Press. — 188 p.

Grossman, M. (1972). On the concept of health capital and the demand for health. *The Journal of Political Economy,* 223–255.

Kimbol, A.M. (2007). Sistema zdravookhraneniya SShA: sravnitelnoe issledovanie [The US healthcare system: a comparative study]. *Upravlenie v zdravookhranenii Rossii i SShA: Opyt i problemy — Management in healthcare in Russia and the USA: Experience and Problems.* Novosibirsk: NGAEiU, 50–64 [in Russian].

Kucherenko, V.I., & Danishevskii, K.D. (2000). Naibolee izvestnye sistemy zdravookhraneniya razvitykh stran [The most well-known health systems in developed countries]. *Ekonomika zdravookhraneniya — Health economics,* 7, 5–12 [in Russian].

Nigmetova, G.Zh., & Tasbolatova, A.A. (2019). Regionalnye razlichiya v zdravookhranenii Kazakhstana [Regional differences in healthcare in Kazakhstan]. *Zhurnal Kaspiiskogo gosudarstvennogo universiteta tekhnologii i inzhiniringa imeni Sh. Esenova — Journal of the Caspian State University of Technology and Engineering named after Sh. Yesenov,* 2(8), 142–162 [in Russian].

Ofitsialnaya statisticheskaya informatsiya (po otraslyam) [Official Statistic information] (2020). *Ofitsialnyi sait. Komitet po statistike Respubliki Kazakhstan – Official cite*. Committee on statistics of the Republic of Kazakhstan. Retrieved from http://stat.gov.kz [in Russian].

Orlova, E.M., & Sokolova, O.N. (2010). Kategoriya effektivnosti v sisteme zdravookhraneniya [Category of efficiency in the healthcare system]. *Fundamentalnye issledovaniya — Fundamental Research*, 4, 70–75 [in Russian].

Ozina, A., & Chernyshev, A.N. (2017). Metodologiya i instrumentarii sozdaniya regionalnoi sistemy sotsialnogo partnerstva v zdravookhranenii i obrazovanii [Methodology and tools for building a regional social partnership system in health and education]. *Vestnik Nizhegorodskogo gosudarstvennogo inzhenerno-ekonomicheskogo universiteta — Bulletin of the Nizhny Novgorod State University of Engineering and Economics,* 11(78), 120–129 [in Russian].

Peacock, S., Chan, C., Mangolini, M., & Johansen, D. (2001). Techniques for Measuring Efficiency in Health Services. *Productivity Commission Staff Working Paper*, July.

Ponomarenko, E.V., & Isaev, V.A. (2007). *Ekonomika i finansy obshchestvennogo sektora [Public sector Economics and Finance].* Moscow: INFRA-M [in Russian].

Porter, M. (1993). *Mezhdunarodnaya konkurentsiya [International competition].* V.D. Shhetinina (Ed.). Moscow [in Russian].

Propper, S., Burgess, S., & Gossage, D. (2018). Competition and Quality: NHS Domestic Market Evidence 1991–1999. *Economy J.,* 118, 138–170.

Ragozin, A., Kravchenko, N.A., & Rozanov, V.B. (2015). Sravnenie natsionalnykh sistem zdravookhraneniya stran, ispolzuyushchikh «strakhovuyu» i «byudzhetnuyu» modeli finansirovaniya [Comparison of national health systems of countries using “insurance” and “budget” financing models]. *Zdravookhranenie — Healthcare*, 12, 30–39 [in Russian].

Sadovnichii, V.A., Grigoreva, N.S., & Chubarova, T.V. (2017). Ot traditsii k innovatsiyam. Reformy zdravookhraneniya v sovremennom mire [From tradition to innovation. Healthcare reforms in the modern world]. Moscow: Ekonomika [in Russian].

Saltman, R.B., & Figeiras, Dzh. (2016). *Reformy sistemy zdravookhraneniya v Evrope. Analiz sovremennykh strategii [Health system reforms in Europe. Analysis of modern strategies].* Moscow: GEOTAR-Media [in Russian].

Shvets, Yu.Yu. (2016). Teoreticheskie i metodologicheskie podkhody k opredeleniyu effektivnosti meditsinskoi uslugi [Theoretical and methodological approaches to determining the division of the effectiveness of medical services]. *Vestnik Voronezhskogo gosudarstvennogo universiteta inzhenernykh tekhnologii — Proceedings of the Voronezh State University of Engineering Technologies*, 4, 308–313. https://doi.org/10.20914/2310–1202–2016–4-308–313 [in Russian].

Smit, A. (1997). *Issledovanie o prirode i prichinakh bogatstva narodov [Research on the nature and causes of the wealth of nations]*. Moscow: Os–89 [in Russian].

Statistika (2020). *Osnovnye pokazateli za 10 let* [Statistics: Key indicators for 10 years]. *Ofitsialnyi sait. Ministerstvo zdravookhraneniya Respubliki Kazakhstan – Official website. Ministry of Health of the Republic of Kazakhstan.* Retrieved from http://dsm.gov.kz/ru/kategorii/statistika [in Russian].

Stigler, Dzh. (2000). Sovershennaya konkurentsiya: istoricheskii rakurs [Perfect competition: a historical perspective]. *Vekhi ekonomicheskoi mysli: teoriya firmy – Milestones of economic thought: the theory of the firm* (Vols 3; Vol. 2). V.M. Galperina (Ed.). Saint Petersburg: Ekonomicheskaia shkola [in Russian].

Turenko, T.A. (2013). Metodicheskie podkhody k otsenke rezultativnosti i effektivnosti v sisteme zdravookhraneniya na osnove dannykh ofitsialnoi statistiki [Methodological approaches to assessing the effectiveness and efficiency in the health care system based on official statistics data]. *Izvestiya Irkutskoi gosudarstvennoi ekonomicheskoi akademii — Proceedings of the Irkutsk State Economic Academy*, 4, 120–125 [in Russian].

Vyalkov, A.I. (2004). *Otsenka effektivnosti deyatelnosti meditsinskikh organizatsii [Evaluation of the effectiveness of medical organizations]*. Moscow: GEOTAR-MED [in Russian].

Yakobson, L.I. (2015). *Ekonomika obshchestvennogo sektora [Public sector economics]*. Moscow: Yurait [in Russian].

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Әйелдер кәсіпкерлігінің объектілік-субъектілік ерекшеліктері және оның даму артықшылықтары

Аңдатпа:

Мақсаты: Мақаланың мақсаты әйелдер кәсіпкерлігінің дамуының объективті және субъективті факторларын қарастырып, олардың еңбек нарығының гендерлік бөлінісін, гендерлік стереотиптер және патриархалдық идеологиясын, сондай-ақ әйелдердің бизнеспен айналысуға мотиваңиясын зерттеу. Әйелдер кәсіпкерлігінде отбасылық бизнестің алатын орны, ерекшелігі, бұл отбасының барлық мүшелерінің қабілеттерін шығармашылықпен жүзеге асыруға, оларға кез келген қолайсыз жағдайларда қолдау мен қорғауды қамтамасыз етуге мүмкіндік беретіні атап өтілген.

Әдісі: Зерттеудің әдіснамалық базасы кәсіпкерліктің гендерлік аспектісін талдау әйелдердің нарықтық экономикаға қатысуы қоғамдық өндірістің шешуші факторларының бірі болғандықтан гана емес, сонымен бірге әйелдердің қазіргі экономикалық қызметтің типтік «гендерлік тауашаларды» құрайтындығымен де маңызды әдістері қолданылды.

Нәтижелері: Мақалада авторлар қоғамның әйелдер кәсіпкерлігін дамытуға және жұмыссыздықтың өсуіне елеулі әлеуметтік қажеттілігінің өзінде де әйелдердің осы саладағы белсенділігін тежейтін психологиялық және әлеуметтік-психологиялық сипаттағы тежеуші жөнінде ұсыныстар берді.

Қорытынды: Жүргізілген әдістер негізінде — Қазақстанда соңғы он жылдықта әйелдер мен ер адамдардың қоғамдағы құқығы мен мүмкіндіктерінің тең болуы үшін жасалған шаралар легі артып келетіні туралы қорытынды жасалған. Құқықтық және институттық негіздердің жеткілікті болуы осының дәлелі, сондай-ақ еліміздегі гендерлік теңдікті жетілдірудің статистикалық мәліметтері мен көрсеткіштері анғұрлым жақсы бағыттары айқындалды.

***Кілт сөздер*:** бизнес, мансап, әйел кәсіпкерлігі, мотиваңия, гендерлік стереотип, идеология, гендерлік еңбек бөлінісі.

Кіріспе

XX ғасырдан қазіргі уақытқа дейінгі кезең әйелдердің ұлттық экономикадағы рөліпің өзгеруіне әкелді. Бұқаралық санада олар тек ұйымдардың басшылары гана емес, кәсіпкерлік қызметті жүзеге асыратын субъектілер ретіпде де қабылдана бастады.

Кәсіпкер әйел де үнемі өзгеріп, үнемі ізденетіп, белгілі бір ойлау стилі мен дағдыға ерекше логикаға ие бола бастады. Кәсіпкер әйел адамдардың тұтынушылар, іскер серіктестер, бәсекелестер және мемлекетпен өзара әрекеттестігі мен экономикалық мінез-құлқы жалпы қызмет түрлеріпен ерекшеленеді. Ол нарықтық қатынастардың ерекшеліктеріп, жеке, өз бетінше шешім қабылдайтын шаруашылық жүргізуші субъектілер арасындағы қарым-қатынасты бойына сіңірді (Różycka M., 2018).

Қазіргі кезеңіндегі әйелдер қоғамның экономикалық дамуының кәсіпкерлігі «жаһандық ауқымдағы төңкеріс» атанған жай гана жаһандық құбылыс емес, бизнестің ең қарқынды дамып келе жатқан саласы болып табылады. Дамыған елдердің постиндустриалды қоғамға қызмет көрсету саласының басымдылығымен кіруі, шағын және орта кәсіпкерліктің ауқымды секторын қалыптастыру және барлық адам ресурстарын барынша пайдалануға ұмтылу факторлар болып табылады және бұл кәсіпкерліктің осы түрінің ұзақ мерзімді экономикалық табысын алдын ала анықтайды (Возняк О.В., Занин Д.С., 2022).

Макроэкономикалық деңгейде әйелдер кәсіпкерлігі:

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1) Экономикада қайта құруда маңызды және өсін келе жатқан рөл атқарады; 2) экономикалық өсу қарқынын дамытудың және ынталандырудың жаңа серпінді күшін білдіреді; 3) халық шаруашылығының өнімділігін арттыруды анықтайды; 4) пайдаланылмаған адами әлеуетті іске асыра отырып, халықтың әл-ауқатын арттырады және жұмыссыздық пен толық жұмыссыздықты азайтады; 5) әлеуметтік-экономикалық өзгерістерге, сондай-ақ ұзақ мерзімді саяси тұрақтылыққа ықпал етеді (Орлова А.В., 2011).

Әйелдердің экономикалық дамуға қосқан жалпы үлесінің маңызды бөлігі олардың микро деңгейдегі, өндірісті ұйымдастыру және басқару саласындағы қызметі болып табылады. Әйел өзінің ерекше қабілеттерін, дағдыларын, іскерлік мінез-құлық стилін, басқару процесіне өзінің ерекше шешім қабылдау стилін әкеледі. Ерлер мен азаматтар арасындағы маңызды айырмашылықтардың бірі — әйелдер менеджментті ғылым ретінде, әсіресе басқару тәжірибесі ретінде кеңейту және нығайту арқылы кәсіпкерлік мінез-құлықты инновациялық басқаруға өз үлестерін қосады.

Әдебиетке шолу

Қазіргі уақытта әйелдер кәсіпкерлігі мәселелеріне арналған бірнеше мақалалар бар, бірақ олар 2000 жылдардың басы мен ортасына негізделген. Осы тақырып бойынша қазіргі заманғы ішкі зерттеулер әлдеқайда аз, бұл қоғамдағы патриархалды көңіл-күйдің өсуіне, сондай-ақ зерттеуді қаржыландырған елден батыстық қаражаттың кетуіне байланысты.

Кәсіпкерліктің гендерлік мәселелері, ең алдымен, жалпы қоғамдағы заманауи гендерлік қатынастарды зерттеу аясында қарастырылған. Мысал ретінде Л. Бабаева мен А. Чирикованың еңбектерін келтіруге болады. Е. Здравомыслова мен А. Темкина, Н. Римашевская мен Т. Сергеева, И. Чернова жұмыстарында да айтылған. Кәсінкерліктегі гендерлік қатынастар мәселелері қазіргі әйелдердің әртүрлі кәсіби және басқа да корпоративтік топтарын зерттеуде де қарастырылады. Бұл мысалы, Г. Силласте, Э. Тончу, Г. Турецкая, А. Чирикова зерттеулері. Соңғы жылдары жалпы әйелдер кәсінкерлігіне арналған немесе оның кейбір аспектілеріне, соның ішінде мансап, жұмыспен қамту, қызмет саласына әсер ететін бірнеше жұмыс пайда болды. Бұл жерде С. Автономова, С. Барсукова, А. Журавлева, В. Познякова, О. Титова, Г. Карелова еңбектерін атап өтуге болады.

Қазіргі таңда яғни нарықтық қатынастардың тереңдеген жағдайында кәсіпкерлік қызмет өз алдына ерекшеліктері көп айрықша құбылыс болып табылады. Экономикалық тұрақтылыққа қол жеткізу, жұмыссыздықты азайту, орта таптың қалыптасуы және басқа да көптеген әлеуметтік-экономикалық мәселелерді жеңу тұрғысынан бүгінгі дамуды әйелдер кәсіпкерлігін дамытудағы шешуші фактор деп санауға болады.

Сарапшылар әйелдердің соңғы 10-15 жыл ішінде бүкіл әлемде, соның ішінде белсенді түрде айналысып келе жатқан шағын бизнеспен «жасауы» мүмкін екендігімен дәстүрлі түрде келіседі. Әйелдер отбасылық бизнесте де өте табысты жұмыс істейді, олар ерлерге қарағанда мойындарына зор жауапкершілік алады, сақтықты және амбицияны азырақ талап етеді.

Г. Гильмановаңың пікірінше, әйелдер кәсіпкерлігін дамытудың негізгі алғышарттары мен бағыттары:

– бизнесті жүргізуде әйелдердің еркектерден айтарлықтай абсолютті және салыстырмалы артта қалуы;

– әйелдер жұмыссыздығының үлесі мен ауқымын ұлғайту, әйелдер арасында оның «созылмалы» нысандарының таралуы;

– кәсіпорындар мен ұйымдарда өндірістік, техникалық, технологиялық үрдістерді басқаруды әйелдер үлесінің қысқаруы, оларды біліктілігі жоғары ер азаматтардың ығыстыруы мемлекеттік ұйымдарды басқаруға етене араласуы, кәсіпорындарды жекешелендіру мүмкіндіктерінің азаюы;

– ерлер басқаратын әйелдер үшін бизнесті тіркеуге байланысты әйелдер кәсіпкерлігінің бұрмаланған көрсеткіштері;

– бизнес үшін тиісті гендерлік алғышарттарға әкелетін білім беру және салалық теңгерімсіздік;

– әйелдердің басқа топтарына қарағанда іскер әйелде отбасылық әл-ауқаттың жоғары деңгейі;

– әйелдерді негізінен өзін-өзі көрсету және ерлерге тәуелсіз лауазымға ие болу мақсатында кәсіпкерлікпен айналысуға бағыттау;

– кәсінкер әйелдер арасында жалдамалы жұмыс істейтін менеджерлердің басым болуы, кәсінорындардың ортақ иелері немесе иелерінің арасында олардың азырақ саны.

Әдістер

Қазіргі көшбасшы әйелдердің басқару саласында арнайы білімі сирек кездеседі, бірақ ерлердің де, әйелдердің де жалпы білім деңгейі бірдей жоғары. Бұған, басқалармен қатар, А. Орлова жүргізген әлеуметтік зерттеу нәтижелері дәлел бола алады (Mirzaei A. et al. 2020). Толық емес жоғары білімі бар кәсіпкерлер, сондай-ақ кәсіпкерлікпен айналысуға мәжбүр адамдар (нақты жұмыссыздық немесе жұмыссыздық қаупі, өмір сүру тапшылығы, жалақы төлемеу, қысым) ерлерге қарағанда әйелдерге көбірек ие. Алайда жұмыссыз, кедей әйелдер іскер әйелдер қатарын толықтырудың негізгі көзі болып табылмайды. Әйелдер тұрақты бизнес-стратегияларға назар аударады және жауапкершілікпен және сақтықпен әрекет етеді: олар бір жылдан үш жылға дейін немесе одан да көп жұмыс істейтін бизнестің қызметін жоспарлайды; олардың тұрақты клиенттері бар, соның ішінде мемлекеттік кәсіпорындар арасында; өз аймағынан тыс жерлерге шығу ықтималдығы аз; көбінесе кәсіпкерлік қызметті өзін-өзі жүзеге асыру мүмкіндігі ретінде қарастырады; ішкі өндірісті басқару, сондай-ақ персоналды басқару ауыртпалығын өз мойнына алып, кәсіпорындардағы (виңе-президенттер, бас менеджерлер) «екінші тұлғалардың» лауазымдарын белсендірек игеру; жиі екі немесе үш позиңияны алады; олар тұтынушыларға жеңілдіктер беретін, белсенді жарнамалық және маркетингтік қызметті жүзеге асыратын және тұтынушыларды сапалы, сенімді және қызмет көрсету деңгейімен тартуға тырысатын адамдарды тарту үшін көбінесе жеке тұтынушыларға назар аударады; әйелдер менеджерлері бәсекелестермен жұмсақ қарым-қатынасты дамытады (олардың жартысынан көбінде бәсекелестермен ешқандай проблемалар болмайды; сонымен бірге респонденттердің кейбіреулері бәсекелестер тарапынан жалған ақпарат, алдау, жосықсыздықты атап өтті). Мемлекеттік органдармен, кәсінкерлікті қолдауға бағытталған құрылымдармен «іскер әйел», сондай-ақ ер басшылармен қарым-қатынастары өте қарамақайшы (Różycka M., 2018).

М. Шимчишин патриархалдық қоғамдағы әйелдердің іскерлік белсенділігіне кедергі келтіретін идеологияның үш түрін анықтады: мизогиния, аналық инстинкт және теңдік. Алғашқы идеология, мизогиния мәдениетте, саясатта, әдебиетте және өнерде көрініс тауып, әйелдердің көзқарастарын бағалағысы келмейтіндігін көрсетеді. Оған мысал ретінде «Әйелді тыңда, бірақ керісінше істе» деген мақалды келтіруге болады. Әйелді тұрмыстық қағидалардың сақтаушысы ретінде қарастыратын екінші идеология оны «ошақтың қорғаушысы және идеалды ана» ретінде сипаттайды. Алайда, бұл шын мәнінде әйелдердің қосарланған жұмысының қиын жағдайын бүркемелейді. Егер күйеуінің табысы отбасын асырауға жеткілікті болса, оның басқа «жартысы» әдетте үй шаруасымен айналысу үшін жұмысын тастайды, ал егер жоқ болса, әйел «екі орындыққа отыруға» мәжбүр болады. Үшінші идеология — жыныстар арасындағы теңдік туралы елес, өйткені әйелдер осы әрекеттерді отбасы ошағын сақтаушы рөлімен қатар үйлестіре алған жағдайда ғана жұмыс істеуге және оқуға мүмкіндік алады. Олар мансаптық және/немесе феминистік көзқарастарға басымдық бергеннен кейін жеке өмірде проблемалар жиі туындайды (Shymchyshyn M., 2005). Нарықтық реформалардың басталуымен жағдай айқындала бастады. Бұл ерлер мен әйелдер арасындағы жалақы айырмашылығына және еңбек нарығындағы кемсітушілікке байланысты (Brainerd E., 2000).

Бүгінгі таңда оның бизнес саласы туралы барлық идеялары әлеуметтік еңбек қатынастарының гендерлік құрылымының белгілі бір консерватизмін де, тиісті психологиялық көзқарастарды да көрсетеді, олардың мақсатына әсер ететін және кәсіби қызмет түрлері мен әйелдердің еңбек нарығындағы біліктілік деңгейін анықтайтын әлеуметтік-мәдени стереотиптерді атап көрсетеді. Атап айтқанда, гендерлік стереотиптер әлеуметтік салаға әсер етеді сана мен мінез-құлық, ерлер мен әйелдер арасындағы қарым-қатынас сипаты, белгілі бір теңсіздікті орнатып қана қоймай, оны қолдап, негіздеу. Сонымен қатар, стереотиптерді сақтауға әйелдердің өздері де жиі үлес қосады. Олар қоғамдағы қалыптасқан теңгерімсіздікті мүлдем табиғи құбылыс ретінде қабылдайды және өз мүмкіндіктеріне, соның ішінде өздерінің ісін ашу мүмкіндіктеріне күмәнмен қарайды. Өз мүмкіндіктерін пессимистік бағалау және гендерлік стереотиптердің басым болуы әйелдердің бизнес салаларын таңдауын шектейді, бизнестің ауқымын қысқартады, олардың бәсекеге қабілеттілігін төмендетеді (Brush C. G. et al., 2022).

Нәтижелері

Әйелдер кәсінкерлігіне қатысты объективті де, субъективті де әлеуметтік шектеулердің тұтас жиынтығы бар кейіпкер. Біріншілердің қатарында бұқаралық санада берік орныққан рөлдерді бөлу жатады. Әйелдер тағайындалған ерлер мен әйелдерге, әдетте, тек қызмет көрсету, қызмет көрсету функңиялары. Әйелдер кәсінкерлігіне деген көзқарастың түп-тамыры көбіне әйелдердің қоғамдағы

рөлін түсінуде жатыр. Қазіргі жагдайда әйелдер кәсінкерлік негізінен мәжбүрлі табиғат және осыған байланысты еңбектегі әйелдерге қатысты әлеуметтік кемсітушіліктің күшеюі сияқты жағымсыз факторлар нарыққа көшу, айтарлықтай маргинализация жұмыс істейтін әйелдердің бөлігі, жұмыссыздықтың өсуі. Дегенмен әйелдер кәсіпкерлігінің генезисінің мәжбүрлі сипаты жоқ теріс және оның одан әрі өркениетті дамуына алғышарттар жасайды.

Еңбек нарығындағы әйелдер мен ерлердің теңдей мүмкіндіктерін қамтамасыз ететін, бүгінгі таңда әйелдің жеке бизнес саласындагы белсенділігіне айтарлықтай кедергі келтіретін негізгі фактор — бұл әйелге кәсіби жарамсыздықты, тар көзқарасты білдіретін стереотип емес, ол әйел өзін ең алдымен отбасына арнауы керек деген стереотип болып табылады. Мәдени дәстүрлер, дін, имандылық әйелді оның жеке қалауы мен ұмтылысына қарамастан өзін осылай ұстауға итереді. Ол сонысына сәйкес өмір сүргеннен кейін, оның қадамдары бірдей мәдени және типтік болып саналады. Екінші жақтан, жұмыс берушілер көбейсе осы стереотип аясында жұмыс істейді, әйелдерді жұмысқа қабылдаудан бас тартады, көбінде әйел толық берілгендікпен жұмыс істемейді, өйткені жұмыс ол ұшін екінші (отбасыдан кейін) орында болады. Сонымен қатар, әйелдің репродуктивті функцияларымен байланысты ықтимал шығындар алдын-ала қарастырылады: күтімді қажет ететін балалар, ауырып қалса демалысы, демалыстар, соның ішінде жүктілікке байланысты. Жұмысқа орналасуға тырысқанда, әйелдер ер адамдарға бейтаныс шектеулерге тап болады. Әңгімелесу кезінде олардың отбасылық жағдайы, балашағасының бар-жоғы, саны мен жасы сұралады, кейде тінті әйелдің жүкті емес екендігі туралы анықтама талап етіледі. Қазірдің өзінде бұл кезеңде ол белгілі бір дәрежеде жұмыс берушіге тәуелді, ол демалысын алмайды, іссапардан бас тартады және қажет болған жагдайда жұмыс күндері немесе демалыс күндері ұзақ жұмыс істеуге келіседі. Сондай-ақ, жұмысқа орналасу кезінде әйел ішінара жұмыс берушіге де, отбасына да байланысты. Бұл әйелдің отбасындағы жайлылықты, үйдегі тазалықты, күйеуі мен балаларының денсаулығын, балаларының оқудағы жетістіктерін, тіпті егер ол жұмыспен айналысса да бақылауы керек деген стереотиптік ұміттердің таралуын білдіреді. Көңілге мұқтаж ер адамның туыстарымен біздің қоғамға дәстүрлі жақсы қарым-қатынасты ұмытпау керек және әйелдің қаншалықты бәрін жасай алатынын құлшыныспен бақылап отыру керек. Сондықтан, көбінесе «кәсінкерлік» құбылысы әйел үшін сыртқы факторлардың жемісі ғана емес, сонымен қатар оның жартылай саналы таңдауы — жұмыс істеу, бірақ отбасы көп зардап шекпейтіп және басқалар оны мансапқор деп санамайтындай деңгейде болуын қалауы.

Кейбір зерттеушілер (Aidis et al., 2007) жеке кәсіпкерлік түріндегі бизнестің пайда болуы мен заңдастырылуы посткеңестік елдердегі негізгі өзгеріске айналды деп есептейді. Жеке кәсіпкерлік қызметін бастаған әйелдер ұлттық экономиканың жеке қозғаушы күші ретінде ерекше көзге түсті. Олар жалпы еңбек нарығында әйелдер басқаратын кәсіпорындардың маңыздылығын атап өтеді. Ғалымдардың айтуынша, кәсіпкер әйелдер басқа әйелдерді жұмысқа алады, осылайша жұмыс құшінің гендерлік тепе-теңдігіне ықпал етеді. Т. Журженко кәсіпкер әйелдер феноменін әлеуметтік шындықтың белгілерін бойына сіңірген даралық көрінісінің жеке түрі деп санайды (Журженко Т., 2008).

Әйелдер табиғаты бойынша сезімтал деген стереотипке сүйене отырып, оларда белгілі бір әлеуметтік мәртебелер бар: медбикелер, әлеуметтік қызметкерлер, балабақша тәрбиешілері, мұғалімдер, акушерлер және т.б. болжам негізсіз болып қалды. Әйелдер үйде жұмыс істей алатындықтан, оларға қызметші, аспаз немесе кондитер, ұй шаруасындағы әйел, тазалаушы, шаштараз сияқты лауазымдар ұсынылады. Әйелдер жеке тұлға тұрғысынан тартымды, сондықтан олардың артында хатшы, әкімші, сатушы, сауда агенті, кассир лауазымдары қалады. Олар негізінен жұмсақ қарым-қатынаста мойынсұнуға дайын, басқаларды манипуляциялауға бейім емес, физикалық күші төмен, жаратылыстану ғылымдарына, техникаға, математикаға бейім емес, оның көшбасшы, ұйымдастырушы, көшбасшы болу құқығын (және қабілетін) тануды іс жүзінде жоққа шығарады. Біз жоғарыда аталған барлық жағдайларда әйелдердің өздерінің кәсінқойлығы немесе қалауы туралы мұлде күмән тудырмайтынын атап өтеміз, өйткені біз мінез-құлық пен құтудің қалыптасқан стереотиптері туралы айтып отырмыз.

Белгілі бір жынысқа қатысты әлеуметтік құтулер әйелдер мен ерлердің қоғамда бекітілген мінез-құлық стилін құрайды. Патриархалды мәдениет әйелге қатысты гендерді қалыптастырады, оның табиғатының басым бағыты — бұл отбасы, сондықтан әйелдің әлеуметтік мәртебесінің дамуына кепілдік беру ұшін гендер кәсіби жайлылық пен физикалық жайлылықты қажет етпейді. Мұндай көрінісі гендерлік стереотиптің әйелдердің инфантилизациясын тудырады, оның өзін-өзі тануы мен өзін-өзі бағалауына жойқын әсер етеді және нәтижесінде әлеуметтік процестер мен трансформацияларға белсенді қосылудың мүмкін еместігіне әкеледі. Стереотиптердің тағы бір бөлігі әйелдерді жұмыспен қамтудың төмен жалақысы немесе төмен мәртебесі сияқты ерекшеліктерін, сондай-ақ олардың ше-

шім қабылдаудағы елеусіз ықпалын түсіндіре алады. Атап айтқанда, әйелдер көбінесе бұйрықтарды орындауды артық көреді, мойынсұнғыш және жұмысқа және оның жағдайларына шағымдар мен жанжалдарға бейім емес, сондай-ақ төмен жалақы алуға келіседі.

Бұл стереотиптер әйелдердің бизнестегі белсенділігіне, олардың өз ісін ашуға дайындығына айтарлықтай әсер етеді. Өйткені бизнестегі алғашқы қадамдар әйелдерге қиынырақ. Тіркеудің күрделі рәсімдерінен, заңнаманың жетілдірілмеуінен, бастапқы капиталдың болмауынан, қажетті білім мен ақпараттың болмауынан басқа, әйелдер дәстүрлі гендерлік стереотиптердің әсерімен байланысты нақты ішкі кедергілерге тап болады. Әйел жұмыс орнында немесе мектепте жұмыс істеу, отбасылық немесе үй шаруасымен айналысу, яғни оның отбасы мен қоғамға жүктелген дәстүрлі функцияларды орындау арқылы қолдауға сене алатындығы белгілі. Дәстүрлі түрде белгілі бір жағдайлардан тыс, тәуекелді, бизнесті қажет ететіп және осы дәстүрлер үшін кейбір қиындықтар туғызатын жағдайларда, әйел бұдан былай қолдауға сене алмайды. Әсіресе, әлеуметтік бақылаудың дәстүрлі түрлері тиімдірек болатын шағын қалалар мен ауылдарда.

Талқылау

Кәсіпкер әйелдер ер кәсіпкерлерге қарағанда өз ісін ашу мен жүргізуде үлкен қиындықтарға тап болады. Мұндай проблемалар көптеген елдерге тән, олар екі елде де айтылады дамушы елдермен қатар экономикалық дамыған елдерде де. Кәсіпкер әйелдер кездесетін мәселелердің ішінде объективті және субъективті мәселелер бар. Объективті мәселелер кәсіпкерлік пен жеке өмір арасындағы тепетеңдікке қол жеткізудегі қиындықтарға байланысты, оның ішінде бала күтімі, үй шаруашылығы және отбасылық міндеттер. Субъективті проблемаларды әлеуметтік және мәдени алшақтықтар, көптеген елдердің заңнамасындағы институционалдық, құқықтық және салықтық олқылықтар, сондай-ақ әйелдердің, әсіресе патриархалдық қоғамдардағы рөліне байланысты стереотиптер тудырады.

Кәсіпкерлікпен айналысу туралы шешім қабылдауға әсер еткен мотивтерді талдау (Журавлев А.Л., Позняков В.П., Титова О.И., 2007), олардың құрылымындағы гендерлік ерекшеліктерді анықтауға мүмкіндік берді. Бірдей көлемде ерлер де, әйелдер де өздеріпе және отбасыларына лайықты өмір сүру жағдайларын жасауға (36%), экономикалық тәуелсіз болуға (шамамен 31%) ұмтылады, ал экономикалық тәуелсіздік ер кәсіпкерлерге көбірек тән (ерлердің 37%), әйелдердің 23%-ымен салыстырғанда). Елдегі жалпы кәсіпкерлер санының 1/3 бөлігі еңбекпен қамтамасыз етілу мәселесіне орай аталған бағытты тандап алған, яғни жұмыссыздық мәселесін шешу үшін кәсіпкерлікпен шұғылданады, оның үстіне ерлерге қарағанда әйелдерге бос жұмыс орындарын табу едәуір қиыншылық туғызады, пайызбен есептегенде сәйкесінше 35% және 26%. Көптеген маман иелеріпе өз мамандықтарына лайықты қызметті ұзақ уақыт іздестіруге тура келді, пайызбен есептегенде сәйкесіпше 32% және 25%. Тағы бір байқалған жағдай кәсіпкерліктің шығармашылық түрімен әйелдерге қарағанда ер азаматтар сәл көбірек шұғылданады, сәйкесіпше 21-20%. Мұндай мотивтер бизнеспен айналысу шешіміне бай болуға ұмтылу (13%), өз бизнесін ұйымдастыру арқылы өз жоспарларын жүзеге асыру (13%) сияқты әсер етеді. Өз ісін ашуға мүмкіндік беретін «бос» ақшаның болуы ерлер мен әйелдерді бизнеске бірдей (әрқайсысы 10%) әкелді. Жағдайлардың кездейсоқ тоғысуы кәсіпкерлердің 4 пайызының ғана тағдырына әсер етті.

Кәсіпкерлік жолын таңдаған ерлер де, әйелдер де гендерлік емес қиындықтарға кезігуі сөзсіз. Бұл заңнамадағы кемшіліктер, қаржы жүйесінің ерекшеліктері, сыбайлас жемқорлық, жосықсыз бәсеке, мемлекеттің кәсіпкерлік қызметке негізсіз араласуы. Сонымен қатар, жеке бизнес саласы негізінен ер адамдар болды және болып қала береді, өйткені әйелдердің осы салаға белсенді енуіне кедергі келтіретін көптеген экономикалық, әлеуметтік, мәдени және тіпті психологиялық факторлар бар.

Қазіргі жағдай екі бағытта — зерттеуді қажет етеді «ер» және «әйел» кәсіпкерлік пен кәсіпкерліктің ерекшеліктері, жоғарыда аталған элементтердің синтезі болып табылады.

Бұл ұсыныстыіске асыру келесі нәтижелерге әкеледі:

– ер адамның ерекшеліктері туралы сапалы ақпараттың пайда болуы;

– әйелдер кәсіпкерлігінің ерекшеліктерін жақсырақ анықтау үшін ерлермен салыстырмалы талдау;

– кәсіпкерлікті екі жыныс өкілдері қызметінің жиынтығы ретінде зерттеу;

– еркек пен әйелді тиімді біріктіру бойынша ұсыныстар әзірлеу үшін ұлттық кәсіпкерлік шеңберінде кәсіпкерлік қызмет мемлекеттің экономикалық даму деңгейін арттыру (Suseno Y., Abbott L., 2021)

Соңғы кездері аталған мәселені зерттеушілер әйелдердің кәсіпкерлікті тандаудағы ынтасын мәжбүрлі (жұмыссыздық) және ерікті (икемді жұмысқа орналасу, өзін-өзі жүзеге асыру) деп екіге бө-

лін, оларға еріктілік факторының көбірек тән екенін атап өтуде. Мұндағы маңызды мәселе әйелдер көп жағдайда өздерін ешкімге тәуелді болмауын қалайды (атап айтқанда олар ер азаматтарға тәуелді болмауын қалайды, сонымен қатар еңбек нарығындағы ауытқулардан, жұмыс берушіден), сондай-ақ бизнеске кірудің анықтаушы мотивтері ретінде жұмыссыздықты атап өтеді. Дегенмен, кәсіпкер әйелдердің толық тәуелсіз болуы әрқашан мүмкін емес, әйелдердің көпшілігі ер адамдардан қаржылық көмек алады. Сонымен қатар, оларда бастапқы капитал мәселесі жиі кездеседі. Әйелдер несие алуға көбірек қорқады. Осы факторлардың барлығы мотивтер және оларды жүзеге асыру құралдары тұрғысынан да әйелдер кәсінкерлігінің белгілі бір ерекшеліктерін көрсетеді (Силласте Г.Г., 2000). Сондай-ақ, зерттеушілер бизнеске келу мотиві ретінде ер кәсінкерлердің өзін-өзі орнықтыруға, өзін жүзеге асыруға, жаңа кәсінте бағын сынауға деген ұмтылысын, ал әйелдердің көп ақша тауып, өзін және отбасын қамтамасыз етуге деген ұмтылысын жиі атайды. Осылайша, осы деңгейде де қоғамдағы тенденцияларды көрсететін тәсілдер мен мотивтердің белгілі бір ерекшеліктерін байқауға болады, бұл әйелдер бизнесінің белгілі бір сипаттамаларын көрсетуге, кәсінкер әйелдің әлеуметтік портретін жасауға мүмкіндік береді. Оны құру әрекетін кезінде Л. Бабаева мен А. Чирикова жасады (Wells S. J., 2021).

Әйелдер кәсіпкерлігін дамытуға кедергі келтіретін психологиялық кедергілер туралы ұмытпау керек. Әйелдердің көпшілігіне тән мотиваңиялық сипатты бөліп көрсетуге болады, онымен байланысты жағымсыз салдарға байланысты табысқа жетуден қашу арқылы көрінетін табысқа жету қорқынышы (Stefan D. et al., 2021). Әйелдер табысқа жетуден қорқу белгілерін білдіреді, өйткені олар әртүрлі жағдайларға байланысты өз әлеуетін толық іске асыруға байланысты өздерінің кәсіби жетістіктерін бағаламауға бейім; іскер әйелдер отбасын кәсіби мәселелерден қорғауға алаңдайды; олар әйелдіктің аздығы сезімімен және оны баса көрсету қажеттілігімен сипатталады.

Кәсіпкерлікпен айналысатын әйелдердің мотиваңиялық сферасын қарастырғанда ондағы жиі кездесетін ерекшеліктер ретінде мыналарды айтуға болады: қызметте өзіне лайық орын табу, лайықты кәсіпкерлік қызмет атқаруға мүдделі болу, отбасына қамқорлық таныту ынтасының иерархиясы бойынша ерлерге қарағанда жоғары, ал басшылық қызметке орналасуға ұмтылмау. Әйелдер кәсіпкерлігіндегі талаптандыру үрдісінің тағы бір ерекшелігі өмірлік циклдегі жетістік мотиваңиясының ауытқуы болып табылады.

Кәсіпкерлікпен айналысатын әйелдер тобына жүргізілген сауалнама нәтижелері олардың мотиваңиясы ең алдымен материалдық қызығушылық екенін көрсетеді. Әйелдердің үштен екісі бұл салаға материалдық табыс алу үшін келген. Әйелдердің 50%-ға жуығы материалдық қамсыздандыруға негізделген отбасы үшін лайықты өмір сүру жағдайларын жасауға деген ұмтылысты да айтады. Әйелдердің үштен бірі өз өмірін түбегейлі өзгертуге деген ұмтылысты басшылыққа алады. Бұл олардың кәсінкерлікпен айналыспас бұрын бастан өткерген еңбек саласындағы өз ұстанымдарына терең қанағаттанбаушылықты көрсетеді (Suseno Y., Abbott L., 2021).

Әйелдер арасында өте кең таралған нәрсе — өзін-өзі жүзеге асыруға деген ұмтылыс (шамамен 50%), олар бұрынғы әлеуметтік мәртебесін бизнес-ханым мәртебесіне өзгерту арқылы қанағаттандыра алды. Жаңадан бизнесті бастау туралы шешім қабылдаған кезде кәсінкерлікпен шұғылданатын әйелдердің үштен бір бөлігі еркін және тәуелсіз қызмет түріне, яғни өз бетінше шешім қабылдау мүмкіндігіне ұмтылатыны байқалды. Алайда әйелдер кәсіпкерлігіндегі мүмкіндіктерді шектейтін белгілі бір стереотиптер бар екендігін ұмытпаған абзал. Дәлірек айтқанда кәсіпкерлік қызметтегі іскерлік, бастама көтерілу, бәсеке қабілеттілік, нарықта белсенділік таныту, бейімделушілік, көздеген нәтижеге қол жеткізу, нарықтағы жағдайға байланысты әр түрлі тәуекелдерге бару, белгісіздік жағдайында әрекет ету сияқты жеке қасиеттердің болуын болжайды. Бұл қасиеттер негізінен еркектіктің көрінісімен байланысты. Сонымен бірге мінез-құлық ерлерге стереотипі қалыптасады. Мұның салдары — ерлер мен әйелдер кәсінкерлері туралы қоғамда әртүрлі пайымдаулар тән деген бағалаулардың болуы.

Әйелдер кәсінкерлігінің дамуын сипаттай отырып, әйелдердің көпшілігі оны негізінен өз бетінше ұйымдастырып, кәсіпкерлік қызметті жаңадан бастауды жөн көретінін атап өтуге болады. Дәлірек айтқанда кәсіпкерлікпен шұғалданатын әйелдердің 82%-ы өз істерін жаңадан ашқан, ал 18%-ы бұрыннан қызмет атқарып тұрған кәсіпорындарда өз үлестерін сатып алады.

Әйелдердің кәсінкерлік қызметті қалыптастыру үдерісінің ерекшелігі олардың әуелгі кезеңде тек қана өз күшіне немесе туысқандарының қолдауына гана сене алатындығы болып табылады. Тіркелген қоғамдық ұйымдардың қолдауын сезінгендердің саны өте аз, ал мемлекеттік органдар мен халықаралық ұйымдардың көмегін ешкім көрсетпеді.

Қорытынды

Елдегі әйелдер кәсіпкерлігінің дамуына ықпал ететін жағдайлар объективті факторларды – қоғамдағы кәсіпкерлік қызметтің мүмкіндіктерін де, адамдардың психологиясына қатысты субъективті факторларды да қамтиды. Олардың екеуі де әйелдер кәсіпкерлігінің дамуына әсер ететін жағдайлардың үш негізгі тобын құрайды: жеке кәсіпкерлікке қатысты мемлекеттік саясат; қоғамның мәдениеті немесе құндылықтар жүйесі; адамдардың кәсіпкерлікке бейімділігі мен қабілеттері. Соңғы екі топ негізінен гендерлік аспектілермен байланысты. Жоғарыда айтылғандай, әйелдер арасында кәсіпкерлікпен айналысу мотивтерінің иерархиясында өзін-өзі жүзеге асыру, кәсіби қызметтің мазмұнына қызығушылық, жақындарына қамқорлық ерлерге қарағанда жоғары, ал көшбасшылыққа деген үмтылыс төмен.

Әйелдер үй тапсырмасының жалғасы болып табылатын және айқын әлеуметтік сипатқа ие кәсіпкерлік салаларын жақсы көреді. Бұл салаларға: денсаулық сақтау, мектепке дейінгі тәрбие, қызмет көрсету саласы, тамақтану, спорт, туризм, қолөнер және т.б. жатады. Отбасындағы барлық мүмкіндіктерді аса зор шығармашылық танытып орындауда отбасылық бизнес ерекше рөл атқарады. Жұмыс уақытының отбасы мүшелері үшін қолайлы болуы әйелдерге кәсіпкерліктің отбасылық нысандарын аса тартымды етеді. Олар өз қызметін бала тәрбиесімен және үй шаруашылығымен тиімді ұштастыруға мүмкіндік алады. Әйелдер кәсіпкерлігінің жоғары әлеуметтік бағдары қоғамдағы өмір сапасын жақсартуға, тұрғындардың әлеуметтік тұрғыдан әлжуаз бөлігі үшін жұмыс орындарын құруға үмтылуынан көрінеді.

Әйелдер кәсіпкерлігін және әлеуметтік бизнес секторын дамыту макроэкономикалық тұрақтандырудың маңызды факторларының бірі, әйелдердің жұмыссыздығы мәселесін шешудің және инновациялық қызметті ынталандырудың жолы болып табылады. Сондай-ақ, әйелдер кәсіпкерлігінің маңызды бағыты ретіндегі әлеуметтік бизнес саласының дамуы әлі де жалпы жағдайға байланысты екендігін, олардың едәуір бөлігі экономикалық және саяси кедергілерден зардап шегуде екенін атап өтуге болады.

Қазіргі кездегі орын алып отырған елдегі тұрақсыздық экономикалық дағдарыс және бұрынғы жоспарлы экономиканың мұрасы. Елдегі әлеуметтік кәсіпкерліктің әйелдердің жұмыссыздығы мәселесін шешуге, әйелдердің кәсіпкерлік қызметтегі жағдайларын жақсартуға, олардың бойында кәсіпкерлік тұрғысынан ойлау стилін дамытуға және көптеген әлеуметтік мәселелерді уақытылы және жоғары деңгейде шешуге арналған әлеуеті бүгінде толық пайдаланылмайтыны анық.

Зерттеу Қазақстан Республикасы Ғылым және жоғары білім министрлігінің Ғылым комитеті қаржыландыратын жоба аясында жүзеге асырылды (Грант № AP14871920).

Әдебиеттер тізімі

Aidis R. Female entrepreneurship in transition economies: The case of Lithuania and Ukraine / R. Aidis, F. Welter, D. Smallbone, N. Isakova // Feminist Economics. — No. 13 (2). — P. 157–183.

Brainerd E. Women in transition: changes in gender wage differentials in Eastern Europe and the former Soviet Union / E. Brainerd // Industrial and Labor Relations Review. — 2000. — No. 54 (1). — P. 138—162.

Brush C.G. Catalyzing change: Innovation in women's entrepreneurship / C.G. Brush, K.A. Eddleston, L.F. Edelman, T.S. Manolova, M. McAdam, C. Rossi-Lamastra // Strategic Entrepreneurship Journal. — 2022. — No. 16(2). —P. 243–254.

Mirzaei A. Evaluation of family caregiver burden among COVID-19 patients / A. Mirzaei, R. Raesi, S. Saghari, M. Raei // The Open Public Health Journal. — 2020. — No. 13(1).

Różycka M. The conditions of women's success in the context of appreciation of female values / M. Różycka // Women and Business. — 2018. — Vol. 1, No. 4. — P. 28–35.

Shymchyshyn M. Ideology and women's studies programs in Ukraine / M. Shymchyshyn // NWSA Journal: States of Insecurity and the Gendered Politics of Fear. — 2005. — No. 17. — P. 173—185.

Stefan D. Women entrepreneurship and sustainable business development: Key findings from a SWOT–AHP analysis / D. Stefan, V. Vasile, A. Oltean, C.-A. Comes, A.-B. Stefan, L. Ciucan-Rusu, E. Bunduchi, M.-A. Popa, M. Timus // *Sustainability.* — 2021. — Vol. 13, No. 9. — P. 5298.

Suseno Y. Women entrepreneurs' digital social innovation: Linking gender, entrepreneurship, social innovation and information systems / Y. Suseno, L. Abbott // *Information Systems Journal.* — 2021. — Vol. 31. — No. 5. — P. 717–744.

Wells S.J. Women entrepreneurs: Developing leadership for success / S.J. Wells. – Routledge. — 2021.

Возняк О.В. Особенности профессиональной самореализации женщин-предпринимателей / О.В. Возняк, Д.С Занин // Мир науки. Педагогика и психология. — 2022. — № 10(1). — С. 35.

Журженко Т. Гендерные рынки Украины: политическая экономия национального строительства / Т. Журженко // Вильнюс: Европейский гуманитарный университет. — 2008. — 256 с.

Журавлев А.Л. Психологические отношения российских предпринимателей к конкуренции и партнерству: гендерный аспект / А.Л. Журавлев, В.П. Позняков, О.И. Титова // Наука. Культура. Общество. — 2008. — № 4. — С. 102–115.

Орлова А.В. Женское предпринимательство в контексте реализации гендерной политики в Республике Беларусь/ А.В. Орлова // Актуальные вопросы экономического развития: теория и практика в современных условиях: материалы Междунар. науч.-практ. конф. «Национальная инновационная система Республики Беларусь: состояние и перспективы развития», 27–28 октября 2011 г. / отв. ред. Б.В. Сорвиров, О.С. Башлакова и др. — Гомель: Гомель. гос. ун-т им. Ф. Скорины, 2011. — С. 369–375.

Силласте Г.Г. Изменение социальной мобильности и экономического поведения женщин / Г.Г. Силласте // Социологические исследования. — 2000. — № 5. — С. 25–34.

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Объектно-субъектные особенности женского предпринимательства и преимущества его развития

Аннотация:

Цель: Рассмотреть объективные и субъективные особенности развития женского предпринимательства, проанализировать гендерные факторы при разделении рынка труда, гендерные стереотипы, а также мотивацию женщин к занятию бизнесом. Отмечается, что место и особенность семейного бизнеса в женском предпринимательстве заключаются в том, что он позволяет всем членам семьи творчески реализовать свои способности, оказать им поддержку и защиту в любых неблагоприятных ситуациях.

Методы: В качестве методологической базы исследования использован анализ гендерного аспекта бизнеса и предпринимательства, как одного из факторов общественного производства, и формирования типичной «гендерной ниши» современной экономической деятельности.

Результаты: Авторами статьи даны рекомендации по сдерживанию факторов психологического и социально-психологического характера, тормозящих активность женщин в данной сфере при социальной потребности общества в развитии женского предпринимательства и росте безработицы.

Выводы: На основе проведенной методики сделан вывод о том, что в последние десять лет в Казахстане увеличилось количество принимаемых мер по обеспечению равных прав и возможностей женщин и мужчин в обществе. Доказательством тому являются достаточные правовые и институциональные основы, а также статистические данные и показатели улучшения гендерного равенства в стране, которые определили наилучшие направления.

Дополнительные сведения: Исследование выполнено в рамках проекта, финансируемого Комитетом по науке Министерства образования и науки Республики Казахстан. (Грант № AP14871920).

Ключевые слова: бизнес, женское предпринимательство, мотивация, гендерный стереотип, идеология, гендерное разделение труда.

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Object-subject features of women's entrepreneurship and advantages of its development

Abstract

Object: The purpose of the article is to examine the objective and subjective factors of the development of women's entrepreneurship, their study of the gender division of the labor market, gender stereotypes and patriarchal ideology, as well as the motivation of women to engage in business. It is noted that the role of family business in women's entrepreneurship is a special feature, which allows them to creatively realize the abilities of all family members, provide them with support and protection in any unfavorable conditions.

Methods: The method of analysis.

Results: The authors made recommendations on a psychological and socio-psychological deterrent that hinders women's activity in this area, even when society has a significant social need for the development of women's entrepreneurship and the growth of unemployment.

Conclusions: It is concluded that over the past decade, Kazakhstan has been increasing the number of measures taken to ensure equal rights and opportunities for women and men in society. A sufficient legal and institutional framework proves this, as well as statistical data and indicators for improving gender equality in the country have identified the best areas.

Keywords: business, women's entrepreneurship, motivation, gender stereotype, ideology, gender division of labor.

References

Aidis, R., Welter, F., Smallbone, D., & Isakova, N. (2007). Female entrepreneurship in transition economies: the case of Lithuania and Ukraine. *Feminist Economics,* 13 (2), 157–183.

Brainerd, E. (2000). Women in transition: changes in gender wage differentials in Eastern Europe and the former Soviet Union. *Industrial and Labor Relations Review*, 54 (1), 138–162.

Brush, C.G., Eddleston, K.A., Edelman, L.F., Manolova, T.S., McAdam, M., & Rossi-Lamastra, C. (2022). Catalyzing change: Innovation in women's entrepreneurship. *Strategic Entrepreneurship Journal,* 16, 2, 243–254.

Mirzaei, A., Raesi, R., Saghari, S., & Raei, M. (2020). Evaluation of family caregiver burden among COVID-19 patients. *The Open Public Health Journal*, 13, 1.

Orlova, A.V. (2011). Zhenskoe predprinimatelstvo v kontekste realizatsii gendernoi politiki v Respublike Belarus [Women's entrepreneurship in the context of the implementation of gender policy in the Republic of Belarus]. B.V. Sorvirov, O.S. Bashlakova et al. (Ed.). Proceedings from Actual issues economic development theory and practice in modern conditions: *Mezhdunarodnaya nauchno-prakticheskaya konferentsiya (27-28 October, 2011) – International Scientific and Practical Conference*. (pp. 369-375). Gomel: Gomelskiy gosudarstvennyi universitet imeni F. Skoriny [in Russian].

Różycka, M. (2018). The conditions of women's success in the context of appreciation of female values. *Women and Business, 1, 4, 28–35.*

Shymchyshyn, M. (2005). Ideology and women's studies programs in Ukraine. *NWSA Journal: States of Insecurity and the Gendered Politics of Fear*, 17, 173–185.

Sillaste, G.G. (2000). Izmenenie sotsialnoi mobilnosti i ekonomicheskogo povedeniya zhenshchin [The modification of social mobility and economic behavior of women]. Sotsiologicheskie issledovaniia – Sociological Research, 5, 25–34 [in Russian].

Stefan, D., Vasile, V., Oltean, A., Comes, C.-A., Stefan, A.-B., Ciucan-Rusu, L., Bunduchi, E., Popa, M.-A., & Timus, M. (2021). Women entrepreneurship and sustainable business development: Key findings from a SWOT–AHP analysis. *Sustainability,* 13, 9, 5298.

Suseno, Y., & Abbott, L. (2021). Women entrepreneurs' digital social innovation: Linking gender, entrepreneurship, social innovation and information systems. *Information Systems Journal,* 31, 5, 717–744.

Vozniiak, O.V., & Zanin, D.C. (2022). Osobennosti professionalnoi samorealizatsii zhenshchin-predprinimatelei [Features of professional self-realization of women entrepreneurs]. *Pedagogika i psikhologiya — Pedagogy and psychology,* 10, 1, 35 [in Russian].

Wells, S.J. (2021). Women entrepreneurs: Developing leadership for success. Routledge.

Zhuravlev, A.L., Pozniakov, V.P., & Titova, O.I. (2008). Psikhologicheskie otnosheniya rossiiskikh predprinimatelei k konkurentsii i partnerstvu: gendernyi aspekt [Psychological attitude of Russian businessmen to a competition and partnership: a gender perspec- tive*]. Nauka. Kultura. Obshchestvo – Science. Culture. Society,* 4, 102–115 [in Russian].

Zhurzhenko, T. (2008). Gendernye rynki Ukrainy: politicheskaya ekonomiya natsionalnogo stroitelstva [Gender markets of Ukraine: the political economy of nation-building]. Vilnyus: Evropeiskii gumanitarnyi universitet [in Russian].

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Повышение конкурентоспособности предпринимательских структур в условиях инновационного форсайта

Аннотация:

Цель: В связи с тем, что возникают трудности действенного руководства и формирования конкурентоспособности предприятий разных сфер деятельности, важно создать благоприятные условия для ведения предпринимательской деятельности в условиях инновационного форсайта. Из-за того что конкурентоспособность, возникающая в предпринимательской структуре, не гарантируется владением факторами производства, а также иные ключевые факторы организации предпринимательской деятельности, как имеющийся предпринимательский талант, не исключают того, что организация может обладать здоровой конкурентоспособностью. На данный момент предпринимательская структура имеет интеллектуальную составляющую развития, которая включает в себя создание и внедрение новейших технологий. Также она должна иметь готовность к переменам. С целью получения устойчивых или изыскательных конкурентных преимуществ, составляющих стратегическую конкурентоспособность, необходимо иметь умение разрабатывать инновации и поддерживать переходы.

Методы: В исследовании были использованы методы сравнительного анализа, рассчитаны относительные показатели, дедукция и метод визуализации данных исследования, метод экспертных оценок.

Результаты: Разработаны предложения по внедрению алгоритма метода управления и повышения конкурентоспособности предпринимательских структур на основе инновационного форсайта, а также рассмотрен ряд разных вопросов, связанных с созданием и реализацией стратегии по повышению конкурентоспособности, но из-за неполноты изученности предпринимательской структуры существует определенная проблематика в применении метода.

Выводы: На основе проведенного исследования можно утверждать, что при условии, когда предпринимательская структура будет обладать компонентом развития в виде инновационного форсайта, то есть включать способность производить и внедрять инновации в систему управления предпринимательской структуры, то это будет являться устойчивым конкурентным преимуществом. В статье рассмотрен инновационный форсайт как эффективный инструмент повышения конкурентоспособности предпринимательских структур в долгосрочной перспективе.

Ключевые слова: предпринимательская структура, инновации, конкурентоспособность, стратегическая устойчивость, модернизация предпринимательской деятельности, инновационный форсайт.

Введение

В 1950-е гг. начинается суждение об форсайте, как о глобальном исследовательском проекте в научной категории, а также как и о способе технологического прогнозирования объектов и систем. Но до сих пор научные общества не определились с сущностью и с содержанием данного термина, а также с методологией ее использования в формировании социально-экономических систем.

Для предпринимательской деятельности форсайт необходим не только с точки зрения прогнозирования, а со сферы проектирования будущих экономических инноваций и инновационных решений, которые способствуют повышению конкурентоспособности предприятий. Несомненно, что для повышения конкурентоспособности бизнеса в современных условиях не гарантируется владением факторами производства, также другими ключевыми факторами организации деятельности. Но имеющийся талант не уничтожает здоровой конкурентоспособности.

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В связи с изложенным выше, возникают трудности эффективного руководства и формирования конкурентоспособности предприятий, необходимо создать оптимальные условия развития бизнеса в условиях инновационного форсайта.

Оптимальным и действенным инструментом активного проектирования будущего предпринимательских структур для формирования стратегической конкурентоспособностив долгосрочной перспективе и является инновационный форсайт.

Гипотеза. В связи с мало изученностью данного метода с учетом специфики современной экономики Казахстана, предполагаем, что возникает проблематика внедрения инновационного форсайта в экономическую среду страны, как метода повышения конкурентоспособности предпринимательских структур.

Литературный обзор

Тематику повышения конкурентоспособности предпринимательских структур в условиях инновационного форсайта изучали зарубежные, так и отечественные научные исследователи, которые отразили их в своих работах. Существенный вклад в изучение проблемы конкурентоспособности предпринимательской деятельности внесли такие ученые, как:

– И. Ансофф, издав в 1979 г. книгу под названием «Стратегическое управление», которая не только охватывает исторические и современные, прикладные и теоретические аспекты стратегического управления, но и раскрывает саму суть методики и организации этой функции на современном этапе;

– Ю. Бригхэм и Л. Гапенски, опубликовав в 1997 г. книгу под названием «Финансовый менеджмент». В книге изложена логика и принципы управления финансами компании, а также рассмотрены базовые концепции теории структуры капитала, методика финансового анализа и критерии оценки инвестиционных проектов;

– Р. Брейли Р. и С. Майерс, издав в 1984 г. книгу под названием «Принципы корпоративных финансов», которая содержит полную концептуальную базу финансов, включая все ключевые понятия с изложением смысловых и ключевых понятий между ними, методов расчета соответствующих показателей, а также модели стоимостной оценки;

– К. Кристенсен, опубликовав в 1997 г. книгу под названием «Дилемма инноватора: когда новые технологии приводят к краху великих фирм», в которой изложил о том, как разоряются компании, являющиеся лидерами отрасли, когда они занимают новую нишу на рынке или когда на рынке начинают превалировать новейшие технологии. А также другие ученые, как У. Петти, М. Хаммер, М. Портер, А. Томпсон, М. Рейнор, К. Феррис, Д. Финнерти, Д. Хьюстон, М. Эрдхарт и другие.

Дальнейшее изучение модернизации предпринимательской деятельности в условиях инновационного форсайта, в которых были обобщены наработки в процессе научно-теоретического и прикладного аспекта, а также представлены в публикациях П.А. Егорушкина, Н.В. Лясникова, М.Н. Дудина, В.Д. Северина, Б.Д. Могуева, М.В. Талубоева, Ф. Сафина, К.Ю. Решетова, Е.М. Литвиновой, Е.С. Афанасьевой, М.А. Власовой, О.В. Рудаковой, А.С. Валиулина, Д.В. Корнеева, В.С. Гончарова, З.Н. Шуклиной и других.

Между тем, несмотря на подробное описание проблем конкурентоспособности предпринимательских структур в инновационной среде отечественными учеными, исследования, проведенные зарубежными исследователями, проводились применительно к относительно устойчивым условиям экономического развития стран, а практическое применение предлагаемых ими механизмов или моделей в условиях казахстанской экономики требует обязательного пересмотра с учетом специфики страны.

Важно также отметить, что ряд теоретико-методических и практических вопросов, связанных с формированием и реализацией повышения конкурентоспособности предпринимательской структуры в условиях инноваций, продолжает оставаться недостаточно изученным для дальнейшего исследования.

Методы

Методология исследования основана на применении сравнительного анализа позволивших на основе рассчитанных относительных показателях: интенсивности и индексного анализа, выработать аргументированные выводы, проверяющие состоятельность выдвинутых гипотез. Применение методов сравнения и дедукции способствовало получению сопоставимых релевантных выводов относительно взаимосвязи и взаимного влияния на последовательность и функционирование этапов повышения конкурентоспособности предпринимательских структур в условиях инновационного форсайта.

Результаты и обсуждение

Изменилась не только картина мира, в целом, но и бизнес-пространство. По факту на данный момент уже нельзя считать обоснованным тезис о том, что прогресс бизнес-структур должен быть конкурентоспособен и устойчив не только в функциональном маркетинговом аспекте или стратегическом плане. Кооперативность предпринимательских структур и стратегическая устойчивость — это те факторы, которые обеспечивают их долгосрочную работу в определенной экономической сфере.

К предпринимательским структурам инновационные решения приносят как неэкономические, так и экономические выгоды, которые и являются сущностью конкурентноспособности. Таким образом, можно сделать вывод, что основу для повышения уровня предпринимательских структур формируют инновации, которые и являются реализацией накопленного интеллектуального капитала и ключевых компетенций.

Экономика Казахстана по итогам 2021 г. выросла на 4 %.В 2020 г. показатель ВВП страны снизился на 2,6 %. В 2019 г. рост ВВП составил 4,5 %. По итогам 2021 г. наблюдается рост в секторе услуг, устойчивые темпы роста в реальном секторе, укрепление торгового баланса за счет высоких темпов роста экспорта и высокая инвестиционная активность в недобывающих отраслях. Что касается инвестиций, то их рост в основной капитал без учета горнодобывающей промышленности составил 11,7 %. Высокие показатели в строительстве в 2,1 раза, обрабатывающей промышленности — 50,5 %, сельском хозяйстве — 40,5, торговле — 34,2, операциях с недвижимым имуществом — 18,6 и финансовой деятельности — 14,2 %. Обрабатывающая промышленность сохраняет устойчивую тенденцию роста. Объем производства вырос на 5,2 %.

Основным катализатором роста стало расширение производства в секторах торговли, поддержка малого среднего бизнеса и увеличение инвестиционной активности и постепенное восстановление внутреннего спроса страны. Благодаря принятым мерам по диверсификации экономики на основе проведенной программы ГПФИИР, произошли качественные и положительные изменения в в структуре ВВП. Если в 2018 г. доля горнодобывающей промышленности, составляя около16,2 %, то в 2021 г. она упала до 11,7 %.

В 2018 г. была начата третья модернизация, которая включала в себя три важных этапа реорганизации: модернизация экономики страны посредством технологического процесса; законодательная модернизациядля повышения прозрачности и конкурентоспособности населения, а также модернизация общественного сознания. Государственнаяпрограмма по инновационному развитию «Цифровой-Казахстан» была запущена, направленная на переход всей экономики и государственного сектора в цифровую основу.

Несомненно, стоит отметить, что программа изначально имела потенциал для дальнейшего создания добавленной стоимости снижения издержек в современной экономике страны, что позволило бы нам достричь темпов роста ВВП на уровне 5,2 % к 2025 г., но в связи с форс-мажорной ситуацией, возникшей из-за пандемии, данный рост ожидается в два раза меньше.

В стране реализуется программа «НұрлыЖол», которая способствует формированию эффективной транспортно-логистической инфраструктуре, направленная на прогресс экспортных и транзитных возможностей страны.

В то же время, в целях диверсификации экономики и увеличения экспортного потенциала страны, с целью увеличения объемов экспорта осуществляется реализация Национальной экспортной стратегии, которая определяет новые экспортные продукты, новые ниши на зарубежных рынках. На основе исследования была создана комплексная система поддержки экспорта от производства до доставки конечному покупателю. Для привлечения ведущих мировых технологий и инвестиций реализуется национальная инвестиционная стратегия до конца 2022 г., ориентированная на привлечение иностранных инвестиций в экспорториентированные несырьевые сектора.

Устойчивое развитие предпринимательской структуры является одним из важных факторов, влияющих на благосостояние экономики страны. Государственное управление постоянно работает по снижению административных барьеров и улучшению делового климата в экономике страны. Благодаря изложенным выше мерам, малый и средний бизнес страны динамично развивается в Казахстане.

Улучшение условий для предпринимательских структур (бизнес-структур), а также снижение государственно-организационного давления на малый и средний бизнес являются одними из системных мер для достижения поставленных целей Стратегии «Казахстан–2050».

Для достижения поставленных целей мы предлагаем рассматривать инновационный форсайт как метод повышения конкурентоспособности предпринимательской деятельности и рекомендуем классифицировать его по признакам:

– по отношению к объекту предпринимательской структуре;

– относительно методов, видов организации предпринимательской структуры;

– право на результаты научно-исследовательской работы, направленной на повышение конкурентоспособности и устойчивого развития предпринимательских структур;

– формирование прибыли для предпринимательских структур, основанной на способности к инновациям и инновационным решениям.

На объекте предпринимательской структуры инновации могут быть квалифицированы как связанные с деятельностью этой структуры, так и не имеющие отношения к деятельности данной организации. Следующие виды инноваций могут быть отнесены к определенной деятельности предпринимательских структур:

– технологические инновации;

– экономические инновации;

– организационные инновации;

– экологическиеинновации.

Инновации, которые не связаны с деятельностью предпринимательских структур, могут быть следующих основных видов:

– государственно-правовые;

– социально-политические;

– инновации в области правопорядка и государственной безопасности.

Следует отметить, что эти перечни инноваций, непосредственно связанных и не связанных с деятельности предпринимательских структур, следует считать взаимосвязаннымии взаимовлияющими.

Рассмотрим инновационный форсайт по признаку относительно методов, видов организации предпринимательской структуры. Когда инновационные решения направлены на изменение других предпринимателей или носят организационный, экономический или экологический характер, — их можно рассматривать как процессно-ориентированные инновации.

В экономической теории суть инновации рассматривается как стабильное генерирование изменений, а также их реализация на макро- и микроуровнях. Поэтому отношение к видам объектов деятельности условное.

Следующий рассматриваемый признак о праве на результаты научно-исследовательской работы, в ходе которой формируются дальнейшие инновационные решения, направленные на повышение конкурентоспособности предпринимательских структур. В результате интеграции научно-технической, технологической деятельности между организационными структурами могут создаваться инновации и инновационные решения. Исходя из международных стандартов финансовой отчетности, результаты разработки инноваций и инновационных решений могут быть переданы в аренду или же принадлежать определенной предпринимательской деятельности. При этом правообладатель инновационного решения может не выполнять его сам, а может передать его на подрядные работы или научно-технический аутсорсинг.

И последний рассматриваемый признак — формирование прибыли, основанной на инновационном комплексе (инновации, инновационные решения). Инновации, не имеющие экономической пользы бизнесу, нами не рассматриваются. Так как это противоречит конкурентоспособности компании. Основы и способность генерировать прибыль мы рассматриваем как прямые и косвенные экономические инновации, неэкономические инновации, приносящие прибыль.

На основе алгоритма повышения конкурентоспособности предпринимательской структуры в условиях инновационного форсайта мы предлагаем понять определенные. Создание инновационного капитала для развития бизнеса напрямую связано с наращиванием инновационного капитала, который направлен на его дальнейшее развитие путем проведения проверенных научных исследований в области управления.

Предлагаем рассмотреть алгоритм повышения конкурентоспособности предпринимательской структуры в условиях инновационного форсайта на следующем рисунке (см. рис.).

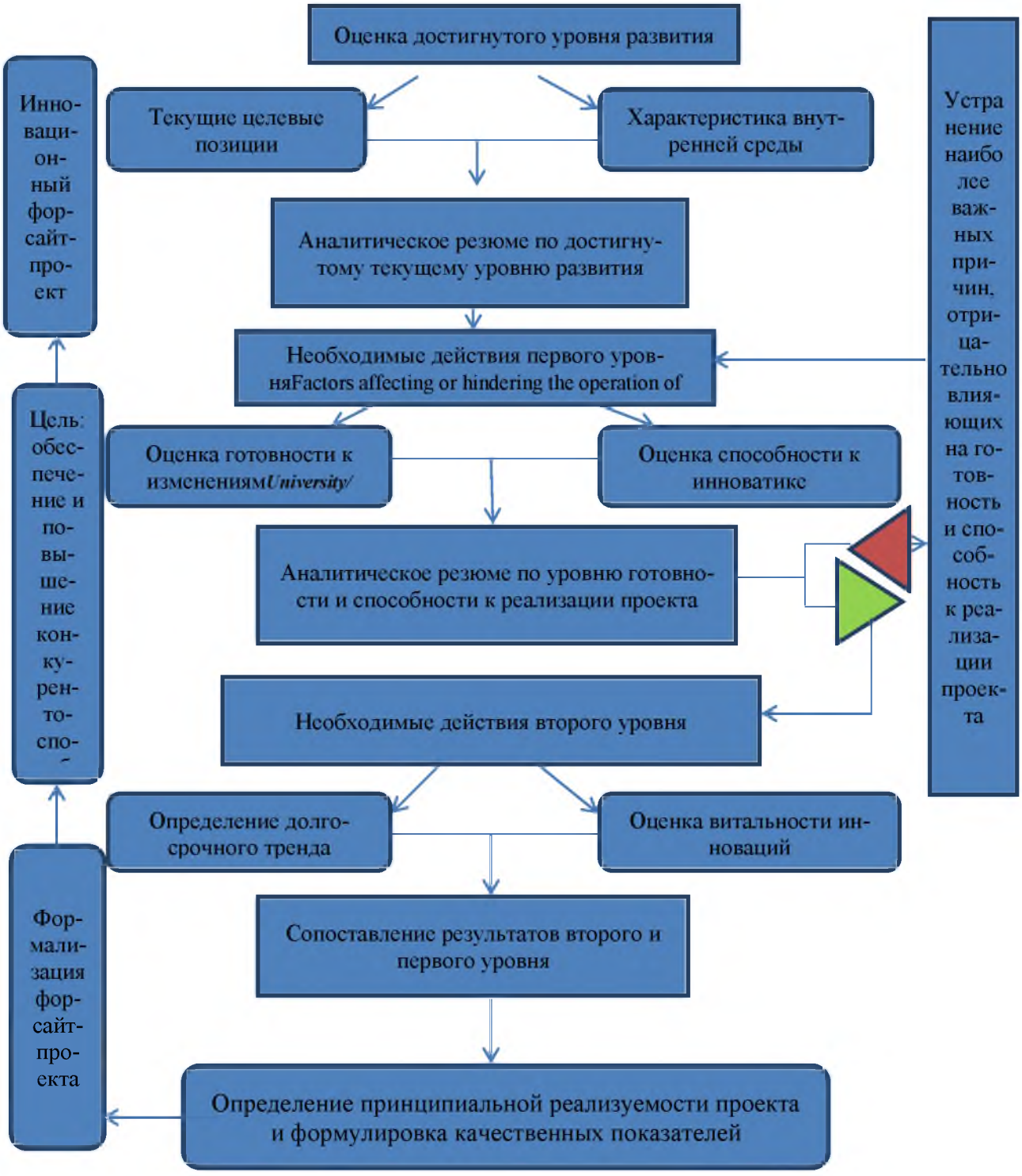

Рисунок. Алгоритм повышения конкурентоспособности предпринимательских структур в условиях инновационного форсайта

Примечание. Составлено авторами на основе проведенного исследования.

Итак, исходя из указанного выше алгоритма, можно сделать вывод, что он основывается на двух этапах. Первый этап направлен на анализ достигнутого уровня развития структуры бизнеса, который основан на информации одинамике развития внутренней среды и текущей целевой позиции. Далее, при положительном аналитическом резюме, переходим ко второму уровню, к формулированию долгосрочного инновационного тренда и оценке витальности инноваций. Целью данного алгоритма является повышение конкурентноспособности предпринимательских структур в условиях инновационного форсайта.

Выводы

В результате проведенного исследования и научно-технологических процессов можно сделать вывод, что при использовании алгоритма и изучения внутренней среды предпринимательской структуры, можно выявить ошибки и при их устранении и выявлении на первом уровне алгоритма следует, что это будет способствовать дальнейшему повышению конкурентоспособности предпринимательских структур.

А если бизнес-структура использует инновационный капитал, направленный на взаимодействие и взаимосвязь с поставщиками, заказчиками и покупателями, то это приведет к получению прямых и косвенных, экономических и неэкономических выгод.

Таким образом, мы предполагаем, что экономическую выгоду бизнес-структуре будет приносить и сам инновационный процесс или же полученный итоговый инновационный продукт, созданный на основе самой предпринимательской структуры при принятии инновационных решений.

Долгосрочную конкурентоспособность в предпринимательской структуре в условиях инновационного форсайта создают инновации при взаимодействии на макро- и микроуровнях. Инновации формируют инновационный комплекс, который реализуется для повышения конкурентоспособности предпринимательской структуры. Необходимо учесть то, что при взаимодействии инноваций между собой создается естественная и здоровая конкурентоспособность, которая формирует стратегическую конкурентоспособность. А конкурентоспособность в самой инновации необходимо рассматривать как совокупность экономических, организационных и технических показателей, которые позволяют противостоять конкуренции с другими аналогичными инновациями на рынке.

Список литературы

Ансофф И. Стратегический менеджмент / И. Ансофф; пер. с англ. — М.: Классическое издание, 2010.

Бригхэм Ю. Финансовый менеджмент / Ю. Бригхэм, Л. Гапенски. — СПб.: Экономическая школа, 1997. — С. 361.

Бригхэм Ю. Финансовый менеджмент / Ю. Бригхэм, М. Эрхардт; пер. с англ.; под ред. Е.А. Дорофеева. — 10-е изд. — СПб.: Питер, 2009.

Брейли Р. Принципы корпоративных финансов / Р. Брейли, С. Майерс. — М.: Олимп-бизнес, 1997.

Егорушкин П.А. Обеспечение конкурентоспособности предпринимательских структур на основе инновационного форсайта / П.А. Егорушкин. — М., 2013.— С. 1.

Кристенсен К. Дилемма инноватора: Как из-за новых технологий погибают сильные компании / К. Кристенсен. — М.: Альпина Паблишер, 2016.

Кристенсен К. Решение проблемы инноваций в бизнесе: Как создать растущий бизнес и успешно поддерживать его рост / К. Кристенсен, М. Рейнор. — М.: Альпина Паблишер, 2004.

Лясников Н.В. Использование инновационного форсайта в обеспечении конкурентоспособности предпринимательских структур / Н.В. Лясников, М.Н. Дудин, В.Д. Секерин, Б.Д. Могуев // Изв. Моск. гос. техн. ун-та МАМИ. — 2013. — № 1 (15). — С. 142–147.

Петти В. Политическая арифметика / В. Петти // Экономические и статистические исследования. — 1940.

Портер М. Международная конкуренция: конкурентные преимущества стран / М. Портер. — М.: Альпина Паблишер, 1993.

Томпсон А.А. Стратегический менеджмент. Искусство разработки и реализации стратегии / А.А. Томпсон, А.Д. Стрикленд, М.И. Соколова, Л.Г. Зайцев. — М., 2012.

Финнерти Д. Финансы корпораций: теория, методы и практика / Д. Финнерти, Ч. Ли. М.: Инфра-М., 2000.

Хаммер М. Быстрее, лучше, дешевле: Девять методов реинжиниринга бизнес-процессов / М. Хаммер, Л. Хершман. — М.: Альпина Паблишер, 2012.

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Инновациялық форсайт жағдайында кәсінкерлік құрылымдардың бәсекеге қабілеттілігін арттыру

Аңдатпа

Мақсаты: Әр түрлі қызмет салаларындағы кәсіпорындарды тиімді басқару және бәсекеге қабілеттілігін қалыптастыру қиындықтарының туындауына байланысты инновациялық форсайт жағдайында кәсіпкерлік қызметті жүргізу үшін қолайлы жағдайлар жасау мацызды. Кәсіпкерлік құрылымда пайда болатын бәсекеге қабілеттілік өндіріс факторларын, сондай-ақ кәсіпкерлік қызметті ұйымдастырудыц басқа да негізгі факторларын иеленуге кепілдік бермейтіндіктен, қолда бар кәсіпкерлік талант ұйымның жақсы бәсекелік қабілеттілікке ие болуын жоққа шығармайды.

Қазіргі уақытта кәсіпкерлік құрылым дамудың интеллектуалды компонентіне ие, оған жаңа технологияларды құру және енгізу кіреді. Ол сондай-ақ өзгеруге дайын болуы керек. Стратегиялық бәсекеге қабілеттілікті құрайтын тұрақты немесе таңдаулы бәсекелестік артықшылықтарды алу үшін инновацияны дамыту және ауысуды қолдау мүмкіндігі болуы керек.

Әдісі: Зерттеуде салыстырмалы талдау қолданылды, салыстырмалы көрсеткіштер есептелді, зерттеу деректеріп шегеру және визуализациялау әдісі, сараптамалық бағалау әдісі пайдаланылды.

Қорытынды: Инновациялық форсайт негізінде кәсіпкерлік құрылымдардың бәсекеге қабілеттілігін басқару және арттыру әдісіпің алгоритміп енгізу бойынша ұсыныстар әзірленді, сондай-ақ бәсекеге қабілеттілікті арттыру стратегиясын құруға және іске асыруға байланысты бірқатар түрлі мәселелер қаралды, бірақ кәсіпкерлік құрылымды толық білмегендіктен әдісті қолдануда белгілі бір проблемалар бар.

Тұжырымдама: Зерттеу негізінде кәсіпкерлік құрылым инновациялық форсайт түрінде дамудың құрамдас бөлігіне ие болған жағдайда, яғни кәсіпкерлік құрылымды басқару жүйесінде инновацияларды өндіру және енгізу мүмкіндігін қамтитын болса, онда бұл тұрақты бәсекелестік артықшылық болады деп айтуға болады. Мақалада инновациялық форсайт ұзақ мерзімді перспективада кәсіпкерлік құрылымдардың бәсекеге қабілеттілігін арттырудың тиімді құралы ретінде қарастырылған.

Кілт сөздер: кәсіпкерлік құрылым, инновациялар, бәсекегеқабілеттілік, стратегиялық тұрақтылық, кәсіпкерлік қызметті жаңғырту, инновациялық форсайт.

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Improving the competitiveness of business structures in the conditions of innovative foresight

Abstract:

Object: It is important to create favorable conditions for doing business in the conditions of innovative foresight because of difficulties in effective management and formation of competitiveness of enterprises in various fields of activity. Due to the fact that the competitiveness arising in the entrepreneurial structure is not guaranteed by the possession of production factors, as well as other key factors of the organization of entrepreneurial activity, as the existing entrepreneurial talent does not exclude that the organization may have a healthy competitiveness. At the moment, the business structure has an intellectual component of development, which includes the creation and implementation of the latest technologies. To obtain sustainable or exploratory competitive advantages that make up strategic competitiveness, it is necessary to have the ability to develop innovations and support transitions.

Methods: Comparative analysis, calculation of relative indicators, deduction and visualization methods, the method of expert assessments.

Results: Proposals have been developed for the implementation of the algorithm of the management method and improving the competitiveness of entrepreneurial structures based on innovative foresight, and a number of different issues related to the creation and implementation of a strategy to increase competitiveness have been considered, but due to the incompleteness of the study of the entrepreneurial structure, there are certain problems in the application of the method.

Conclusions: An entrepreneurial structure will have a development component in the form of an innovative foresight, that is, include the ability to produce and implement innovations in the management system of an entrepreneurial structure, then this will be a sustainable competitive advantage. The article considers innovative foresight as an effective tool for increasing the competitiveness of business structures in the long term.

Keywords: entrepreneurial structure, innovation, competitiveness, strategic sustainability, modernization of entrepreneurship, innovative foresight.

References

Ansoff, I. (2010). Strategicheskii menedzhment [Strategic management]. Classical Edition [in Russian].

Brigham, Yu., & Gapensky, L. (1997). Finansovyi menedzhent [Financial Management]. Saint Petersburg: Economics School, 2, 361 [in Russian].

Brigham, Yu., & Erhardt, M. (2009). Finansovyi menedzhent [Financial management]. E.A. Dorofeeva (Ed.). 10th ed. Saint Petersburg: Peter [in Russian].

Brayley, R., & Myers, S. (1997). Printsipy korporativnykh finansov [Principles of corporate finance]. Moscow: Olimp-biznes [in Russian].

Christensen, K. (2016). Dilemma innovatora: Kak iz-za novykh tekhnologii pogibayut silnye kompanii [The Innovator's Dilemma: How New Technology Kills Strong Companies]. Alpina Pablisher [in Russian].

Christensen, K., & Raynor, M. (2004). Reshenie problemy innovatsii v biznese: Kak sozdat rastushchii biznes i uspeshno podderzhivat ego rost [Solving the problem of business innovation: How to create a growing business and successfully support its growth]. Alpina Pablisher [in Russian].

Egorushkin, P.A. (2013). Obespechenie konkurentosposobnosti predprinimatelskikh struktur na osnove innovatsionnogo forsaita [Ensuring the competitiveness of business structures based on innovative foresight]. Moscow [in Russian].

Finnerty, D., & Lee, C. (2000). Finansy korporatsii: teoriia, metody i praktika [Corporate finance: theory, methods and practice]. Infra-M [in Russian].

Hammer, M., & Hershman, L. (2012). Bystree, luchshe, deshevle: Deviat metodov reinzginiringa biznes-protsessov [Faster, better, cheaper: Nine methods of business process reengineering]. Moscow: Alpina Pablisher [in Russian].

Lyasnikov, N.V., Dudin, M.N., Sekerin, V.D., & Moguyev, B.D. (2013). Ispolzovanie innovatsionnogo forsaita v obespechenii konkurentosposobnosti predprinimatelskikh struktur [The use of innovative foresight in ensuring the competitiveness of business structures]. *Izvestia Moskovskogo gosudarstvennogo tekhnicheskogo universiteta MANI — Proceedings of the Moscow State Technical University MAMI,* 1 (15), 142–147 [in Russian].

Petty, V. (1940). Politicheskaia arifmetika [Political arithmetic]. *Ekonomicheskie i statisticheskie – Economic and statistical* [in Russian].

Porter, M. (1993). Mezhdunarodnaia konkurentsiia: konkurentnye preimushchestva stran [International competition: competitive advantages of countries]. Alpina Pablisher [in Russian].

Thompson, A.A., Strickland, A.D., Sokolova, M.I., & Zaitsev, L.G. (2012). Strategicheskii menedzhment. Iskusstvo razrabotki i realizatsii strategii [Strategic management. The art of strategy development and implementation] [in Russian].

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Пандемия және әлеуметтік-экономикалық даму индекстері: Қазақстан мысалында

Аңдатпа

Мақсаты: Пандемияның салдарынан елдердің әлеуметтік–экономикалық индикаторлары төмендеді. Кедейлік шегі, өмір сүру ұзақтығы, күн көріс деңгейі сияқты мәселелердің қазіргі уақытта өзектілігі жоғары. COVID-19 әлемдегі кедейлік шегінің құрылымына өзгеріс енгізді. Мақалада халықтың әлеуметтік жағдайын жан-жақты зерттеуде Халықаралық ұйымдардың көрсеткіштеріне, БҰҰ және Әлемдік банк деректеріне, пандемия салдарынан қалыптасқан 1,90 долларға тең жаһандық кедейліктің ең төменгі кедейлік шегінің жаңа шамасының қалыптасуы, халықтың өмір сүру көрсеткіштері мен Қазақстанның әлемдік тұрақтылық рейтингісіндегі орны мен М. Портердің Әлеуметтік даму индекстеріне сәйкес республикадағы әлеуметтік көрсеткіштердің мықты және осал жақтары талданған.

Әдісі: Қолданылған әдіснамалар мен тәсілдер: статистикалық мәліметтер негізінде салыстырмалы талдау.

Қорытынды: Зерттеу нәтижесі көрсеткендей, әлеуметтік–экономикалық даму индекстеріне біршама факторлар әсер ететіні анықталды. Мемлекеттің экономикалық тұрақтылығы тікелей әлеуметтік индикаторларға тәуелдігі талданды.

Тұжырымдама: БҰҰ-ның 2015 жылы қабылдаған, 2030 жылдарға белгілеген Тұрақты дамудың күн тәртібіндегі 17 мақсатына сәйкес, әлемнің тұрақты, инклюзивті дамуы және кедейшіліктің жойылуы, әлеуметтік теңсіздіктікпен күресі және әділдікке қол жеткізу, экологиялық ахуал сияқты жаһандық мәселелері мемлекеттер үшін өзекті. Әлеуметтік дамуды, оның принциптерін зерттеп, 3 бөліктен тұратын 50-ден аса индикаторлар арқылы АҚШ-тың атақты ғалымы Майкл Портер 2013 жылы Әлеуметтік даму индекстерін өз зерттеулерінде қарастырған және аталған индекс әлемдік тұрақтылық индексінде әлем елдерінің рейтингісі анықталады. Бірақ бұл жерде экономикалық көрсеткіштер ескерілмейді.

Кілт сөздер: теңсіздік, әлеуметтік жағдай, кедейлік шегі, рейтинг, даму индексі.

Кіріспе

Қазақстан Республикасында әлеуметтік–экономикалық саясаты жоғары деңгейде іске асыру үшін аса маңызды шаралардың бірі халықтың тұрақты жұмыспен қамтылуын қамтамасыз ету және кедейлікті азайту болып табылады. Қазіргі таңда кедейлік мәселесі бүкіл елге, қоғамға тән нәрсе болып келеді. Бұл мәселе біздің елімізге де асер ететін ең өзекті мәселелердің бірі. Кедейліктің өзі — бұл әр түрлі түсіндірулерді тудыратын көп өлшемді ұғым, соның ішінде экономиканың әсер етуі, ерлі–зайыптылардың тұрмыстық жағдайының төменділігі, инфляция сынды түсіндірулерді жатқызуға болады. Кедейлік деңгейінің басым бөлігін ауылдық жерлер қамтиды.

Соңғы жылдары үкіметтің өтпелі кезеңнің адамдардың әл-ауқатының әсерін жұмсарту жөнінде тұрақтандыру саясатын жүргізгеніне қарамастан, қазақстандықтардың өмір сүру деңгейін куәландыратын көптеген әлеуметтік-экономикалық көрсеткіштер елеулі өзгерістерге ұшырады. Жұмыссыздық едәуір өсті, халықтың нақты табысы төмендеді, өмір сүру ұзақтығы қысқарды және т.б. мұндай жағдайларда республикадағы кедейлік мәселелері өз орнын тапты. Инфляцияның елеулі қарқыны аясында жалақы, зейнетақы және әлеуметтік жәрдемақы төлемдері бойынша халықтың кедей топтарының арасында қиындықтар туындады.

Қазіргі қалыптасып отырған елдердің әлеуметтік жағдайларының күрделенуі пандемияның, шектеулер мен локдаундардың нәтижесі. Аталған факторлар елдің тұрмыс-дәрежесін, әл-ауқаты мен табыстарының төмендеуіне әкелді. Көп мамандардың пікірлері бойынша 2020–2021 жылдар аралы-

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ғындағы пандемия кезеңдегі дағдарыс 2008–2009 жылдардағы қаржылық дағдарыстан қарағанда едәуір және біздің мемлекеттіміздің әлеуметтік жағдайымызға елеулі әсер етті.

2019 жылғы Қазақстан Республикасының Президентінің Қазақстан халқына Жолдауына сәйкес «Қарқынды дамыған және инклюзивті экономика» негізінде дамуы моделі және «Күшті аймақтар-күшті ел» принципіне байланысты дамуы, аймақтардың өркендеуі және 2022 жылғы Қазақстан Республикасының Президентінің «Жаңа Қазақстанның жаңғыру жолдары» атты халқына Жолдауында экономиканың жаңаруы мен жаңғыруы инклюзивті экономикалық өсу жолына бағытталған [1].

Зерттеу сұрағы: Пандемия жағдайында Қазақстандағы әлеуметтік–экономикалық даму индекстерін жоғарлату.

Әдебиеттік шолу.

COVID-19 пандемиясының таралуының салыстырмалы түрде қысқа мерзіміне қарамастан, оның салдарын бағалау және жеңу ұшін көптеген зерттеулер жүргізілді.

Сонымен қатар алдыңғы пандемияның экономикалық дамуға әсері, атап айтқанда олардың әлеуметтік–экономикалық даму көрсеткіштеріне әсері туралы көптеген зерттеулер бар. Атап айтқанда, Кавалло, Галиани, Ной және Пантано (2013), Блум және Canning (2004) пандемияның болашақ қауіптерін алдын-ала білу және оларды басқару қажеттілігін көрсетеді. Тоқсан сайынғы макроэкономикалық модельді қолдануға негізделген мақалада (Jonung & Roeger, 2006) 2006 жылы ЕО-дағы пандемияға байланысты ЖІӨ өсуіне баға берілді. Бұл еңбекте ЖІӨ-нің өсуіне байланысты мемлекеттің әлеуметтік–экономикалық жағдайын тұрақты түрде ұстап тұруға мүмкіндік бар екені туралы жазылған. Сол ұшін шағын және орта бизнесті дамытуға, қолдауға барлық жағдай жасалыну қажеттілігі жоғары екенін тұжырымдады.

Халықтың әлеуметтік жагдайын зерттеуші Қытай елінің зерттеушілеріне Xinya Yang және Liuna Geng еңбектеріне тоқталатын болсақ, экономикалық, экологиялық, әлеуметтік сияқты бірнеше факторлар негізінде әлемдегі елдің денсаулық мәселесін бірлесе шешуді қарастырады [3]. Себебі халықтың денсаулық сақтау мәселелері әлеуметтік–экономикалық индекстерінің бірде–бір құрамдаушы бөліктерінің бірі болып саналады. Мақалада зерттеу нәтижесі көрсеткендей пандемия кезінде мемлекеттің әлеуметтік–экономикалық жағдайына әсер ететін факторлар экологиялық, экономикалық, әлеуметтік гана емес, сонымен қатар білім алу факторы да тығыз байланысты көрсетті. Яғни пандемия жагдайында әлеуметтік–экономикалық индекстерді көтеру ұшін адам капиталына басты назар аудару қажеттілігі туралы жазылған.

АҚШ зерттеушісі Richard Estes 1970 жылдан бастап 2018 жылдар аралығындағы Азия, Африка, Латын Америка жерлерінің әлеуметтік мәселесін зерттеген, 48 жыл ішіндегі орын алған өзгерістерді талдайды [4]. Және де мақалада мемлекеттің дұрыс саясатты ұстануы халықтың әлеуметтік–экономикалық даму индекстеріне қаншалықты әсер ететіні бойынша қарастырылған.

Сонымен қатар, инклюзивті экономикалық өсу моделі негізінде аймақтар мен өңірлерді дамытуда кез келген азаматтың сыртта қалмай, бірігу арқылы экономикаға қосатын үлесі бар екені пайымдады. Әлеуметтік-экономикалық мәселені шешу қазіргі уақыттагы өзекті бағыттардың бірі. Әрі қарай, елдің әлеуметтік мәселесін ғылыми тұрғыда отандық және ресейлік зерттеуші ғалымдарды қарастырамыз.

Қазақстандық зерттеушілер А. Турысбекова және А. Өмірзақова елдің жағдайының өсуі өңірдің ресурстары мен потенциалына байланыстылығына тоқталады [2].

Ал А. Вебер мен В. Волович және басқа да ресей зерттеушілеріне тоқталатын болсақ, онда экономикадағы мүмкіндіктер арқылы мемлекет инклюзивті экономикалық өсуге қол жеткізуі арқылы әлеуметтік дамуга жетуге болатынын пайымдайды [5]. В. Волович зерттеулері жаңғыртуға байланыстылығын және сол арқылы әлеуметтік дамуга жетуге болатындығын, ягни синергиялық әсерін атап өтеді. Зерттеулерінде жаңғыртудың маңыздылығына тоқталады [6].

Отандық зерттеуші Г. Макеноваңың зерттеу тақырыбының өзектілігі экономикалық салалардың бірі ретіндегі ішкі туризмді және халықаралық туризмді дамытудың заманауи тенденцияларымен, табыс әкелу, жұмысты қамтуды арттыру, мемлекеттің бәсекеге қабілеттілігін нығайту, халықтың әлауқатын арттыру мүмкіндігімен түсіндіріледі [7].

Туризм бағытын зерттеуші отандық ғалым республикамыздағы туризмнің дамуын ішкі әлеуметтік-экономикалық мәселелер мен байланыстыра қарастырады. Халықаралық туризмді дамыту арқылы инфрақұрылымның дамуына және осы арқылы, қазіргі уақыттагы өзекті әлеуметтік мәселе шешімін

қоса талдайды. Қазақстандағы көрікті жерлердің бірі Алматы облысы мысалында республикамыздың туристік нарығына әсерін талдау негізінде зерттеледі [8].

Сонымен қатар, Майкл Портердің Әлеуметтік даму индекстері елдің өмір сүру деңгейін, халықтың әл-ауқатын бағалау үшін қолданылады [9].

Әдістер

Жалпы мемлекеттің әлеуметтік дамуын, халықтың әл-ауқаты мен өмір сүрудің жоғары деңгейін бағалауды зерттеу барысында талдау және біріктіру, салыстырмалы аналитикалық, ғылыми жалпылау әдістері, отандық зерттеушілер мен ғалымдар, ресей зерттеушілері, американдық, қытай ғалымдарының, сонымен қатар, БҰҰ мен Әлемдік банктің жинақтарындағы материалдары мен ғалымдардың ғылыми зерттеу еңбектерін салыстыру үшін қажетті логикалық әдіс пайдаланылады.

Майкл Портердің Әлеуметтік даму индекстерін зерттеу барысында 52 түрлі өлшемдер қолданылады және өлшемдер үш бөлімге бөлінеді.

Алғашқысына, адамға қажетті бірінші кезектегі құндылықтар, оларға: су, тағам, медициналық жәрдем, үй, электр шамы мен адамның жеке қауіпсіздігі;

Екіншісіне, адамға қажетті екінші кезектегі құндылықтар, оларға: білім алу, сауаттылық деңгейі, байланыс пен ақпарат көзі;

Үшіншісіне, адамға қажетті даму мүмкіндіктері: бостандық мүмкіндіктері, жеке құқық мүмкіндіктері болып табылады.

Әлеуметтік даму индексін есептеу шкаласы 0–100 аралығында орналасады. Әрі қарай, американдық ғалым М. Портер ұсынған Әлеуметтік даму индексі бойынша 2021 жылғы Қазақстан сценарийі мысалында талданған (кесте 1).

Кесте 1. М. Портер бойынша Әлеуметтік даму индексі: Қазақстан сценарийі, 2021 ж.

Индикаторлар		Мәні/ дәрежесі	Индикаторлар	Мәні/ дәрежесі	Индикаторлар	Мәні/ дәрежесі
Адамның бірінші кезектегі қажеттіліктеріне:		86,49 58	Адамның әл-ауқатының (салауаттылық) негіздеріне:	75,83 59	Адамның даму мүмкіндіктеріне:	54,38 94
Тамақтану және медициналық қызметтер		95,53 54	Білімге қол жеткізу	94,54 25	Жеке адамның құқықары	53,63 127
Су және санитария		93,93 54	Ақпаратқа және коммуникацияға қолжетімділігі	78,20 61	Толеранттылық және инклюзивтілік	30,01 139
Тұрғын үй		91,89 26	Денсаулық және әл-ауқат	61,69 88	Жеке бостандық және таңдау	71,58 46
Жеке қауіпсіздік		64,61 94	Экожүйенің тұрақтылығы (қоршаған орта)	68,87 77	Жетілдірілген білімге қолжетімділігі	62,30 56
Дереккөз: [9]						

Бірінші кестеде берілген мәліметтерге байланысты 1 және 2 бөлімдері сары түске, 3 бөлім қызыл түсті беріп отыр. Сары түс — күтілетін ауқымда орындалуын және қызыл түс — көрсеткіштер шамасының төмендігін білдіреді. Соның ішінде: адамның бірінші кезектегі қажеттіліктері мәні 86,49 мен адамның әл-ауқаты негіздері индикаторларының мәні 75,83 және 3 бөлімі адамның даму мүмкіндіктерінің мәні 54,38 тең.

Әрі қарай, Әлеуметтік даму индексіне сәйкес индикаторлардың мәні бойынша жоғарғы және төменгі көрсеткіштерді қарастырамыз (кесте 2).

Кесте 2. М. Портер бойынша Әлеуметтік даму индексі: Қазақстан экономикасындағы жоғарғы және төменгі көрсеткіштер.

Жоғарғы көрсеткіштері		**Төменгі көрсеткіштері**	
Тамақтану және негізгі медициналық көмек	95,53	Инклюзивтілік	30.01
Негізгі білімге қол жеткізу	94,54	Жеке адам құқықтары	53,63
Су және санитария	93,93	Денсаулық және сауықтыру	61,69
Баспана	91,89	Жетілдірілген білімге қол жеткізу	62.30
Ақпаратқа және коммуникацияларға қол жеткізу	78.20		
Дереккөз: [9]			

Екінші кестеге сәйкес, 2021 жылғы жалпы Қазақстан республикасы бойынша Әлеуметтік даму индексінің жалпы ұпайы 72,23 және 64-ші орында болған (168 мемлекеттің ішінде). Адам басына шаққандағы ЖІӨ-гі жалпы ұпайы 25,337 долл., орны 49 тең. Қазақстан республикасының Әлеуметтік даму индексі қызыл түсті көрсетін отыр, яғни артта қалған төрт индикаторлары әлеуметтік дамудың төмендігін, осал тұстарын айқындайды.

Әрі қарай, Әлеуметтің даму индексі мәліметтеріне сәйкес, 2021 жылғы алғашқы TOP-10-ға кіретін мемлекеттер мен Қазақстан Республикасының позиңиясы қарастырылады.

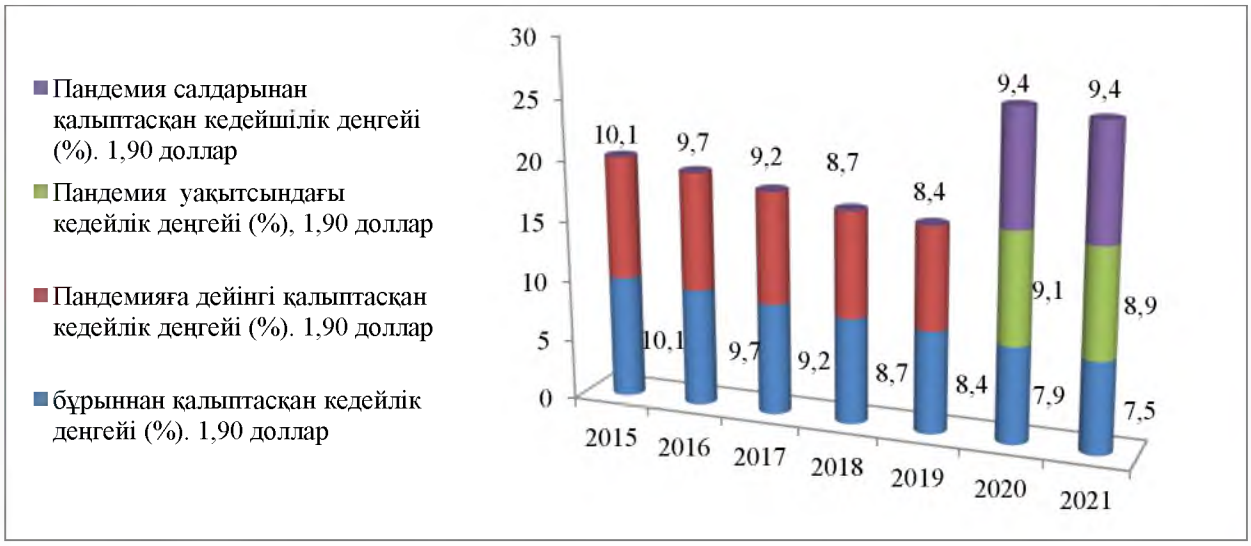
Халықтың орташа өмір сүру ұзақтығы өлшемі халықтың өмір сүру ұзақтығы негізінде Әлеуметтік даму индексі анықталады. БҰҰ жылдық жинағында әлеуметтік көрсеткіштер шамасы жарияланады (кесте 3).

Кесте 3. Әлеуметтік даму индексі және халықтың орташа өмір сүру ұзақтығы, 2021ж.

Мемлекет	Әлеуметтік даму индексі, 2021ж.	Рейтингі	Мемлекет	Халықтың орташа өмір сүру ұзақтығы, 2021 ж.	Индексі (жыл)
Норвегия	92,63	1	Гонконг	84,9	1
Финляндия	92,26	2	Жапония	84,6	2
Дания	92,15	3	Швейцария	83,8	3
Исландия	91,78	4	Сингапур	83,6	4
Швейцария	91,78	5	Испания	83,6	5
Канада	91,41	6	Италия	83,5	6
Швеция	91,20	7	Австралия	83,4	7
Нидерланды	90,57	8	Исландия	83,0	8
Жапония	90,44	9	Израиль	83,0	9
Германия	90,32	10	Оңтүстік Корея	83,0	10
Қазақстан	**72,23**	**64**	**Қазақстан**	**73,6**	**99**
Дереккөзі: [9, 10]					

Кестегі деректерге сәйкес, алдыңғы үштікте Норвегия, Финляндия және Дания елдері орналасқан. Қазақстан Республикасының Әлеуметтік даму индексі 72, 23 (100-бен салыстырғанда) 64 орынды иемденді. Ал халықтың орташа өмір сүру өлшемі 73,6 жасқа тең және 99 орында [9]. Көріп отырғанымыздай, инновациялық, өндірістік саласы дамыған мемлекеттер алдыңғы қатарларды иемденіп тұр Пандемия салдары, халықтың табысының тұтыну құнының төмендеуі мен тауар бағаларының өсуіне әкелді, осыған байланысты, 2022 жылы республиканың орташа жалақысы 275 мың теңге, ал төменгі жалақысы 60 мың теңгеге көтерілді [11]. Яғни, үкімет тарапынан реттеу жұмыстары жүргізілуде. Әрі қарай, әлемдік кедейлер шамасының өзгерісі талданады.

Әлемде кедейлік деңгейдің (1, 90 доллар) өсуі орын алды, осыған орай кедейліктің қалыптасу бағыттарын: бұрыннан қалыптасқан кедейлер шамасы, пандемияға дейінгі, пандемия уақытындағы және пандемия нәтижесіндегі кедейлердің шамасының өзгерісін, жаңа нұсқасын қарастырамыз (сурет 1).



Сурет 1. 2015–2021 жылдар аралығындағы әлемдік кедейлік шегі
1,90$ доллармен есептелген жаңа нұсқасы (%) [12].

Сурет деректеріне сәйкес, 2015–2018 жылдарында бұрыннан қалыптасқан кедейлік шегі (1,90 доллармен) 10,1 пайыздан 8,4 пайызға төмендеген, ал 2020–2021 жылдарында кедейлік деңгейі пандемияға байланысты өсін, халықтың кедейленуінің 9,4 пайызға артуын көрсетіп, нәтижесінде әлемде кедейлер санының артуын айқындайды.

Жыл сайын Әлемдік банктің жинақтарында елдердің жан басына шаққандағы ұлттық табысы жарияланады. Елдердің жан басына шаққандағы ұлттық табысы бойынша Қазақстан республикасы екінші категорияға, яғни 1036–12 615 доллар аралығына тиесілі орташа табысы (8820 долл.) бар елдер қатарына жатады (4 кесте мәліметтеріне сәйкес).

Әлемдік Банктің мәліметтеріне сәйкес, елдер мен аумақтар бойынша жан басына шаққандағы 2021 жылғы елдердің жалпы ұлттық табысын қарастырамыз.

Кесте 4. Елдер мен аумақтардың 2021 жылғы табыстың жан басына шаққандағы өлшемдері.

орындары	Елдер мен аумақтар	Табысы, доллармен	Қазақстанмен өзгерістері, долл.
1	Бермуд	117 730	108 910
2	Швейцария	85 500	76 680
3	Мэн аралы	83 160	74 340
4	Норвегия	82 500	73 680
5	Макао	78 640	69 820
6	Люксембург	73 910	65 090
7	Исландия	72 850	64 030
8	АҚШ	65 850	57 030
9	Ирландия	64 000	55 180
10	Дания	63 950	55 130
11	Катар	61 180	52 360
12	Сингапур	59 590	50 770
13	Швеция	55 780	46 960
14	Австралия	55 100	46 280
15	Нидерланд	53 100	44280
69	Ресей	11 260	2 440
81	**Қазақстан**	**8 820**	-

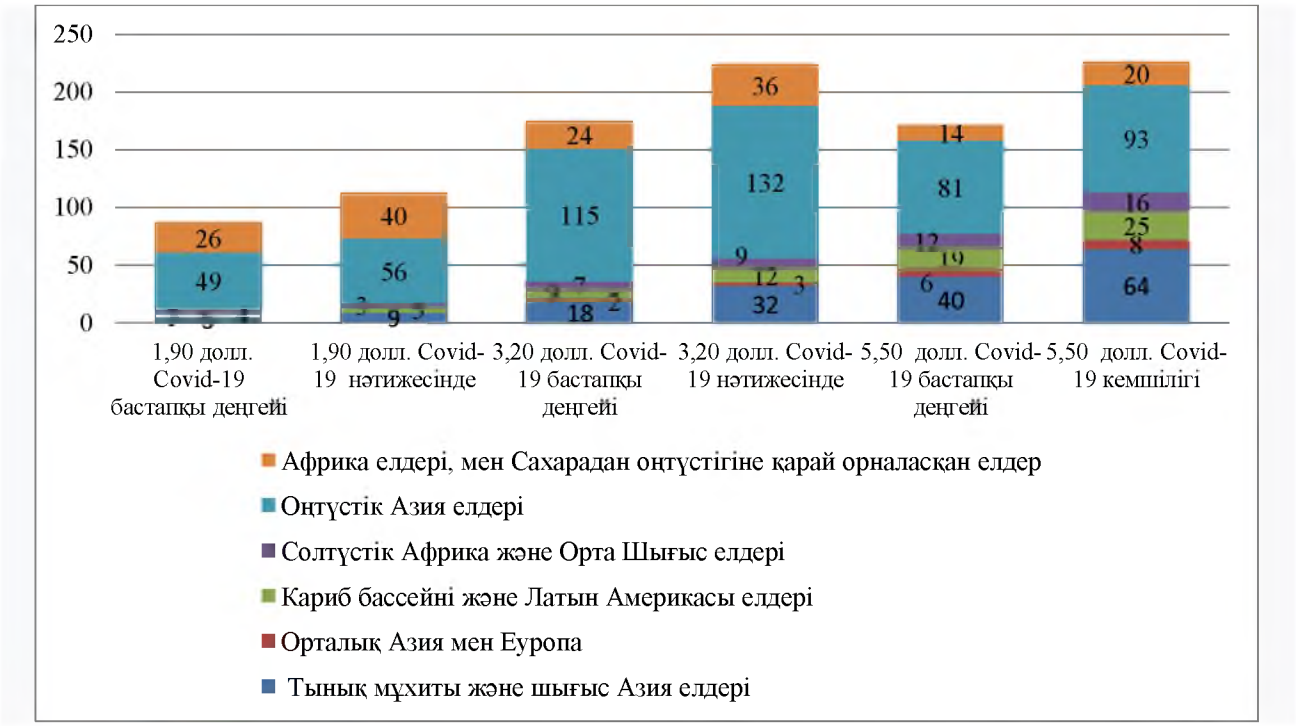
Дереккөз: [13]

Кесте деректеріне сәйкес, алғашқы үштікте Бермуд, Швейцария және Мэн аралының табыстары жоғары. Қазақстанның жан басына шаққандағы ұлттық табысы 8820 долларды құрап отыр.

Әрі қарай, 2 суретте COVID-19 салдарынан туындаған кедей аймақтарының құрамы пайызбен талданады.

Нәтижелер

Пандемия кедейлік деңгейін өсіріп жіберді. Кедей аймақтардан Орталық Азия пандемияға дейін ең төменгі кедейлік шегі бойынша 1,90 доллармен 49 пайызды құраса, ал пандемия нәтижесінде 56 пайызға жеткен. Кедейліктің орташа шегі бойынша 3,20 доллармен осы аймақта 115 пайыз болса, коронавирус нәтижесінде 132 пайызға теңелді. Кедейліктің жоғарылау шегі 5,50 доллар бойынша Орталық Азияда пандемияға дейін және кейін 81 және 93 пайызға теңесті. Яғни, барлық аймақтардың ішінен ең жоғарғы деңгей Орталық Азия болып отыр. Нәтижесінде, кедейліктің үш түрлі шегі бойынша да кедейлік шегінің құрылымының күрт өсуі көрінеді.



Сурет 2. COVID-19 салдарынан туындаған кедей аймақтарының құрамы (%), 2020 ж. [14]

Екінші суретте көрсетіліп тұрғандай COVID-19 салдарынан бүкіл дүниежүзінен ең көбірек Оңтүстік Азия мемлекеттері және де Шығыс Азия елдері зардап шекті. Ең көп үлесті 3,20 долл. күнкөріс көрсеткішін көрсетіп тұр.

Талқылау

2019–2020 жылдардағы COVID-19 дамыған мемлекеттердің де әлеуметтік–экономикалық жағдайына қатты әсер етті. Мемлекеттердің өндірістік, туризм, сауда, қызмет көрсету салаларына да кері әсерін тигізді. Салдарынан еңбек нарығындағы жұмыссыздық деңгейінің артуына байланысты, халықтың әл-ауқаты, табыстылығы, төлем қабілеттілігі күрт төмендеді. Экономикалық дағдарысты азайту үшін әлем ең алдымен кедей қауымдастықтарға шоғырланып, COVID-19-ның теріс әсерін жеңуге тырысуы керек.

Республикамыздың әлеуметтік дамуын талдау арқылы және әлемдегі дамыған елдердің көрсеткіштерімен салыстыру арқылы еліміздің әлеуметтік көрсеткіштерінің күшті және осал жақтары, жоғарғы және төменгі көрсеткіштерінің халықаралық рейтингтегі орны мен деңгейі айқындалды.

2021 жылғы Әлеуметтік даму индекстерінің берілген артықшылықтарын тиімді пайдалана отырып, кемшіліктерді шешуге ұмтылуымыз қажет. Жаһандық рейтингтегі индикаторлар бойынша мемлекет стратегиясы осы айқындалған көрсеткіштерді шұғыл шешуге бағытталу қажеттілігі туындап отыр.

Қорытынды

Жаңа рецессия мен қаржылық құлдырау қорқынышына байланысты мұндай кезеңдер денсаулық сақтау, бизнес, үкіметте және жалпы қоғамда тұрақты және күшті көшбасшылықты қажет етеді. Назардан тыс қалған шараларды дұрыс бағытқа қою үшін, халыққа жедел көмек көрсету үшін дереу шешімдерді қабылдау маңызды. Осы дағдарыстан кейін тепе-теңдікті қалпына келтіру және эконо-

миканы қалпына келтіру үшін орта мерзімді және ұзақ мерзімді жоспарлау қажет. Сондай-ақ, әлеуметтік-экономикалық дамудың кең жоспары, оның ішінде сенімді және тұрақты бизнес-модельдері бар бизнес өкілдері өркендей алатындай кәсіпкерлікті ынталандыратын секторлар мен экожүйелер жоспарлары қажет. Әлеуметтік–экономикалық даму индекстерінің деңгейі арту үшін мемлекет тарапынан кәсіпкерлікті дамыту және қолдау өте маңызды.

Мақаламызды қорыта келе, әлеуметтік мәселе өңірлер мен аймақтарда теңсіздіктің қалыптасуы, мемлекеттің экономикалық дамуын тежейтін, тиімділігін төмендететін фактор. Халықтың әл-ауқатының төмендеуі басқарушы биліктің реттеу механизмдерінің тиімсіздігін көрсетеді. Халықтың әл-ауқаты мен өмір сүру сапасының көтерілуі мультипликативті әсер негізінде жандану мен дамуға әкелетіні белгілі. Мемлекет тарапынан әлеуметтік теңсіздік пен әділдікке қол жеткізу үшін қажетті мемлекеттік бағдарламалардың тиімді орындалуына Жаңа Қазақстан үндеуі арқылы өзекті де күрделі жұмыстардың шешімдеріне үміт артамыз.

Әдебиеттер тізімі

Lakner C. PovcalNet, Global Economic Prospects / C. Lakner, Y. Nishant. — 2020. https://blogs.worldbank.org

Indicators of social progress 2021. https://gtmarket.ru/ratings/life.

Poverty line, $1.90, 2015– 2021. https://www.vsemirnyjbank

The level of life expectancy of the population, 2020. https://gtmarket.ru.

Yang X. An integrated analysis of social, economic, and environmental indicators' effects on public health and health inequiality globally: From the perspective of vulnerability / X. Yang, L. Geng // Social indicators research. — 2022. — 162 (3). — 1261–1279.

Estes R.J. The Social Progress of Nations Revised / R.J. Estes // Social Indicators Research. — 2019. — No. 144. — P. 539–574.

Вебер А.Б. Социальный прогресс: проблемы измерения, сравнительный анализ и вызовы для политики / А.Б. Вебер // Журн. социол. наук и социальной практики. — 2015. — № 3 (11). — https://cyberleninka.ru/article/n/sotsialnyy-progress.

Волович В. Модернизация и социальный прогресс / В. Волович // Проблемы современной экономики. — 2014. — № 1 (49).

Всемирный Банк: Валовой внутренний продукт на душу населения.

Қазақстан Республикасыныц статистикалық бюросы, 2022 жыл.

Макенова Г. 2020. Анализ развития международного туризма и его влияние на туристский рынок: Свидетельство Казахстана / Г. Макенова, М.Тулеубаева // Журн. эколог. менеджмента и туризма. — 2020. — Т. XI, № 8 (48). — С. 2053. Scopus.https://scholar.google.com/citations.

Макенова Г. Международный рынок туризма и его роль в развитии национальной экономики / Г. Макенова // Изв. НАН Республики Казахстан. Сер. социальных и гуманитарных наук. — 2019. — № 327, сентябрь. — P. 5. — С. 186.

Послание Президента Республики Казахстан. https://www.akorda.kz/.

Турысбекова А.Б. Қазақстан аймақтарыныц әлеуметтік-экономикалық даму тенденцияларын анықтау / А.Б. Турысбекова, Ә.Қ. Өмірзақова // «Экономика: стратегия және практика». — 2021. — № 2 (16). — Б. 98-106. https://scholar.google.ru/scholar.

К.Ж. Бельдибаева, А.А. Умырзакова, Г.Т. Усембаева

Пандемия и индексы социального развития: на примере Казахстана

Аннотация:

Цель: В статье отображены статистические данные стран ЕАЭС, где указана доля импорта молочной продукции Казахстана. А также пояснение того, по каким критериям потребители молочной продукции отдают предпочтение продукции импортного производителя, а по каким — отечественного производителя.

Методы: Используемая методология и подход — статистические данные, качественный метод, а именно: анкетирование.

Результаты: Теоретическая ценность работы: найти особенности отечественных предприятий, рассмотреть конкурентные, экономические факторы предприятия. Благодаря количественным и качественным исследованиям (структурированное интервью) авторы рассмотрели необходимость изучения вкусов потребителей и замены их на отечественную продукцию.

Выводы: По результатам анкетирования среди потребителей сливочного масла выяснилось, что большинство при выборе сливочного масла руководствуются такими критериями, как качество, натуральность ингредиен-

тов, а также ценовая политика. Для того, чтобы предприятие было конкурентоспособным на рынке пищевой промышленности, необходимо особое внимание уделять качеству продукции. Так как это напрямую влияет на дальнейший выбор потребителя.

Ключевые слова: неравенство, социальный статус населения, черта бедности, рейтинг, индекс развития, качество продукции.

K.Zh. Beldibayeva, A.A. Umyrzakova, G.T. Ussembayeva

Pandemic and social development indices: case study of Kazakhstan

Abstract

Object: Pandemic consequences decreased social-economic indicators of countries. Issues such as the poverty line, life expectancy, standard of living became more relevant. Because COVID-19 has changed the structure of the poverty line in the world. To study social condition of people of the Republic of Kazakhstan, this article analyzes the strong and weak sides of social indicators of the country based on international organisations' indicators, the UN and the World Bank data, the formation of a new global poverty line of $1.90 in connection with the pandemic, the standard of living and the position of Kazakhstan in the world stability rating, and the M. Porter social development index.

Methods: Comparative analysis.

Results: As a result of the study, it was identified that several factors affected the social-economic development of the country. The dependence of Kazakhstan's economic stability on social indicators was examined.

Conclusions: In accordance with the 17 goals of the 2030 Agenda for Sustainable Development, adopted by the UN in 2015, global issues such as sustainable and inclusive development, the eradication of poverty, the fight against social inequality and access to justice are relevant for states, as well as ecological situation. The famous American scientist Michael Porter studied the Social Development Index in 2013 in his research, where he uses more than 50 indicators, consisting of 3 parts. This index determines the ranking of countries in the World Sustainability Index. Economic indicators are not taken into account in this index.

Keywords: inequality, social status of the population, poverty line, rating, development index.

References

Cavallo, E., Galiani, S., Noy, I., & Pantano, J. (2013). Catastrophic natural disasters and economic growth. *Review of Economics and Statistics,* 95(5), 1549–61.

Estes, R.J. (2019). The Social Progress of Nations Revisited. *Social Indicators Research,* 144(2), 539–574.

Indicators of social progress 2021. https://gtmarket.ru/ratings/life.

Lakner, C., & Nishant, Y. (2020). PovcalNet, Global Economic Prospects. https://blogs.worldbank.org

Makenova, G.U. (2019). Mezhdunarodnyi rynok turizma i ego rol v razvitii natsionalnoi ekonomiki [The international tourism market and its role in the development of the national economy]. Izvestiia. Natsionalnoi akademii nauk Respubliki Kazakhstan. Seriia sotsialnykh i gumanitarnykh nauk — News. The National Academy of Sciences of the Republic of Kazakhstan. A series of social sciences and humanities. 327, Section 5, 186 [in Russian].

Makenova, G., & Tuleubayeva, M. (2020). Analiz razvitiia mezhdunarodnogo turizma i ego vliianie na turistskii rynok: Svidetelstvo Kazakhstana. Zhurnal ekologicheskogo menedzhmenta i turizma, XI, 8 (48), 3. Scopus. https://scholar.google.com/citations [in Russian].

Poslanie Prezidenta Respubliki Kazakhstan [Message of the President of the Republic of Kazakhstan]. Retrieved from https://www.akorda.kz/ [in Russian].

Poverty line, $1.90, 2015– 2021. https://www.vsemirnyjbank.

Qazaqstan Respublkasynyn statistikalyq biurosy Қазақстан Республикасының статистикалық бюросы, 2022 жыл [Statistical Bureau of the Republic of Kazakhstan, 2022] [in Kazakh].

The level of life expectancy of the population, 2020. https://gtmarket.ru.

Turysbekova, A., & Umirzakova, A. (2021). Qazaqstan aimaqtarynyn aleumettik-yekonomikalyq damu tendentsiialaryn anyqtau [Identification of trends in socio-economic development of regions of Kazakhstan]. *Ekonomika: strategiia zhane praktika zhurnaly — Economics: the strategy and practice, 2* (16), 98–106 [in Kazakh].

Volovich, V. (2014). Modernizatsiia i sotsialnyi progress [Modernization and social progress]. *Problemy sovremennoi ekonomiki — Problems of modern economy,* 1(49), 13–19 [in Russian].

Vsemirnyi bank: Valovoi vnutrennii produkt na dushu naseleniia [World Bank: Gross domestic product per capita].

Weber, A.B. (2015). Sotsialnyi progress: problemy izmereniia, sravnitelnogo analiza i vyzovy dlia politiki [Social progress: measurement problems, comparative analysis and challenges for politics]. Zhurnal sotsiologicheskikh nauk i sotsialnoi praktiki — Journal of Sociological Sciences and Social Practice, 3 (11). Retrieved from https://cyberleninka.ru/article/n/sotsialnyy [in Russian].

Yang, X., & Geng, L. (2022). An integrated analysis of social, economic, and environmental indicators' effects on public health and health inequiality globally: From the perspective of vulnerability. Social indicators research, 162(3), 1261–1279.

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Анализ состояния систем внутрифирменного обучения сотрудников казахстанских организаций

Аннотация:

Цель: Проанализировать состояние системы внутрифирменного обучения сотрудников на примере организации.

Методы: При проведении исследования использован статистический метод: сбор первичный информации (опрос и анкетирование), обработка данных, системный анализ.

Результаты: Результаты опроса позволили выявить, что респонденты (сотрудники) имеют желание пройти обучение через курсы повышения квалификации (либо они проходят самостоятельно), однако организации не имеют возможности либо желания проводить их.

В организациях существует необходимость мониторинга оценки соответствия / несоответствия компетенций (в том числе знаний) работников. Также необходимо составить социально-психологический портрет коллектива для оценки потенциала и мотивации у сотрудников организации как фактора, непосредственно влияющего уровень управления и на качество самих знаний.

Выводы: Основная задача обучения на протяжении всей жизни заключается в фундаментальном переосмыслении роли образования, преподавания и обучения современного специалиста: необходимо интегрировать работу и обучение в образовательный процесс, благодаря чему сотрудник сможет получать представление о контексте собственной работы и вкладе в работу предприятия. В современных условиях, когда в организациях происходит реструктуризация трудовых и бизнес-процессов, внедряются новые инновационные технологии, осваиваются цифровые приемы и методы работы с персоналом, важнейшим ресурсом проведения организационных изменений становятся сотрудники, имеющие высокую профессиональную компетентность и знания. Как показывает опыт успешных отечественных компаний, создание условий для качественного роста работников и повышения профессионального потенциала дают более высокую отдачу, чем средства, направленные на решение сугубо производственных задач. В статье сделан анализ состояния систем внутрифирменного обучения сотрудников на примере казахстанских организаций.

Ключевые слова: организация, сотрудники, знания, персонал, человек, управление, респондент, деятельность, квалификация, знания, анализ.

Введение

В настоящее время новые производственные и экономические парадигмы показывают, что знания становятся более важными, чем любой другой ресурс (Apolloni, Mavisu & Ozeren, 2014) Знание было определено разными учеными по-разному: плавное сочетание сформированного опыта (Б. Мейхамми, Д. Ремени, Х. Мейхамми); обоснованное мнение (Дж. Мингерс, И. Нонака, Р. Тояма, Н. Конно); организованная информация с высокой долей человеческого анализа, включающего понимание, интерпретацию, контекст, опыт, мудрость (Дэвенпорт); искусство познания (Д. Минбаева, Р. Митчелл, Б. Бойл) и продукт человеческого размышления и опыта (Дж. Ротт) (Meihami & Meihami, 2014).

Обучение — это любой систематический процесс, инициируемый и управляемый организацией для формирования знаний, навыков сотрудников, изменения поведения, чтобы повысить их вклад в достижение организационных целей.

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Основная цель управления знаниями заключается в содействии организациям в осознании наличествующих знаний и в их формировании и использовании данных знаний с максимальной эффективностью и результативностью для данных организаций.

Создание или приобретение знаний как процесс включает в себя внедрение знаний или замену текущего содержания в рамках явных и неявных знаний организации. Это требует от организаций поиска новых знаний и информации как внутри, так и за их пределами. Организации могут получать новые знания посредством имитации, сравнительного анализа, распространения или аутсорсинга. Этот процесс играет важную роль, поскольку генерирует новые знания внутри организации, и его можно переключить на ключевой фактор успеха и постоянные инновации. Знания могут создаваться, распространяться и расширяться посредством процессов сотрудничества внутри организации (Malhotra, 2002).

Инновации в современных организациях связывают со способностью сотрудников к уникальному сочетанию новой идеи, мысли и концепции. Портер и Хитт утверждали, что инновационные стратегии, применяемые в организациях, становятся критически важными: чтобы обеспечить выживание, организациям необходимо создавать бизнес-ценности как внутри организаций, так и в конкурентной среде. С помощью инноваций это позволяет организациям выполнять бизнес-процессы более творчески, что повышает эффективность, результативность и, по крайней мере, конкурентоспособность (Hitt, Ireland & Hoskisson, 2019).

Отметим, что теория, основанная на знаниях, предполагает, что способность успешно использовать ресурсы зависит от знаний, содержащихся в человеческом капитале фирмы, и развития взаимосвязанных знаний в организационных структурах, с организационными процедурами и процессами в качестве инструментов интеграции знаний. Его сторонники утверждают, что, поскольку компетенции и способности, основанные на знаниях, обычно трудно имитировать и являются социально сложными, они являются одними из основных факторов, определяющих устойчивое конкурентное преимущество и превосходные организационные показатели (Alavi & Leidner, 2001).

Таким образом, теория, основанная на знаниях, предполагает что:

– передовые методы управления знаниями имеют важное значение для достижения высокой эффективности деятельности организации;

– методы управления знаниями могут влиять и быть положительно оценены системой оценки эффективности организаций, которая позволяет сосредоточить внимание на организационных элементах, которые взаимодействуют друг с другом в целях обеспечения эффективного осуществления стратегии на основе привлечения персонала; результатом чего является большой опыт работы с клиентами, прибыльность и высокая организационная эффективность (Feydl, 2018).

Современное постиндустриальное общество нуждается в пересмотре взаимоотношений между фактором производства и человеческим ресурсом. Эффективность управления знаниями напрямую влияет на производительность и результативность деятельности современных организаций. Низкая компетентность персонала (отсутствие либо недостаточно качественные навыки и знания) ведет к снижению качества производимой продукции и предоставляемых услуг, снижению конкурентоспособности, повышению расходов, ухудшению социально-трудовых отношений (Edward, 2009). Следовательно, таким образом усиливается роль квалифицированных человеческих ресурсов как движущего фактора деятельности организации, способного управлять и координировать процессы производства. Несмотря на научно-технический прогресс и значительный скачок в области информационных технологий, у организаций разного масштаба существует единая дилемма: как удовлетворить постоянную потребность в высококвалифицированном персонале при их дефиците на рынке труда. Проблема отсутствия высококвалифицированного персонала, обладающего навыками использования последних технических и социальных достижений, постоянно возникает перед руководителями предприятий (Meyer & Land, 2006).

Литературный обзор

В последнее десятилетие наблюдается возросшее внимание исследователей к вопросам, связанным с процессами управления знаниями. Если до 60-х гг. XX в. основой любой организации считались труд, капитал и земля, то с появлением такого понятия, как «постиндустриальное общество», появляется новый актив — знание. Питер Друкер был одним из первых ученых, обративших внимание людей на ценность интеллектуальных активов. В своей книге

«Посткапиталистическое общество» он писал о значении знания как фундаментального экономического ресурса.

Знания рассматриваются как один из основных стратегических источников организаций. На примере предприятий исследователи А. Аполлони, М. Мавису, Э. Озерен отмечали, что обучение сотрудников, использование управления их знаниями также могут повысить качество обслуживания за счет повышения степени оперативности реагирования. Организация должна не только оставаться конкурентоспособной только за счет ценных ресурсов, но и знать, как эффективно ими управлять.

В настоящее время новые производственные и экономические парадигмы показывают, что знания становятся более важными, чем любой другой ресурс. Знание было определено разными учеными по-разному: плавное сочетание сформированного опыта (Б. Мейхамми, Д. Ремени, Х. Мейхамми); обоснованное мнение (Дж. Мингерс, И. Нонака, Р. Тояма, Н. Конно); организованная информация с высокой долей человеческого анализа, включающего понимание, интерпретацию, контекст, опыт, мудрость (Дэвенпорт); искусство познания (Д. Минбаева, Р. Митчелл, Б. Бойл) и продукт человеческого размышления и опыта (Дж. Ротт).

В исследовательской литературе наблюдаются разнообразное множество мнений относительно приобретаемых знаний, их дисциплинарности и междисциплинарности (J. Meyer, R. Land). Знания часто ошибочно принимают за информацию, поскольку существует взаимосвязь между данными, информацией и знаниями, однако все эти три концепции различны. На сегодняшний день наибольшей популярностью пользуется такая информационная иерархия, как DIKW (data, information, knowledge, wisdom — данные, информация, знания, мудрость). Данный термин приобрел популярность благодаря трудам Рассела Акоффа, Ю. Малхотра.

Несмотря на проводимые исследования, посвященные оцениванию существующих методов, систем и инструментов управления знаниями, на сегодняшний день не существует какой-либо универсальной системы оценивания результатов формирования и управления знаниями. Многие зарубежные организации приняли решение о формировании собственных систем повышения квалификации сотрудников: результатом подобного решения стало появление нового направления в управлении персоналом — организационной деятельности компаний по обучению и повышению квалификации. Согласно исследованиям, проведенным Р. Лукасом, С.К. Мажитовой, П. Ромером, И. Хиротакой, З.С. Гельмановой и многими другими исследователями, была доказана необходимость в инвестировании в обучение персонала: вложение в обучение персонала дает намного больший прирост производительности, чем равное по объему капиталовложение

Дискуссии относительно содержания внутрифирменного образования будут регулярно возникать. На сегодняшний день такое исследование является задачей не только прикладного, практического толка, но и важным направлением научной мысли.

Методы

При проведении исследования использован статистический метод: сбор первичный информации (опрос и анкетирование), обработка данных, системный анализ.

Результаты

Нами был проведен опрос 9 казахстанских организаций, анализ результатов исследования представлен ниже. Вся полученная информация в результате проведения количественных исследований от организаций была закодирована для непредвзятого и качественного анализа, тщательно изучена, оцифрована посредством создания виртуального архива, проверена на наличие ошибок ввода. Опрос респондентов проводился с помощью анкетирования респондентов. Для ответов была принята пятибалльная шкала Лайкерта от 1 до 5 (от полного отрицания до абсолютного согласия). Вероятность наличия респондентов, не имеющих мнения, либо желающих принять позицию нейтралитета, также была принята во внимание — для этого в варианты ответов был введен ответ: «Воздержусь от ответа». С целью проведения качественного исследования все собранные данные были проанализированы методом контент-анализа.

В целях сохранения конфиденциальности и анонимности наименования всех девяти организаций, они были закодированы с помощью букв латинского алфавита. Буква, присвоенная каждой организации, не имеет никакого отношения к названию компании.

Задачи данного инструмента сбора данных были следующими:

– определить наличие систем, регулирующих процессы управления и формирования внутрифирменных знаний в организациях;

– определить наличие и уровень внутрифирменного обучения сотрудников;

– проанализировать морально-психологический климат среди сотрудников организаций как одного из важнейших факторов управления персоналом, в целом, и управления знаниями, в частности.

Анкета состояла из трех разделов: демографические данные, оценки деятельности организаций по формированию и управлению знаниями (13 вопросов) и оцениванию морально-психологического климата в коллективе опрашиваемых компаний (57 вопросов).

Согласно полученным данным, распределение работников организаций по уровню образования выявило превалирующую разницу между обладателями степени бакалавра (общий процент — 65,85 %) и обладателями среднего общего образования (30,49 %). При этом из 108 респондентов, имеющих степень бакалавра, 24 имеют диплом с отличием, степень магистра — 5 человек (3,05 %), и лишь 1 человек имеет аттестат об общем среднем образовании (1).

Таблица 1

Образование респондентов каждой организации

Организация	Общее число респондентов	Среднее специальное образование	Бакалавриат	Магистратура	Среднее общее образование
1	2	3	9	6	7
A	22	8	13	1	22
B	15	4	11	0	15
C	19	8	11	0	19
D	23	6	17	0	23
E	20	6	14	0	20
F	14	5	9	0	14
G	16	3	13	0	16
H	17	6	11	0	17
I	18	4	14	0	18

Наибольшее количество специалистов, имеющих диплом бакалавра, работают в организациях D (14,81 %), E (12,96) и I (12,04 %), наименьшее — 7,41 % — в фирме F (рис. 1).

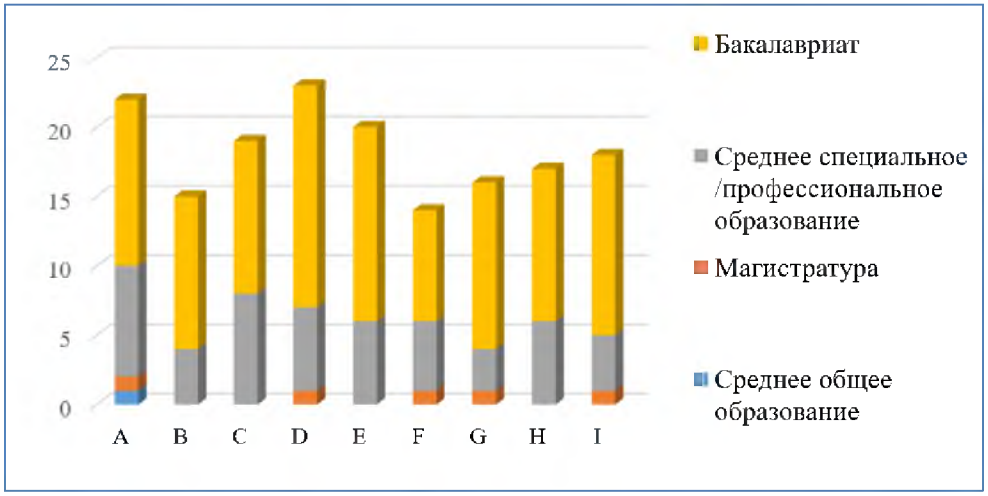

Рисунок 1. Уровень образования в организациях

Примечание. Составлено авторами.

Согласно результатам второго вопроса, стаж работы респондентов в организациях составляет от 1 года до 23 лет: 17 работали менее или около 2 лет (10,37 %); 26 — 3 года (15,85 %); 18 чел. — 4 года (10,98 %); 5 лет — 19,51% (32 сотрудника); 11 чел. — около 8 лет (6,71 %), 1,83 % составило число тех, кто работает в компании 16–19 лет; более 20 лет работает 2 чел. (1,22 %). Как из этого следует, большая часть сотрудников работает в организации в диапазоне от 2 до 7 лет. Средняя продолжительность работы респондентов составила 5,98 лет, что свидетельствует об относительной стабильности по текучести кадров среди сотрудников административно-управленческого персонала.

Также был изучен вопрос общего опыта работы с учетом опыта работы в других компаниях схожих сфер деятельности на аналогичных должностях. Один год отметили 0,61 %, 14 чел. работали около 2 лет (8,56 %), от 3 до 5 лет указали 10,98 % (18 чел.), 35 сотрудников указало 6–9 лет (21,34 %), 10–11 лет — 38 чел. (23,17 %); 24 специалиста отметили 12–13 лет; 19–25 лет — 3,05 %; 25 лет и более —– 9 чел. (5,49 %).

Несмотря на относительную стабильность среди рабочего персонала, большинство респондентов указывало на желание сменить место работы либо на неудовлетворенность, связанную с занимаемой должностью (исключениями являются компании В и С, где наблюдается повышенная текучесть кадров, превышающая допустимую норму, и составляет порядка 10–12 %). В качестве причины были указаны такие факторы, как отсутствие стимулов в виде карьерного роста либо повышение заработной платы. Согласно проведенному опросу среди 164 работников административно-управленческого персонала, 9 организаций, действующих в различных сферах деятельности (от промышленных до торговли), большинство респондентов(53,05 %) не удовлетворены возможностями дополнительного, профильного обучения и повышения квалификации. Рисунок 2 наглядно демонстрирует это соотношение.

Полученные в ходе опроса данные свидетельствуют о том, что большинству респондентов так или иначе знакомы такие понятия, как «знания», «квалификация», «компетентность», «управление персоналом» (порядка 84,14 % опрошенных).

Большинство руководителей, по результатам исследования, не знакомы с понятием управления знаниями (30,43 %), имеют некоторые представления — 56,53 % либо знакомы исключительно в теоретическом аспекте (13,04 %). Среди всех сотрудников административно-управленческого персонала (в опросе принимали участие менеджеры всех уровней и бухгалтеры) уровень осведомленности о концепции управления знаниями также недостаточно высок — знакомых разной степени осведомленности о понятии — 70,12 %; 20,73 % совершенно не знакомы с данным понятием.

Рисунок 2. Удовлетворенность персонала уровнем обучения и курсами повышения квалификации

Примечание. Составлено авторами.

Формирование внешних и внутренних источников знаний является важной составляющей в процессах управления знаниями. Основные источники внешней информации можно условно разделить на общие, институциональные и рыночные, а внутренние представлены знаниями и информацией, создаваемые в процессе деятельности организации. По результатам опроса среди руководителей казахстанских компаний, основными источниками оказались потребительский рынок, Интернет-ресурсы и информация, полученная от партнеров и в ходе анализа деятельности конкурентов. Следует отметить крайне низкий уровень институциональных источников: процент отметивших данный вид ресурса оказался крайне низок — 6%. В качестве внутренних источников знаний служат результаты работы маркетинговых, производственных, а также экономических (в отдельных случаях) отделов организаций.

Следует также отметить довольно низкий процент использования различных специализированных систем, например, систем взаимоотношений с клиентами, специализированных программ по обучению сотрудников — лишь у одной из девяти организаций имелась подобная программа, однако и она довольно редко используется на практике.

Около 35 % руководителей считают управление знаниями экономически невыгодными либо не считают важными, 17,39 % руководителей не уверены в его эффективности и более 45 % считают,

что данное направление менеджмента является перспективным. Следует отметить, что среди респондентов, негативно отозвавшихся о перспективности УЗ, большая часть является руководителями высшего звена.

Согласно результатам исследования, около 30,18 % руководителей недовольны квалификацией сотрудников относительно занимаемых ими должностей; 26,34 % воздержались от комментария; 43,48 % в разной степени довольны работой своих сотрудников.

С утверждением о том, что различные образовательные мероприятия положительно влияют на эффективность деятельности организации, согласилось порядка 75 % опрошенных.

Несмотря на то, что, согласно многочисленным исследованиям, моральный износ знаний в среднем составляет порядка 20 %, при этом рекомендуемый период приобретения новых знаний в промышленной сфере (в частности, металлургии) составляет каждые 3–4 года, а в сфере бизнеса период сокращается до 2–3 лет. В частности, относительно представителей финансового отдела организаций — бухгалтеров, ежегодно вносятся коррективы в базы данных, касающиеся налогообложения и иных законодательных актов, знание которых необходимо для корректной и продуктивной работы специалиста.

Несмотря на признание обучения как фактора, прямо влияющего на эффективность и успешность компании, в большинстве организаций отсутствует инвестирование в образование специалистов. Основная причина — расходы невыгодны с экономической точки зрения (по мнению высшего руководства).

Часть вопросов была посвящена обеспеченности необходимой вычислительной техникой и программным обеспечением, а также их актуальности относительно современных условий. Более 60 % считают, что организации в полной мере обеспечены всей необходимой техникой и программным обеспечением. Следует отметить, что некоторые респонденты отметили необходимость в обновлении имеющейся техники — 14,02 %.

Ценность информационных технологий как инструмента, необходимого для корректной и эффективной деятельности предприятия, отметили более 83 % опрошенных, лишь 3 % посчитали продукты информационно-коммуникационных технологий бессмысленными.

Согласно данным, предоставленным 9 организациями, лишь 3 компании занимаются повышением квалификации персонала административно-управленческого персонала. Вопросы, связанные с наличием в организациях официальной системы управления знаниями и наличием либо же отсутствием документа, свидетельствующего о наличии политики менеджмента знаний, показал отсутствие таковых в организациях (A — 90,91 %; B — 86,67 %; C — 94,74 %; D — 82,61 %; E —– 85 %; F — 85,71 %; G — 75 %; H и I — 88,24 % и 94,44 %, соответственно).

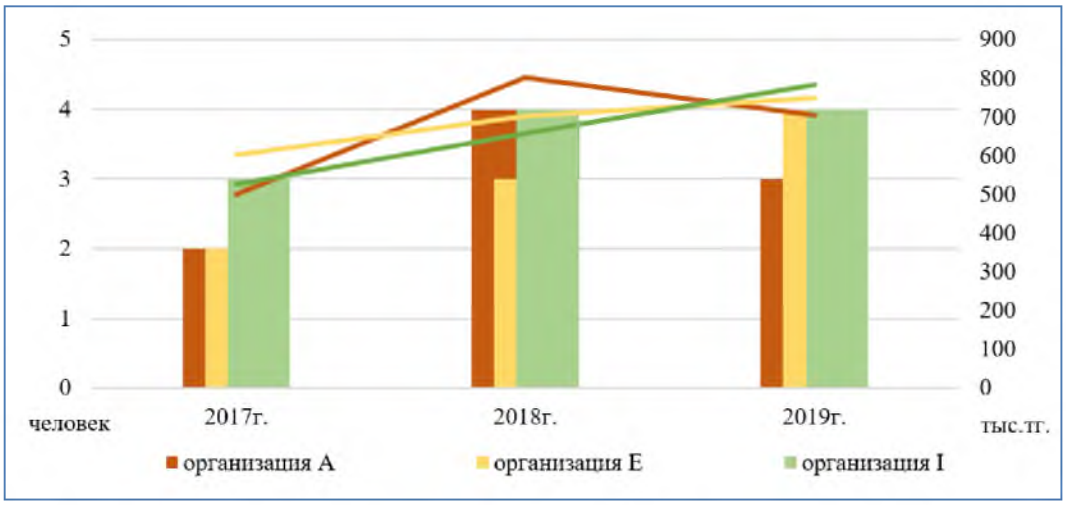

Рисунок 3. Сравнение затрат на обучение и количество обученных сотрудников административно-управленческого отдела за 2017–2019 гг.

Примечание. Составлено авторами.

Как видно из данных, представленных на рисунке 3, сравнительная характеристика данных указывает на постоянство проводимых мероприятий, посвященных повышению квалификации и посто-

янство среди сотрудников, проходящих обучение за счет организации, однако следует также подчеркнуть, что данные мероприятия носили скорее единичный характер. При опросе было также отмечено, что многие сотрудники хотели бы проходить какие-либо курсы повышения квалификации (либо они проходят самостоятельно), однако организации не имеют возможности либо желания для этого. Таким образом, появляется вопрос о необходимости анализа ситуаций, протекающих в данных организациях, для оценивания наличия либо же отсутствия факта несоответствия компетенций (в том числе знаний) работников. Также необходимо составить социально-психологический портрет коллектива для оценки потенциала и мотивации у сотрудников организации как фактора, непосредственно влияющего уровень управления и на качество самих знаний.

Выводы

Быстрый прогресс и скачок в развитии науки и общества за последние десятилетия привели к необходимости повышения внимания и контроля за развитием способностей к совершенствованию личностных качеств индивидуума, ведь для принятия качественных, эффективных и рациональных решений человек должен уметь осознавать все риски, ответственность и последствия, с ними связанные. ЦПУП выделяет 6 ключевых качеств характера: нравственность, осознанность, лидерство, отвага, любознательность и жизнестойкость.

Основная задача обучения на протяжении всей жизни заключается в фундаментальном переосмыслении роли образования, преподавания и обучения современного специалиста: необходимо интегрировать работу и обучение в образовательный процесс, благодаря чему сотрудник сможет получать представление о контексте собственной работы и вкладе в работе предприятия.

В современных условиях, когда в организациях происходит реструктуризация трудовых и бизнес-процессов, внедряются новые инновационные технологии, осваиваются цифровые приемы и методы работы с персоналом, важнейшим ресурсом проведения организационных изменений становятся сотрудники, имеющие высокую профессиональную компетентность и знания. Как показывает опыт успешных отечественных компаний, создание условий для качественного роста работников и повышения профессионального потенциала дают более высокую отдачу, чем средства, направленные на решение сугубо производственных задач. В статье сделан анализ состояния систем внутрифирменного обучения сотрудников на примере казахстанских организаций

References

Apolloni, A., Mavisu, M., & Ozeren, E. (2014). Knowledge management practices and related benefits in Turkish manufacturing firms. *International Journal of Intelligent Enterprise 2(2/3), 169–195.*

Alavi, M., & Leidner, D.E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly, 25(1), 107–136.*

Collins, J. (2009). Education techniques for lifelong learning. Lifelong learning in the 21st century and beyond. Radiographics.

Davenport, H.T., &Völpel, C.S. (2001). The rise of knowledge towards attention management. *Knowledge Management, 5(3), 10–15.*

Feidl, Ch., Bialik, M., & Trilling, B. (2018). *Chetyrekhmernoe obrazovanie [Four-dimensional education].* Moscow: Izdatelskaia gruppa «Tochka» [in Russian].

Hitt, M., Ireland, R.D., & Hoskisson, R. (2019). Strategic Management: Concepts and Cases: Competitiveness and Globalization. 13th ed. South-Western College.

Malhotra, Y. (2002). Knowledge Management for E-Business Performance: Advancing Information Strategy to "Internet Time". Information Strategy. *The Executive Journal, 16(4), 5–16.*

Meihami, B., & Meihami, H. (2014). Knowledge management a way to gain a competitive advantage in firms (evidence of manufacturing companies). *International Letters of Social and Humanistic Sciences. 14, 80–91.*

Meyer J., & Land R. (2006). *Overcoming Barriers to Student Understanding: Threshold Concepts and Troublesome Knowledge.* — NY. Routlege,

Minbaeva, D. (2007). Knowledge transfer in Multinational Corporations. *Management international review, 47(4), 16–29.*

Mingers, J. (2008). Management Knowledge and Knowledge Management: realism and forms of truth. *Knowledge Management Research and Practice, 6 (1), 14–36.*

Mitchell, R., & Boyle, B. (2010). Knowledge Creation Measurement Methods. *Knowledge Management, 14(1), 15–21.*

Nonaka, I., Konno, N., & Toyama, R. (2000). SECI, BA and leadership: a unified model of dynamic knowledge creation. *Long range planning, 33, 29–35.*

Norman, P. (2014). Knowledge Acquisition, Knowledge Loss, and Satisfaction in High Technology Alliances. *Journal of Business Research, 57(6), 610–619.*

Porter, M.E. (2009). *On Competition*. Harvard Business Review Press.

Remenyi, D., Money, A., Price, D., & Bannister, F. (2002). The Creation of Knowledge through Case Study research. *The Heley Working Paper Series, 136.*

Roth, J. (2003). Enabling knowledge creation: Learning from an RD organisation. *Knowledge management, 7(1), 16–29.*

Wilson, E.O. (2009). *Consilience: The Unity of Knowledge.* NY. Vintage.

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Қазақстандық ұйымдардың қызметкерлерін фирмаішілік оқыту жүйелерінің жай-күйін талдау

Аңдатпа

Мақсаты: Ұйым мысалында қызметкерлерді ішкі оқыту жүйесінің жай-құйін талдау.

*Әдісі: З*ерттеу жүргізу кезінде статистикалық әдіс қолданылды: бастапқы ақпаратты жинау (сұрау және сауалнама жүргізу), деректерді өңдеу, жүйелік талдау.

Нәтижелері: Сауалнама нәтижелері респонденттердің (қызметкерлердің) біліктілікті арттыру курстары арқылы оқуға ниет білдіргенін (не олар өз бетінше өтеді), алайда ұйымдардың оларды жүргізуге мүмкіндігі немесе ниеті жоқ екенін анықтауға мүмкіндік берді.

Ұйымдарда қызметкерлердің құзыреттерінің (оның ішінде білімінің) сәйкестігін/ сәйкессіздігін бағалауды мониторингтеу қажеттілігі бар. Сондай-ақ, басқару деңгейі мен білім сапасына тікелей әсер ететін фактор ретінде ұйым қызметкерлерінің әлеуеті мен уәждерін бағалау үшін ұжымның әлеуметтік-психологиялық портретін жасау қажет.

Қорытынды: Өмір бойы оқытудың негізгі міндеті — қазіргі заманғы маманның білім беру, оқыту және оқытудың рөлін түбегейлі қайта қарастыру: жұмыс пен оқытуды білім беру процесіне біріктіру қажет, соның арқасында қызметкер өз жұмысының контексі және кәсінорынның жұмысына қосқан үлесі туралы түсінік ала алады.

Ұйымдарда еңбек және бизнес-процестерді қайта құрылымдау орын алған, жаңа инновациялық технологиялар енгізілген, қызметкерлермен жұмыс істеудің сандық әдістері мен тәсілдері игерілген қазіргі жағдайда жоғары кәсіби құзыреттілігі мен білімі бар қызметкерлер ұйымдастырушылық өзгерістер жүргізудің маңызды ресурсына айналады. Табысты отандық компаниялардың тәжірибесі көрсетіп отырғандай, қызметкерлердің сапалы өсуі және кәсіби әлеуетін арттыру үшін жағдай жасау тек өндірістік міндеттерді шешуге бағытталған қаражатқа қарағанда анағұрлым жоғары қайтарымды береді. Мақалада фирмаішілік оқыту жүйелерінің жай-күйіне талдау жасалған.

Кілт сөздер: ұйым, қызметкерлер, білім, қызметкерлер, адам, басқару, респондент, қызмет, біліктілік, білім, талдау.

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Analysis of the state of in-house training systems for employees of Kazakhstani organizations

Abstract

Object: To analyze the state of the in-house employee training system using the example of an organization.

Methods: Statistical methods: collection of primary information (survey and questionnaire), data processing, system analysis.

Results: The survey results revealed that respondents (employees) have the desire to undergo training through advanced training courses (or they take it on their own), but organizations do not have the ability or desire to conduct them. In organizations, there is a need to monitor the assessment of compliance/non-compliance of competencies (including knowledge) of employees. It is also necessary to draw up a socio-psychological portrait of the team to assess the potential and motivation of the organization's employees as a factor directly affecting the level of management and the quality of knowledge itself.

Conclusions: The main task of lifelong learning is to fundamentally rethink the role of education, teaching and training of a modern specialist: it is necessary to integrate work and training into the educational process so that an employee can get an idea of the context of his own work and contribution to the work of the enterprise. In modern conditions, when labor and business processes are being restructured in organizations, new innovative technologies are being introduced, digital techniques and methods of working with personnel are being mastered, employees with high professional competence and knowledge become the most important resource for organizational changes. As the experience of successful domestic companies shows, creating conditions for the qualitative growth of employees and improving pro-

fessional potential give a higher return than funds aimed at solving purely production tasks. The article analyzed the state of in-house employee training systems on the example of Kazakhstani organizations.

Keywords: organization, employees, knowledge, personnel, person, management, respondent, activity, qualification, knowledge, analysis.

References

Apolloni A. Knowledge management practices and related benefits in Turkish manufacturing firms / A. Apolloni, M. Mavisu, E. Ozeren // International Journal of Intelligent Enterprise. — 2014. — 2(2/3). — P. 169–195.

Meihami B. Knowledge management a way to gain a competitive advantage in firms (evidence of manufacturing companies) / B. Meihami, H. Meihami // International Letters of Social and Humanistic Sciences. — 2014. — 14. — P. 80–91.

Remenyi D. The Creation of Knowledge through Case Study research / D. Remenyi, A. Money, D. Price, F. Bannister // The Heley Working Paper Series. — 2002.

Mingers J. Management Knowledge and Knowledge Management: realism and forms of truth / J. Mingers // Knowledge Management Research and Practice. — 2008. — No. 6 (1). — P. 14–36.

Nonaka I. SECI, BA and leadership: a unified model of dynamic knowledge creation / I. Nonaka, N. Konno, R. Toyama // Long range planning. — 2000. — No. 33. — P. 29–35.

Davenport H. T., Völpel C. S. The rise of knowledge towards attention management / H.T. Davenport, C.S. Völpel // Knowledge Management. — 2001. — No. 5(3). — P. 10–15.

Minbaeva D. Knowledge transfer in Multinational Corporations / D. Minbaeva // Management International Review. — 2007. — No. 47(4). — P. 16–29.

Mitchell R. Knowledge Creation Measurement Methods / R. Mitchell, B. Boyle // Knowledge Management. — 2010. — No. 14(1). — P. 15–21.

Roth J. Enabling knowledge creation: Learning from an RD organization / J. Roth // Knowledge management. — 2003. — No. 7(1). — P. 16–29.

Malhotra Y. Knowledge Management for E-Business Performance: Advancing Information Strategy to “Internet Time”. Information Strategy / Y. Malhotra // The Executive Journal. — 2002. — No. 16(4). — P. 5–16.

Norman P. Knowledge Acquisition, Knowledge Loss, and Satisfaction in High Technology Alliances / P. Norman // Journal of Business Research. — 2014. — No. 57(6). — P. 610–619.

Hitt M. Strategic Management: Concepts and Cases: Competitiveness and Globalization / M. Hitt, R.D. Ireland, R. Hoskisson // 13th ed. South-Western College. — 2019.

Porter M.E. On Competition / M.E. Porter. — Harvard Business Review Press, 2009.

Alavi M. Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues / M. Alavi, D.E. Leidner // MIS Quarterly. — 2001. — No. 25(1). — P. 107–136.

Фейдл Ч. Четырехмерное образование/ Ч. Фейдл, М. Бялик, Б. Триллинг. — М.: Издательская группа «Точка», 2018.

Wilson E.O. Consilience: The Unity of Knowledge / E.O. Wilson. — NY. Vintage, 2009.

Collins J. Education techniques for lifelong learning. Lifelong learning in the 21st century and beyond / J. Collins. — Radiographics, 2009.

Meyer J. Overcoming Barriers to Student Understanding: Threshold Concepts and Troublesome Knowledge / J. Meyer, R. Land. — NY. Routlege, 2006.

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Цифрландыру жағдайында медициналық қызметтердің сапасын бағалаудың әдіснамалық тәсілдері

Аңдатпа

Мақсаты: Медициналық қызметтер сапасын бағалаудың қазіргі тәсілдерін және медициналық мекемелер көрсететін қызметтер сапасының өлшемдерін зерттеу. Мақалада республикадағы денсаулық сақтауды цифрлық трансформациялаудың алғышарттары да қаралды.

Әдістері: Қойылған мақсаттарды іске асыру үшін кабинеттік зерттеулер – медициналық қызметтердің сапасын бағалау саласындағы заңнамалық актілерге контент талдау және медициналық қызметтердің сапасын бағалаудың әдістемелік тәсілдерін ғылыми негіздеу үшін әдеби дереккөздерге шолу және салыстырмалы талдау жүргізілді.

Нәтижелері: Мақалада медициналық қызметтердің сапасын бағалау үшін медициналық қызметтердің сапасы және медициналық қызметтердің сәйкестік сапасы сияқты сипаттамалар қолданылды. Медициналық қызмет көрсету сапасы медициналық қызмет іс жүзінде пациенттің қажеттілігін қанағаттандыратын дәрежесін көрсетеді. Медициналық қызметтің сәйкестік сапасы медициналық мекеме ұсынатын қызметтердің ішкі ерекшеліктер мен стандарттарға сәйкес келу дәрежесін анықтайды.

Қорытындылар: Авторлар медициналық қызметтердің сапасын бағалаудың әдіснамалық негіздері мен критерийлеріне контент талдау жасау негізінде медициналық қызметтерді өндірушілер мен тұтынушыларды бағалаудың бірлескен тәсілін пайдалануды ұсынды. Медициналық қызметтер сапасын бағалаудың келесідей тәсілдері мен әдістерін пайдалана отырып, жиынтық кешенді бағалауды енгізу ұсынылды. Олар SERVQUAL моделінің индикаторларын қолданып, медициналық қызметтер сапасын бағалаудың тұтынушылық тәсілін, сауалнама әдісін, стандарттарға сәйкестік әдісін және сараптамалық әдісін ендіру.

Кілт сөздер: сапа, медициналық қызмет көрсету, медициналық мекеме, цифрландыру, бағалау.

Кіріспе

Қазақстанның инновациялық даму мүмкіндіктерін анықтайтын адами әлеуетті сақтау медицинада көрсетілетін қызметтердің сапасына байланысты. Қазіргі заманғы негізгі жаһандық трендтердің бірі жаңа технологиялардың таралуына байланысты қоғам өмірінің барлық тараптарының түбегейлі жаңаруы өткен жылдарға қарағанда тезірек жүзеге асуда (Мау В.А., 2020). Медицинада цифрлық технологиялардың дамуы басым әлемдік үрдістердің бірі болып отыр және оларды пайдалану перспективалары кең және көп қырлы (Карпов О.Э. және т.б., 2017).

Бүгінгі таңда кейіннен еске салу және смартфонға нәтижелерді жіберу арқылы қабылдауға арналған электрондық жазылу жүйелері, телемедицина саласындағы жетістіктер, ақпаратты сақтауға және өңдеуге арналған "бұлттар", мобильді құрылғылар мен күнделікті дәрігерлік тәжірибе қызметтері, фармакологиялық индустрияның жаңа әзірлемелері және т.б. (Bhavnani S. және т.б., 2016) көрсетілетін медициналық қызметтердің қолжетімділігі мен сапасын арттыруға бағытталған салалық процестерді одан әрі цифрлық түрлендірудің маңыздылығы мен келешегін көрсетеді. Қазақстанда да, сондай-ақ, басқа елдерде де медициналық көрсетілетін қызметтердің сапасын бағалауға арналған әдістемелік тәсілдердің өзгерістерін осы цифрландырумен байланыстырады (Lapão L.V., 2019).

Зерттеудің мақсаты медициналық мекемелердегі қызметтер сапасын бағалаудың ұйымдастырушылық және әдістемелік мәселелерін айқындау және оларды шешу жолдарын әзірлеу болып табылады.

Әдебиеттерге шолу

Денсаулық сақтауды сандық түрлендірудің кейбір алғышарттарын қарастыра кетейік:

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– жаһандық ақпараттандыру және ұтқырлық, ыңғайлы уақытта интернетті, мобильді құрылғыларды, әлеуметтік желілерді және байланыс қосымшаларын белсенді қолдана отырып, адамдардың қарым-қатынастары географиялық кедергілермен шектелмейді;

– пациентке бағдарлану, клиенттердің талабы жоғары бола бастайды, нәтижесінде оларға ұсынатын медициналық қызметтер сапалы, қолжетімді және алуға ыңғайлы болуы керек;

– ғылыми–техникалық прогресс, ғылым мен технологиялардың медицинада жетістіктерін кеңінен қолдану үшін мүмкіндіктер жасалуда, мысалы, Big Data көмегімен пациенттерді қашықтықтан қадағалау үшін электрондық медициналық карталар мен құрылғыларды енгізу;

– ақпараттарды жүйелеуге бағытталу, азаматтардың денсаулық жағдайы туралы деректердің көптігі негізінде шешімдер қабылдау үшін талдамалық құралдар жасалуда (Lapão L.V., 2016).

Жоғарыда айтылғандарға байланысты Қазақстан медицинасын цифрландырудың бірқатар міндеттері бар:

– денсаулық сақтаудағы жаңа қызметтер мен өнімдерді әзірлеу үшін инновацияларға көшуді қамтамасыз ететін зияткерлік автоматтандыруды енгізу;

– сандық шындыққа бейімделе алатын денсаулық сақтау қызметкерлерінің кәсіби кадрлық ресурсын дайындау;

– Қазақстан азаматтарын уақтылылық, дербестендіру, алдын алу, технологиялық және қауінсіздік өлшемдеріне сәйкес келетін талап ету орны бойынша қолжетімді медициналық көмекпен қамтамасыз ету;

– Қазақстан Республикасы Денсаулық сақтау министрлігінің нормативтік құжаттарына сәйкес барлық пациенттер үшін медициналық көмек көрсету сапасын сақтай отырып, медициналық қызметтер көрсету кезінде материалдық, адами, ақпараттық және өзге де ресурстар мен деректерді пайдалану өнімділігі мен тиімділігін арттыру;

– медициналық ұйымдарға инновациялық шешімдер трансфері және осы саладағы отандық стартап компанияларды қолдау арқылы цифрлық денсаулық сақтау экожүйесін құру;

– тәуекелдердің азаюына және әдістер мен процедуралардың қауінсіздігінің күшеюіне қарай ұлғаятын пациенттердің дәрігерлерге және медицинадағы жаңа технологияларға сандық сеніміне қол жеткізу.

«Дені сау ұлт» әрбір азамат үшін сапалы және қолжетімді денсаулық сақтау» және «Цифрлық Қазақстан» ұлттық жобаларының паспорт мазмұнын талдау бірыңғай цифрлық және қазақстандық денсаулық сақтау жүйесіне инновациялық технологияларды енгізудің жалпы бағыттарын анықтауға мүмкіндік берді, оларды іске асыру келесідей цифрлық медициналық қызметтердің сапасын (МҚС) арттыруға мүмкіндік береді (Ереже, 2022, 2021):

– пациенттер туралы құжаттама мен деректер базасын жүргізудің жаңа тәсілдерін жасау, осы деректерге қолжетімділікті қамтамасыз ету;

– телемедицинаны енгізу және пациенттерді емдеу үшін ақпараттық жүйелерді қолдану;

– медициналық мәліметтерді өңдеуде математикалық әдістер мен жасанды интеллект әдістерін қолдану.

Соңғы уақытта мемлекеттік ұйымдар мен жеке компаниялардың медициналық қызметтердің сапасын бағалау бойынша практикалық жұмысының белсенділігі артқанына қарамастан, ол бірінші кезекте пациенттердің медициналық қызметтердің сапасын тәуелсіз бағалауға аз тартылуының салдарынан серпінді нәтижелер бермей келеді (Бутова Т.Г. және т.б., 2019). Шетелдік зерттеулерде де медициналық қызметтердің сапасын бағалауда тұтынушылардың төмен белсенділігі байқалады.

SERVQUAL моделі әр түрлі қызмет салаларында қызмет көрсету сапасын өлшеу үшін қолданылатын танымал көрсеткіш. Авторлар SERVQUAL — бұл кең спектрге қолдануға болатын жалпы көрсеткіш деп мәлімдейді. Көрсеткіш зерттеулердегі факторлық талдаумен ұштасатын бес айнымалы негізінде жасалды: (a) материалдық құндылықтар, (b) қауінсіздік, (c) ықыластық, (d) сенімділік және (e) эмпатия.

SERVQUAL моделінің негізінде бірқатар басқа өлшемдер құрылды. Т. Агамолай және басқалары бұл ауруханаларда қызмет көрсету сапасын өлшеуге жарамды деп мәлімдеді, бірақ оның жарамдылығын әртүрлі контексте бағалау керектігін алға тартады (Aghamolaei T. және т.б., 2014).

Сол сияқты, 1-кестеде сипатталған әдебиет көздерінде авторлардың модельдері зерттеу пәніне байланысты қызмет көрсету сапасын бағалау өлшемдерін кеңейту арқылы толықтырылған. Алайда,

бұл модельдердің ешқайсысы академиктер, кәсіпқойлар және зерттеушілер арасында SERVQUAL сияқты маңызды мәнге ие болмады.

Кесте 1. Қызмет көрсету сапасын бағалаудың әдіснамалық тәсілдеріне әдебиеттік шолу

№	Автор	Модель	Қызмет көрсету сапасын бағалау өлшемдері	Зерттеу субъектісі
1	2	3	4	5
1	V.A. Zeithaml, A. Parasuraman, L.L. Berry, 1985	GAP-модель	Он өлшем (сенімділік, қауіпсіздік, тиімділік, қол жетімділік, байланыс, материалдық құндылықтар, сыпайылық, сенім, құзыреттілік және түсіну / білу), SERVQUAL әдісі	қаржы компаниялары, бағалы қағаздар бойынша брокерлік қызметтер, сақтандыру компаниялары, банктер, сондай-ақ жөндеу және техникалық қызмет көрсету
2	P.A. Dabholkar, C.D. Shepherd, D.I. Thorpe, 2000	Бастапқы аралық моделі	SERVQUAL әдісі арқылы сенімділікті, жеке зейінді, ықыластық функцияларды өлшеу	жоғарғы оқу студенттері
3	C. Gronroos, 1984	Сапаның техникалық және функционалдық моделі	Функционалдық және техникалық сапа	банктер, сақтандыру компаниялары, мейрамханалар, кеме қатынасы компаниялары, авиакомпаниялар, тазалау және техникалық қызмет көрсету компаниялары, автокөлік жалдау компаниялары, туристік агенттіктер және бірқатар мемлекеттік сектор институттары
4	J. Haywood-Farmer, 1988	Қызмет көрсету сапасының атрибуттық моделі	Физикалық объектілер мен процестер, адамдардың мінез-құлқы және олардың көңілділігі, сондай-ақ кәсіби пайымдау	анықталмаған
5	B.J. Berkley, A. Gupta, 1994	IT тегістеу моделі	Ол әр түрлі салалардағы бірқатар кейстер негізінде қызмет көрсету сапасын жақсарту үшін ақпараттық технологияларды қолдануды сипаттайды.	банк ісі, курьерлік қызмет, көлік, өндіріс және қызмет көрсету саласы
6	A.A. Brogowicz, L.M. Delene, L.M. Lyth, 1990	Синтезделген қызмет көрсету сапасының моделі	Жоспарлау, енгізу және бақылау міндеттерін айқындайтын техникалық және функционалдық сапа	қызмет көрсететін сала
7	J.J. Cronin, S.A. Taylor, 1992	Өнімділікке арналған модель	Растаушы 22 өлшемдер SERVQUAL сияқты, бірақ тек өнімділік туралы мәлімдемелерге қатысты	банк ісі, құрғақ тазалау және фаст-фуд
8	J. Mattsson, 1992	Қызмет көрсету сапасының мінсіз құндылық моделі	18 құндылық өлшемдері және 9 клиенттердің қанағаттану өлшемдері	үлкен люкс қонақ үйлер
9	R. K.Teas, 1993	Бағаланған өнімділік және нормаланған сапа моделі	SERVQUAL элементтерінің шектеулі жиынтығы (5 өлшемнің әрқайсысы үшін 2 элементтен)	кездейсоқ жеңілдік дүкендерінен таңдалған
10	R.A. Spreng, R.D. Mackoy, 1996	Қабылданған сапа мен қанағаттану моделі	Қалаулар, күтілетін өнімділік, күту және қалаған сәйкестік (әрқайсысы 10 атрибуттан тұрады)	бакалавриат студенттері
11	G. Philip, S.A.Hazlett,1997	PCP атрибуттық моделі (Pivotal, Core, and Peripheral - өзекті, негізгі және шеткері)	Өзекті атрибуттар, негізгі атрибуттар және перифериялық атрибуттар	анықталмаған
12	J.C. Sweeney,	Бөлшек қызметтер	5 қызмет көрсету пункті арқылы	электр аспаптары дүкен-

1	2	3	4	5
	G.N. Soutar, L.W. Johnson, 1997	сапасының және қабылданатын құндылықтың моделі	функционалдық сапа және 1 пункт арқылы техникалық сапа	дері
13	H. Oh, 1999	Қызмет көрсету сапасы, тұтынушылық құндылық және клиенттердің қанағаттану моделі	Қабылданатын бағаны анықтауға арналған бір өлшем және қонақ үйдегі жағдайды анықтауға арналған 8 өлшем	екі люксті қонақ үйге сауалнама өткізуі
14	F.A. Frost, M. Kumar, 2000	Қызмет көрсету сапасының ішкі моделі	SERVQUAL өлшемдері	Сингапур әуе компаниясының қызметкерлері
15	A.C. Soteriou, Y. Stavrinides, 2000	DEA ішкі қызмет көрсету сапасын бақылау моделі (Data Envelope Analysis - Айналмалы деректерді талдау)	Қызмет көрсету сапасына негізделген құрал арқылы клиенттердің қабылдауын өлшеу	банк бөлімшелері
16	A. Broderick, S. Vachirapornpuk, 2002	Интернет-банкинг моделі	Қызметті орнату, клиенттермен кездесу, клиенттердің күтуі және имиджі	Ұлыбританияның интернет-сайттарының қауымдастығы
17	F.X. Zhu, W. Wymer, I. Chen, 2002	IT негізделген модель	SERVQUAL элементтері тек қабылдау үшін мәлімдемелер	IT-сервистерді пайдалануда бұрынғы тәжірибесі бар банк клиенттері
18	J. Santos, 2003	Электрондық қызметтер сапасының моделі	Инкубаңиялық және белсенді өлшемдер	фокус топтар
19	D. Lee, 2016	HEALTHQUAL	Эмпатия, материалдық құндылықтар, қауіпсіздік, тиімділік және медициналық көмектің жақсару дәрежесі	емханалар
20	T.S. Dagger, J.C. Sweeney, L.W.Johnson, 2007	Медициналық қызметтер сапасының моделі	Тұлғааралық қатынастардың сапасы, техникалық сапа, қоршаған ортаның сапасы және әкімшілік сапа	емханалардағы фокус топтар
21	T. Rakhmawati, S. Sumaedi басқалары, 2013	Қоғамдық денсаулық сақтау орталығы үшін қызмет көрсету сапасының моделі	Медициналық көмек көрсету сапасы, медициналық персоналдың сапасы, денсаулық сақтау ресурстарының жеткіліктілігі және әкімшілік ету процесінің сапасы	науқастар

Дереккөз: Әдебиеттерге шолуды авторлар жасаған

Алайда, SERVQUAL көрсеткіші қабылданған қызмет сапасын тұтынушылардың күтуі мен қабылдауы арасындағы айырмашылық ретінде анықтайды. Ақпараттық технологияларды пайдалану кезінде тұтынушыға жағымсыз әсер ететін факторлар болған кезде медициналық қызметтердің сапасын бағалау процесін жүргізу қажет. Медицинаны цифрландыру пациенттердің қажеттіліктерін қанағаттандыруға бағытталғандықтан, тұтынушылар сауалнамаларының нәтижелері бойынша медициналық қызметке қанағаттану дәрежесін көрсететін тұтынушылық тәсілді бағалау қажет. Тұтынушылардың қанағаттануын бағалаудың бұл тәсілі кең таралғанына қарамастан (Brown және т.б., 1993), соңғы кездері бірқатар зерттеушілер медициналық қызмет өндірушілерді бағалау қайта пайдалану тұрғысынан тиімді екенін анықтады.

МҚС-сын бағалау үшін қолданыстағы нормативтік актілердің қоғам қажеттіліктеріне және медицина кадрларының қажетті сапада қызмет көрсету мүмкіндіктерін көрсететін, сондай-ақ материалдық-техникалық базаның қызмет көрсету қажеттіліктеріне сәйкестік критерийлері кеңінен қолданылады.

Қазақстанда іс жүзінде медициналық қызметтерді өндірушілер мен тұтынушылардың қызметін қатар бағалаудың тәсілі қарастырылмаған, сондай-ақ осы әдістерді бірлесіп пайдалануды көздейтін МҚС-ын бағалау моделі жоқ.

Зерттеу әдістері

Қойылған мақсаттарды іске асыру үшін кабинеттік зерттеулер жүргізілді. Медициналық қызметтердің сапасын бағалауға қатысты заңнамалық актілерге контент талдау жасалды. Медициналық қызметтердің сапасын бағалаудың әдістемелік тәсілдерін ғылыми негіздеу үшін шетелдік әдеби дереккөздерге шолу және салыстырмалы талдау жүргізілді.

Нәтижелер және талқылау

Қазақстанда "Медициналық қызметтердің сапасына ішкі және сыртқы сараптаманы ұйымдастыру және жүргізу қағидаларына" сәйкес медициналық қызметтердің сапасын бағалау төмендегі орғандармен жүзеге асырылады:

– мемлекеттік орған;

– облыстардың, республикалық маңызы бар қалалардың және астананың денсаулық сақтауды мемлекеттік басқарудың жергілікті орғандары;

– қорлар;

– денсаулық сақтау саласындағы тәуелсіз сарапшылар;

– Қазақстан Республикасы Президентінің істер Басқармасы және оған бағынышты ұйымдар.

Дүниежүзілік денсаулық сақтау ұйымының (ДДСҰ) ұсынымдары негізінде МҚС-ын қамтамасыз ету кезінде төрт компонент ескеріледі: дәрігердің біліктілігі, ресурстарды пайдаланудың оңтайлылығы, паңиент үшін тәуекел және пациенттің медициналық мекемемен өзара әрекеттесуден қанағаттануы.

Авторлар Қазақстанда МҚС-ын бағалау үшін медициналық қызмет көрсету сапасы және медициналық қызмет сәйкестігінің сапасы сияқты сипаттамаларды жиынтықта пайдалануды ұсынады. Медициналық қызмет көрсету сапасы медициналық қызмет іс жүзінде пациенттің қажеттілігін қанағаттандыратын дәрежесін көрсетеді. Медициналық қызметтің сәйкестік сапасы медициналық мекеме ұсынатын қызметтердің ішкі ерекшеліктер мен стандарттарға сәйкес келу дәрежесін айғақтайды. Сондай-ақ, медициналық қызметтер сапасын бағалаудың келесідей тәсілдері мен әдістерін пайдалана отырып, жиынтық кешенді бағалауды енгізу ұсынылады: SERVQUAL моделінің индикаторларын қолданып, медициналық қызметтер сапасын бағалаудың тұтынушылық тәсілі, сауалнама әдісі, стандарттарға сәйкестік әдісі және сараптамалық әдіс.

Сауалнама әдісі – ең оңай әдіс. Оны жүргізу кезінде білікті мамандарды тарту талап етілмейді. Ол паңиенттердің медициналық қызметке қанағаттануын зерттеу үшін кеңінен қолданылады. Оның нәтижелері басқа көрсеткіштермен қатар белгілі бір дәрігердің де, жалпы медициналық мекеменің де қызметін бағалау үшін пайдаланылады.

Стандарттарға сәйкестік әдісі бағалауға көзқарастың қарапайымдылығына байланысты да тартымды, сонымен қатар білікті мамандарды тартуды қажет етпейді. Нарықтық қатынастардағы медициналық қызметтер тауар ретінде қарастырылғандықтан, олар кез келген өнім сияқты тұтынушылық қасиеттерге ие, олардың бірі сапа. Құрылымы, процесі және нәтижесі — емдеу үдерісін ұйымдастырудың жалпыға танылған компоненттері — медициналық қызметтерді өндіруші қызметінің сапа бойынша сәйкестігін айқындау кезінде негізгі өлшем шарттар болып табылады. Авторлар медициналық мекеме қызметінің сапасын бағалау негізінде келесі көрсеткіштерді қарастырды:

– құрылымның сапасы (материалдық-техникалық база, жабдықтау, кадрлық әлеует);

– процестің сапасы (диағностикалық, емдік, профилактикалық және оңалту іс-шараларының толықтығы мен жеткіліктілігі);

– нәтиженің сапасы (дәрігер, бөлімше немесе қызмет, мекеме қызметінің нәтижелерін бағалау).

Сараптама әдісі медициналық қызмет көрсететін дәрігердің нақты іс-әрекетін сарапшының пікірі бойынша салыстыруға негізделген. Сарапшы паңиентке көрсетілген медициналық қызметтің сапасы туралы өз пікірін қазіргі заманғы ұсынымдардың негізінде қалыптастырады. Осыған байланысты сараптамалық әдіс стандартты салыстыру әдісін жоққа шығармайды, бірақ оны стандарттан ауытқу жағдайларын анықтау және таңдау, сонымен қатар нақты жағдайда нақты паңиентке медициналық қызмет көрсету проңесін одан әрі терең талдау үшін сараптаманың бірінші кезеңінде міндетті түрде қолдануды қарастырады. Алдыңғы әдістермен салыстырғанда сараптамалық әдіс стандарттарды ғылыми негіздеу, оларды жаңарту және белгілі бір аймақ үшін бейімдеу, сараптама технологиясын одан әрі жетілдіру, сарапшыларды оқыту шығындарын талап етеді.

Сараптама жүргізу негізінде шығарылған жиынтық кешенді бағалау оның шамасына қарай барлық медициналық мекемелерді 5 шартты санатқа бөлуге мүмкіндік береді.

Бірінші санат — жоғары қызмет көрсеткен мекемеге берілетін ең жоғары баға (бағалау шкаласы бойынша жалпы интегралдық коэффициент 1,0-0,91 мәніне сәйкес келеді). Екінші санат — медициналық мекеменің тұтастай алғанда қажетті стандарттарға сәйкес келетінін, бірақ стандартқа толық сәйкестікке қол жеткізу мақсатында қандай да бір қызметті жақсартуды қажет ететінін көрсетеді (интегралдық коэффициент 0,9-0,81 мәніне сәйкес келеді). Үшінші санат — осы мекемеде стандарттарға сәйкестік тапшылығы бар екенін, сондықтан ол медициналық көмектің шектеулі көлемін орындай алатындығын көрсетеді (интегралдық коэффициент 0,8-0,71 мәніне сәйкес келеді). Егер медициналық мекеме жоғары мәртебеге ие болғысы келсе, онда белгілі бір бөлімдерге сәйкес түзету жоспарын жасау қажет. Төртінші санат — бұл осы емдеу мекемесі медициналық көмектің шектеулі көлемін ғана көрсете алатынын көрсетеді (интегралдық коэффициент 0,7-0,61 мәніне сәйкес келеді). Бесінші санатқа — жатқызылған мекемелер (коэффициенті 0,6 және одан төмен), әдетте, шағын учаскелік ауруханалар мен амбулаториялар болып табылады.

Мекемелерді белгілі бір санатқа жатқызу келесідей мүмкіндіктер береді:

– медициналық қызметтер мүмкіндіктерінің аумақтық стандарттар талаптарына сәйкестігін анықтау;

– медициналық қызмет көрсетудің қажетті деңгейіне қол жеткізу үшін анықталған ауытқуларды жою бойынша шараларды айқындау;

– медициналық қызмет көрсету деңгейін салыстыру;

– әртүрлі медициналық мекемелердің медициналық көмек көрсету деңгейін салыстыру;

– медициналық қызметтің кәсіби мүмкіндіктерін анықтау;

– нақты медициналық мекемеде пациент ала алатын қауіпсіз және сапалы медициналық көмектің көлемін анықтау.

Осылайша, медициналық мекемелерді санаттарға бөлу медициналық қызметтердің сапасын қамтамасыз ететін маңызды құрал болып табылады.

Санаттарға бөлу олардың қызмет нәтижелеріне қызығушылығын арттыруға, медициналық қызметтің сапасын арттыруға ықпал етеді, себебі олар ұсынатын қызметтердің құны мен медициналық мекеменің әл-ауқаты осыған байланысты болады.

Қорытынды

Цифрлық экономиканың медициналық қызметтер саласын одан әрі дамытуға әсері келесідей бағыттардан көрінуі мүмкін: біріншіден, қолданыстағы медициналық қызметтерді жетілдіру және медициналық мекемелердің қызметінің тиімділігін арттыру. Бұл жағдайда ақпарат беруді жақсарту және жеделдету есебінен медициналық қызметтер сапасының өсуі, сондай-ақ құжат айналымын, электрондық медициналық жазбаларды автоматтандыру арқылы медициналық мекемелердің әкімшілік және пайдалану шығындарын азайту есебінен олардың өзіндік құнын қысқарту күтіледі. Екіншіден, инновациялық медициналық қызметтердің пайда болуы. Бұл бейнеконсилиумдар, телетәлімгерлік, қашықтықтан тексеру, телемедициналық динамикалық бақылау, телехирургиялық операциялар сияқты инновациялық медициналық қызметтерді іске асыруға мүмкіндік беретін телемедицинаның әлеуеті бар.

Кабинеттік зерттеулер нәтижелерін талдау пациенттерді медициналық қызметтер сапасын бағалауға тарту проблемасының өсуі мемлекеттік медициналық мекемелердің ғана емес, бүкіл денсаулық сақтау жүйесінің мәселесіне айналатынын көрсетті. Бұл мәселені шешу тек қанағаттану мәселесін ғана емес, сонымен бірге медициналық мекемелерге деген сенімді де шешумен байланысты болып отыр. Сондықтан авторлардың халықтың медициналық қызметтердің сапасын бағалауға қатысуының төмен болуының себептерін зерттеуі медициналық мекемелердің сапасын бағалауды әдістемелік қамтамасыз ету мәселелерін анықтауға мүмкіндік берді. Бағалау критерийлерін, оның түрлерін зерттеу медициналық қызметтердің сапасын жақсартудың тиімділігін қамтамасыз етеді және пациенттердің сенімін, сәйкесінше сапаны бағалауға қатысуын арттырып, оларды практикалық іс-әрекетте қолдану үшін жалғасуы керек.

Медициналық қызметтердің сапасын бағалаудың әдіснамалық негіздері мен критерийлеріне контент талдау жасау негізінде, мақалада нақты ұсынылған әдістерді қолданып Қазақстанда медициналық қызметтерді өндірушілер мен тұтынушыларды бағалаудың бірлескен тәсілін пайдалану ұсынылды.

Мақала AP13268946 «Пандемия жағдайында Қазақстандағы медициналық мекемелердің цифрлық қызметтерінің сапасы: бағалау әдістемесі және жетілдіру тетіктері» тақырыбы бойынша жобаны орындау шеңберінде Қазақстан Республикасы Ғылым және жоғары білім министрлігі Ғылым комитетінің қаржыландыруы аясында дайындалды.

Әдебиеттер тізімі

May B.A. Экономика и политика 2019–2020 гг.: глобальные вызовы и национальные ответы / B.A. May // Вопросы экономики. — 2020. — № 3. — С. 5-27. DOI: https://doi.org/10.32609/0042-8736-2020-3-5-27

Карпов О.Э. Цифровое здравоохранение. Необходимость и предпосылки /О.Э. Карпов, С.А. Субботин, Д.В. Шишканов, М.Н. Замятин // Врач и информационные технологии. — 2017. — № 3. — С. 6–22.

Bhavnani S. Mobile technology and the digitization of healthcare / S. Bhavnani, J. Narula, P. Sengupta // European Heart Journal. — 2016. — Vol. 37(18). — Pp. 1428–1438. https://doi.org/10.1093/eurheartj/ehv770

Lapão L.V. The Future of Healthcare: The Impact of Digitalization on Healthcare Services Performance: Challenges and Trends / L.V. Lapão // In book: The Internet and Health in Brazil. Springer, Cham. — 2019. — Pp. 435–449. https://doi.org/10.1007/978-3-319-99289- 1_22

Lapão L.V. The future impact of healthcare services digitalization on health workforce: the increasing role of medical informatics / L.V. Lapão // Studies in Health Technology and Informatics. — 2016. — Vol. 228. — Pp. 675–679.

Постановление Правительства Республики Казахстан от 12 декабря 2017 г. № 827. Утратило силу Постановлением Правительства Республики Казахстан от 17 мая 2022 г. № 311. Электронный ресурс: https://adilet.zan.kz/kaz/docs/P1700000827

Постановление Правительства Республики Казахстан от 12 октября 2021 г. № 725. Электронный ресурс: https://adilet.zan.kz/rus/docs/P2100000725

Бутова Т.Г. Новый подход к оценке качества медицинских услуг: проблема вовлеченности потребителей в процесс оценки / Т.Г. Бутова, Е.П. Данилина, А.А. Белобородов, С.И. Мутовин, Е.Ю. Яковлева // Вестн. Алтай. акад. экон. и права. — №9. — 2019. — С. 5–12. https://doi.org/10.17513/vaael.692

Aghamolaei T. Service quality assessment of a referral hospital in southern Iran with SERVQUAL technique: patients' perspective / T. Aghamolaei, T.E. Eftekhaari, S. Rafati, K. Kahnouji, S. Ahangari, M.E. Shahzad, A. Kahnouji, S.H. Hoseini // BMC Health Serv Res. — 2014. —14:322.

Parasuraman A. A conceptual model of service quality and its implications for future research / A. Parasuraman, V.A. Zeithaml, L.L. Berry // J Market. — 1985. — 49(4):41-50.

Dabholkar P.A. A comprehensive framework for service quality: an investigation of critical conceptual and measurement issues through a longitudinal study / P.A. Dabholkar, C.D. Shepherd, D.I. Thorpe // Journal of Retailing. — 2000. — 76(2). — P. 139–173.

Gronroos C. A service quality model and its marketing implications / C. Gronroos // Eur J Market. — 1984. —18(4):36-44.

Haywood-Farmer J. A conceptual model of service quality /J. Haywood-Farmer // Int J Oper Prod Manag. — 1988. — 8(6):19-29.

Berkley B.J. Improving service quality with information technology / B.J. Berkley, A. Gupta // Int J Inform Manag. — 1994. — 14(2):109-121.

Brogowicz A.A. A synthesised service quality model with managerial implications / A.A. Brogowicz, L.M. Delene, D.M. Lyth // Int J Serv Ind Manag. — 1990. — 1(1):27-45.

Cronin J.J. Measuring service quality: a reexamination and extension / J.J. Cronin, S.A. Taylor // J Market. — 1992. — 56(3):55-68.

Mattsson J. A service quality model based on an ideal value standard / J. Mattson // Int J Serv Ind Manag. — 1992. — 3(3):18-33.

Teas R.K. Expectations, performance evaluation, and consumers' perceptions of quality / R.K. Tears // J Market. — 1993. —57(4):18-34.

Spreng R.A. An empirical examination of a model of perceived service quality and satisfaction / R.A. Spreng, R.D. Mackoy // J Retailing. — 1996. —72(2):201-214.

Philip G. The measurement of service quality: a new P-C-P attributes model / G. Philip, S.A. Hazlett // Int J Qual Reliab Manag. — 1997. —14(3):260-286.

Sweeney J.C. Retail service quality and perceived value / J.C. Sweeney, G.N. Soutar, L.W. Johnson // J Retailing Consum Serv. — 1997. — 4(1):39-48.

Oh H. Service quality, customer satisfaction, and customer value: a holistic perspective / H. Oh // Int J Hospit Manag. – – 1999. —18(1):67-82.

Frost F.A. INTSERVQUAL: an internal adaptation of the GAP model in a large service organization / F.A. Frost, M. Kumar // J Serv Market. — 2000. —14(5):358-377.

Soteriou A.C. An internal customer service quality data envelopment analysis model for bank branches / A.C. Soteriou, Y. Stavrinides // Int J Bank Market. — 2000. —18(5):246-252.

Broderick A. Service quality in internet banking: the importance of customer role / A. Broderick, S. Vachirapornpuk // Market Intell Planning. — 2002. — 20(6):327-335.
Zhu F.X. IT-based services and service quality in consumer banking / F.X. Zhu, W. Wymer, I. Chen // Int J Serv Ind Manag. — 2002. —13(1):69-90.
Santos J. E-service quality: a model of virtual service quality dimensions / J. Santos // Manag Serv Qual. — 2003. — 13(3):233-246.
Lee D. HEALTHQUAL: a multi-item scale for assessing healthcare service quality / D. Lee // Serv Bus. — 2016. — 1-26. https://doi.org/10.1007/s11628-016-0317-2
Dagger T.S. A hierarchical model of health service quality / T.S. Dagger, J.C. Sweeney, L.W. Johnson // J Serv Res. — 2007. —10(2):123-142.
Rakhmawati T. Developing a service quality measurement model of public health center in Indonesia / T. Rakhmawati, S. Sumaedi, I.G.M.Y. Bakti, N.J. Astrini, M.Y.T. Widianti, D.C. Sekar, D.I. Vebriyanti // Manag Sci Eng. — 2013. — 7(2):1-15.
Brown T.J. Improving the measurement of service quality / T.J. Brown, G.A. Churchill, J.P. Peter // Journal of Retailing. — 1993. — 69. — P. 127–139.

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Методологические подходы оценки качества медицинских услуг в условиях цифровизации

Аннотация:

Цель: Исследование существующих подходов оценки качества медицинских услуг и критериев качества услуг медицинских учреждений В статье также рассмотрены предпосылки цифровой трансформации здравоохранения в Республике Казахстан.

Методы: Для реализации поставленных целей были проведены кабинетные исследования: контент-анализ законодательных актов в области оценки качества медицинских услуг и сравнительный анализ литературных источников для научного обоснования методических подходов к оценке качества медицинских услуг.

Результаты: В статье для оценки качества медицинских услуг использовались такие характеристики, как качество оказания медицинских услуг и соответствие медицинских услуг в совокупности. Качество оказания медицинской услуги отражает степень, в которой медицинская услуга фактически удовлетворяет потребности пациента. Качество соответствия медицинской услуги отражает степень, в которой предоставляемые медицинским учреждением услуги соответствуют внутренним спецификациям и стандартам.

Выводы: На основе контент-анализа методологических основ и критериев оценки качества медицинских услуг авторами был предложен подход совместного использования оценки производителей и потребителей медицинских услуг. Предложено внедрение совокупной комплексной оценки с использованием следующих подходов и методов оценки качества медицинских услуг: потребительский подход оценки качества медицинких услуг с использованием индикаторов модели SERVQUAL, анкетно-опросный метод, метод соответствия стандартам и экспертный метод.

Ключевые слова: качество, медицинское обслуживание, медицинское учреждение, цифровизация, оценка.

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Methodological approaches to assessing the quality of medical services in the context of digitalization

Abstract

Object: To study the existing approaches to assessing the quality of medical services and criteria for the quality of services of medical institutions. The article also examines the prerequisites for the digital transformation of healthcare in the Republic.

Methods: A content analysis, a comparative analysis, and a review of the studies on the medical services' assessment.

Results: In the article, such characteristics as the quality of medical services and the quality of compliance of medical services in aggregate were used to assess the quality of medical services. The quality of medical service delivery reflects the degree to which the medical service actually satisfies the patient's need. The quality of medical service compliance reflects the extent to which the services provided by the medical institution comply with internal specifications and standards.

Conclusions: Based on the content analysis of the methodological foundations and criteria for assessing the quality of medical services, the authors proposed an approach to sharing the assessment of manufacturers and consumers of medical services. It is proposed to implement a comprehensive comprehensive assessment using the following ap-

proaches and methods for assessing the quality of medical services: a consumer approach to assessing the quality of medical services using indicators of the SERVQUAL model, a questionnaire method, a method of compliance with standards and an expert method.

Keywords: quality, medical care, medical institution, digitalization, evaluation.

References

Aghamolaei, T., Eftekhaari T.E., Rafati, S., Kahnouji, K., Ahangari, S., Shahrzad, M.E., Kahnouji, A., & Hoseini, S.H. (2014). Service quality assessment of a referral hospital in southern Iran with SERVQUAL technique: patients' perspective. *BMC Health Serv Res.,* 14:322.

Berkley, B.J., & Gupta, A. (1994). Improving service quality with information technology. *Int J Inform Manag.*, 14(2):109-121.

Bhavnani, S., Narula, J., & Sengupta, P. (2016). Mobile technology and the digitization of healthcare. European Heart Journal, 37(18), 1428–1438. https://doi.org/10.1093/eurheartj/ehv770

Broderick, A., & Vachirapornpuk, S. (2002). Service quality in internet banking: the importance of customer role. *Market Intell Planning,* 20(6):327-335.

Brogowicz, A.A., Delene, L.M., & Lyth, D.M. (1990). A synthesised service quality model with managerial implications. *Int J Serv Ind Manag.,* 1(1):27-45.

Brown, T.J., Churchill, G.A., & Peter, J.P. (1993). Improving the measurement of service quality. *Journal of Retailing,* 69, 127–139.

Butova, T.G., Danilina, E.P., Beloborodov, A.A., Mutovin, S.I., & Yakovleva, E.Yu. (2019). Novyi podkhod k otsenke kachestva meditsinskikh uslug: problema vovlechennosti potrebitelei v protsess otsenki [New approach to the assessment of quality of medical services: problem of engagement of consumers into the process of the assessment]. *Vestnik Altaiskoi Akademii Ekonomiki i Prava – Bulletin of the Altai Academy of Economics and Law,* 9, 5–12. https://doi.org/10.17513/vaael.692 [in Russian].

Cronin, J.J., & Taylor, S.A. (1992). Measuring service quality: a reexamination and extension. *J Market.,* 56(3):55-68.

Dabholkar, P.A., Shepherd, C.D. & Thorpe, D.I. (2000). A comprehensive framework for service quality: an investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing,* 76(2), 139-173.

Dagger, T.S., Sweeney, J.C., & Johnson, L.W. (2007). A hierarchical model of health service quality. *J Serv Res.,* 10(2):123-142.

Frost, F.A., & Kumar, M. (2000). INTSERVQUAL: an internal adaptation of the GAP model in a large service organisation. *J Serv Market,* 14(5):358-377.

Gronroos, C. (1984). A service quality model and its marketing implications. *Eur J Market,* 18(4):36-44.

Haywood-Farmer, J. (1988). A conceptual model of service quality. *Int J Oper Prod Manag.,* 8(6):19-29.

Karpov, O.E., Subbotin, S.A., Shishkanov, D.V., & Zamyatin, M.N. (2017). Tsifrovoe zdravookhranenie. Neobkhodimost i predposylki [Digital Healthcare. Necessities and Prerequisites]. *Vrach i informatsionnye tekhnologii – Doctor and Information Technology,* 3, 6–22 [in Russian].

Lapão, L.V. (2016). The future impact of healthcare services digitalization on health workforce: the increasing role of medical informatics. *Studies in Health Technology and Informatics*, 228, 675–679.

Lapão, L.V. (2019). The Future of Healthcare: The Impact of Digitalization on Healthcare Services Performance: Challenges and Trends. In book: The Internet and Health in Brazil. Springer, Cham., 435–449. https://doi.org/10.1007/978-3-319-99289- 1_22

Lee, D. (2016). HEALTHQUAL: a multi-item scale for assessing healthcare service quality. *Serv Bus.,* 1–26. https://doi.org/10.1007/s11628-016-0317-2

Mau, V.A. (2020). Ekonomika i politika 2019–2020 gg.: globalnye vyzovy i natsionalnye otvety [Economy and Politics 2019–2020: global challenges and national responses]. *Voprosy ekonomiki – Economy Issues*, 3, 5–27. https://doi.org/10.32609/0042-8736-2020-3-5-27 [in Russian].

Mattsson, J. (1992). A service quality model based on an ideal value standard. *Int J Serv Ind Manag.,* 3(3):18-33.

Oh, H. (1999). Service quality, customer satisfaction, and customer value: a holistic perspective. *Int J Hospit Manag.,* 18(1):67-82.

Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1985). A conceptual model of service quality and its implications for future research. *J Market,* 49(4):41-50.

Philip, G., & Hazlett, S.A. (1997). The measurement of service quality: a new P-C-P attributes model. *Int J Qual Reliab Manag.,* 14(3):260-286.

Postanovlenie Pravitelstva Respubliki Kazakhstan ot 12 dekabrya 2017 goda No. 827. Utratilo silu postanovleniem Pravitelstva Respubliki Kazakhstan ot 17 maya 2022 goda No. 311 [Decree of the Government of the Republic of Kazakhstan of December 12, 2017 N 827. Repealed by Decree of the Government of the Republic of Kazakhstan No. 311 of May 17, 2022]. Retrieved from https://adilet.zan.kz/kaz/docs/P1700000827 [in Russian].

Postanovlenie Pravitelstva Respubliki Kazakhstan ot 12 oktyabrya 2021 goda № 725 [Resolution of the Government of the Republic of Kazakhstan of October 12, 2021 N725]. Retrieved from https://adilet.zan.kz/rus/docs/P2100000725 [in Russian].

Rakhmawati, T., Sumaedi, S., Bakti, I.G.M.Y., Astrini, N.J., Widianti, M.Y.T., Sekar, D.C., & Vebriyanti, D.I. (2013). Developing a service quality measurement model of public health center in Indonesia. Manag Sci Eng. 2013;7(2):1-15.

Santos, J. (2003). E-service quality: a model of virtual service quality dimensions. *Manag Serv Qual.,* 13(3):233–246.

Soteriou, A.C., & Stavrinides, Y. (2002). An internal customer service quality data envelopment analysis model for bank branches. *Int J Bank Market,* 18(5):246-252.

Spreng, R.A., & Mackoy, R.D. (1996). An empirical examination of a model of perceived service quality and satisfaction. *J Retailing,* 72(2):201-214.

Sweeney, J.C., Soutar, G.N., Johnson, L.W. (1997). Retail service quality and perceived value. *J Retailing Consum Serv.*, 4(1):39-48.

Teas, R.K. (1993). Expectations, performance evaluation, and consumers' perceptions of quality. *J Market,* 57(4):18-34.

Zhu, F.X., Wymer, W., & Chen, I. (2002). IT-based services and service quality in consumer banking. *Int J Serv Ind Manag.*, 13(1):69-90.

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Аймақтар негізінде кедейлік деңгейіне салыстырмалы талдау: Қазақстан мысалында

Аңдатпа

Мақсаты: Аймақтарда абсолюттік кедейлік деңгейі көрсеткіштері серпінінің үрдістері мен ерекшеліктерін анықтау.

Әдістер: Зерттеу барысында Қазақстан Республикасының аймақтар арасындағы кедейшілік деңгейіне баға беру мақсатында математикалық–экономикалық және де жүйелік талдау әдістері қолданылды.

Нәтижелер: Зерттеу нәтижесі көрсеткендей кедейшілік көрсеткіштерін Қазақстан өңірлері арасында саралаудың жоғары деңгейі бар. Зерттелген 10 жыл ішінде аймақтар арасындағы саралау деңгейі төмендеді, бірақ әлі күнге дейін, әсіресе абсолютті кедейлік деңгейінде байқалады. Кедейлік орташа деңгейі Қазақстанның жоғары аймақтарында, негізінен Оңтүстік және Солтүстік өңірінде кездеседі.

Талқылау: Жалпылай алғанда кедейшілік деңгейінің төмендеуіне, өсуіне көптеген факторлар әсер етеді. Зерттеу нәтижесі көрсеткендей аймақтар бойынша кедейшілік мәселесінің туындауының өз ерекшеліктері бар. Сондықтан да әр аймақтағы кедейшілікпен күресу үшін әр түрлі тәімді құралдарды пайдалану және де іс шараларды жүргізу маңызды болып саналады.

Кілт сөздер: кедейшілік, аймақтар, төлем қабілеттілігі, табыс, инфляция, жұмыссыздық, жұмысбастылық, халықтың тығыздығы, ауыл шаруашылығы, өндіріс.

Кіріспе

Кедейлік әрқашан адамзат қоғамының прогресін тежейтін маңызды мәселе.

Кедейлікті зерттеудің ұзақ тарихы бар, бірақ кедейліктің дәйекті анықтамасы әлі де нақтыланған жоқ. Әр түрлі пәндер бұл ұғымды өз бағыттары бойынша түсінеді және кедейшілікке қызығушылық танытады (Zhou et al., 2018a). Кедейлік бастапқыда экономикалық құбылыс ретінде түсіндірілді. Экономикалық тұрғыдан қарастырғанда кедейлік — бұл жеке адам немесе әлеуметтік топ өмірге қажетті минималды қажеттіліктерді қанағаттандыра алмайтын әлеуметтік-экономикалық құбылыс. Кез келген ел кедей немесе бай бола алады. Мемлекеттің және қоғамның әлеуметтік-экономикалық дамуы саласындағы саясатының арқасында елдегі жағдайды өзгертуге болады. Кедейліктің жіктелуі әртүрлі стандарттар мен әдістерді қамтиды. Жалпылама қарастырғанда кедейшілік абсолютті және салыстырмалы деп бөлінеді (Foster, 1998; Chen and Ravallion, 2007). Және де кедейшілікті аймақтық және жеке (Powell et al., 2001; Park et al., 2002; Bourguignon and Chakravarty, 2003; Milbourne, 2004, 2010; Liu et al., 2017), қала бойынша және ауыл аймақтық (Amato and Zuo, 1992; Du и др., 2005) деп қарастыруға болады. Аймақтық кедейшілік — бұл созылмалы немесе тұрақты кедейшілік, ал жеке көбінесе уақытша болып саналады (Liu et al., 2017). Аймақтық және жеке кедейшілік аймақтарда, ауыл мекендерінде инфрақұрылымның дамымауына әкеліп соғады. Сонымен қатар аймақтық кедейшілікке адами, әлеуметтік, қаржылық, табиғи капитал әсер етеді және кедейлікке әсер ететін факторлар уақыт ауқымына байланысты географиялық аймақтарда әр түрлі болады (Liu and Xu, 2016; Ding and Leng, 2018). Алайда, кедейлікті азайту үшін елді өркендететін және ондағы кедейліктің пайда болуына жол бермейтін стратегия қажет екенін бәрі түсінеді.

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Қазіргі таңда Қазақстанның көптеген аймақтарында халықтың кедейшілік деңгейі жылдан жылға өсін келе жатқанын байқаймыз. Дүниежүзілік банктің мәлімдеуінше Қазақстандағы қаладан тыс аймақтардағы кедейшілік деңгейі 12-14%-ға дейін өсуі мүмкін. Егер мемлекеттегі аймақтар бойынша кедейшілік деңгейінің айырмашылығы өсе берсе, ол жоғары әлеуметтік теңсіздікке, экономикалық дағдарысқа, өлім-жітімнің көбеюіне және тағы басқа күрделі мәселелерге алып келуі мүмкін.

Қазақстан Республикасында әлеуметтік саясатты жоғары деңгейге іске асыру үшін аса маңызды шаралардың бірі халықтың тұрақты жұмыспен қамтылуын қамтамасыз ету және кедейлікті азайту болып табылады. Қазіргі таңда кедейлік мәселесі бүкіл елге, қоғамға тән нәрсе болып келеді. Бұл мәселе біздің елімізге де әсер ететін ең өзекті тақырып. Кедейліктің өзі — бұл әр түрлі түсіндірулерді тудыратын көп өлшемді ұғым, соның ішінде экономиканың әсер етуі, ерлі–зайыптылардың тұрмыстық жағдайының төмендігі, халықтың төлем қабілеттілігінің төмендігі, азық–түлік бағаларының өсуі, инфляция сынды түсіндірулерді жатқызуға болады. Кедейлік деңгейінің басым бөлігін ауылдық жерлерді қамтиды, бұл құбылыс біршама факторларға байланысты.

Соңғы жылдары үкіметтің өтпелі кезеңнен адамдардың әл-ауқатының әсерін жақсарту жөнінде тұрақтандыру саясатын жүргізгеніне қарамастан, қазақстандықтардың өмір сүру деңгейін куәландыратын көптеген әлеуметтік-экономикалық көрсеткіштер елеулі өзгерістерге ұшырады. Жұмыссыздық едәуір өсті, халықтың нақты табысы төмендеді, өмір сүру ұзақтығы қысқарды және т.б. мұндай жағдайларда мемлекеттің кедейлік проблемалары туындай бастады. Инфляцияның елеулі қарқыны аясында жалақы, зейнетақы және әлеуметтік жәрдемақы төлемдері бойынша халықтың кедей топтарының арасында қиындықтар болды.

Әдебиеттерге шолу:

Кедейшілік мәселесі ғылыми академиялық ортаны көптен бері мазалап келе жатыр. Әр түрлі бағыттарда кедейшілік туралы көптеген зерттеулер жүргізілді, бұл кедейшілік деңгейін азайту саясатын жүргізу үшін өте тиімді. Кедейліктегі географиялық ортаның маңызды рөлі танылғанмен, кедейлік географиясын жүйелі зерттеу әлі де жеткіліксіз.

Кедейшілік әрқашан адамзат қоғамының дамуына кедергі келтіретін маңызды мәселе болып келеді. Кедейшілік көп өлшемді және кеңістіктік сипаттамаларға ие. Кедейліктің көп қырлы сипаты оның кеңістіктік бөлінуімен күрделене түседі (Gauci, 2005). Өкінішке орай мемлекеттің барлық қалалары жұмыспен қамтылмаған және кәсіпкерлік мемлекеттің барлық өңірлерінде дамымаған. Және де зерттеуші Джеффри Сачс кейбір мемлекеттердің аймақтары таудың етегінде орналасқан, кейбір аймақтар теңіздің жағасында, ал кейбір өңірлер мүлдем шөлейт жақта орналасқан, сондықтан аймақтар арасындағы кедейшілік тікелей аймақтардың географиялық орналасқан жеріне байланысты екенін пайымдайды (Sachs et al., 2001; Sachs, 2008).

Және де кейбір ғалымдар аймақтар арасындағы кедейшілікке кеңістік тұрғысынан әртүрлі өндірістік факторлардың кеңістіктік орналасуы да әсер ететінін дәлелдеген (Harris, 1954). Осы ғалымның пайымдауынша мемлекет тарапынан мемлекеттің бірнеше қалаларына назар аудармай, бүкіл өңірлердің жағдайын ескере отырып, ол аймақтардың өмір сүру деңгейін жоғарлату бойынша күрделі жұмыстар атқарылуы қажет.

Мемлекетте аймақтар бойынша кедейшілік өткірлігі мәселесінің ауқымын түсіну үшін, кейбір ғалымдар кедейлік картасын құрастыру маңызды деп санайды. Ұсынылып жатқан кедейшілік картасы мемлекеттің аймақтар бойынша кедейлік деңгейін алдын–ала болжауға, негізгі мәселелерді айқындауға мүмкіндік береді деп дәлелдеген (Erenstein et al., 2010).

2020 жылдың алғашқы тоқсанында Дүниежүзілік банк Қазақстандағы кедейлік шамамен үш есе өскені туралы мәлімет берді. Деректерге сүйенсек, 2016 жылы 6% болса, 2020 жылы бұл көрсеткіш 14%-ға жетіпті. Қазақстанда кедейлер саны 1,5 миллион адамға артуы мүмкін деген болжамды Дүниежүзілік банктің желтоқсан айындағы баяндамасында берілген. Сондықтан қазіргі таңдағы еліміздегі кедейлік мәселесі өзекті болып отыр.

Дүниежүзілік банктің Орталық Азия бойынша экономисі Уильям Зейңтің айтуынша, Қазақстандағы кедейлер санының өсуінің басты себептері — жалақының өспеуі және елдегі экономиканың баяу дамуы. Сондықтан, әлемде қандай да бір экономикалық күйзеліс болса, Қазақстан бірінші болып зардап шегуі мүмкін. Жалақының төмендігі жайында көптеген авторлар өз ойын білдірген. Олар бюджеттік саланың өзінде ең төменгі айлық алатын адамдардың саны 1, 2 млн-нан асады дейді. Сондықтан халықтың әл-ауқатын жақсарту үшін жалақыны көтеру маңызды. Ғалымдардың пікірінше,

айлық көбею үшін алдымен жұмысшыға жалақы төлейтін жұмыс берушінің жағдайына қарайласу керек. Себебі, жалақы немесе табыс халықтың ең негізгі күн көрісі болып табылады. Экономист Мақсат Халықтың есептеуінше, жан басына шаққандағы ішкі жалпы өнім бойынша Қазақстан әлі де кедей елдердің қатарында екенін айтады. Елдің жан басына шаққандағы жалпы ішкі өнімді есептейтін әлемдік стандарт бар. 149 миллиард долларды 18 миллион адамға бөлсек, жан басына шаққандағы ЖІӨ шамамен 9 мың долларды құрайды. Дүниежүзілік стандарт бойынша ішкі жалпы өнім 10 мың доллар болса, бұл ел табысы орташа. ІЖӨ 10 мың доллардан төмен болса, ол кедей ел. Егер жан басына шаққандағы ішкі жалпы өнім екі мың доллар болса, онда ол өте кедей ел болып саналады. Яғни, әлемдік стандарт бойынша Қазақстан кедей елдердің қатарында.

Сонымен қатар елімізде балалардың кедейлігін атап өткен жөн. Бұл жайында Zertteu Research Institute құрылтайшысы Шолпан Айтенованың айтуынша, Қазақстандағы 6 миллион баланың 1 миллионға жуығы кедей отбасыларда тұрады. Бұл қазірдің өзінде жалпыұлттық апат, өйткені кедейлік мұра болып қалу мүмкін және көптеген балаларға кедейлік шеңберінен шығу қиын болады. Дүниежүзілік Банктің талдауы көрсеткендей, әлем бойынша ең кедей топта көп балалы отбасылар басым. Дәл осындай жағдай Қазақстанда да байқалады, онда балалар кедейлігі сияқты күрделі проблема бар, бірақ оны ресми деңгейде жні назардан тыс қалдыруға тырысады.

Зерттеу әдісі

Кедейшілік — күрделі жүйелі мәселе. Аймақ жүйесінің анықтамасына сүйене отырып, кедейлік нақты жүйені белгілі бір географиялық аймақтағы табиғи ресурстардан, орналасу жағдайынан, экономикалық негізден, адами капиталдан және географиялық капиталдан тұратын құрылымы мен функциялары бар ашық жүйе ретінде анықтауға болады. Адамның, жердің, өнеркәсіптің ішкі жүйелері географиялық жағдайға, табиги ресурстарға, экологиялық ортаға және әлеуметтік-экономикалық даму деңгейіне және т.б. әсер ететін жүйенің өзегі болып табылады. Және де халық санының өсуіне байланысты, егер де халықтың толықтай әлеуметтік қажеттіліктері қанағаттандырылмаса, ол тікелей экологиялық жағдайдың нашарлануына алып келіп соғады. Осылайша мемлекетте әлеуметтік–экономикалық дамудың төмендігі кедейшілік мәселесіне әкеледі. Салыстырмалы кедейлік өлшемін қолдану оның демографиялық және аймақтық профилін өзгертеді. Көптеген ғалымдар осы құбылысты өз еңбектерінде жиі қолданады. Казіргі таңда кедейшілік мәселесінің себептері ретінде тек халықтың табыстылығын гана емес, сонымен қатар мәдени, әлеуметтік тұрғыдан қарастыруға болады.

Сурет 1. Аймақтық кедейшілікке әсер етуші факторлар.

Ескерту: Сурет автормен құрастырылған

Аймақтар арасындағы кедейшілік мемлекеттегі көптеген жағдайларға байланысты екені анық. Берілген суретте аймақтар арасындағы кедейшілікке әсер ететін негізгі факторлар бейнеленген. Әр

аймақтың өзінің географиялық орналасқан жеріне, ресурстардың шектеулігіне, урбанизация деңгейіне, білімнің қолжетімділігіне, инфрақұрылымның дамуына байланысты өз ерекшеліктері бар. Зерттеу жұмысының маңызды бөлігі осы аймақтар арасындағы кедейшілікке қандай факторлар әсер ететінін айқындау. Төменде осы факторлардың тығыз байланысын анықтау үшін сандық әдісін қолданып, оның ішінде корреляциялық талдау жүргізілді.

Зерттеу әдісі ретінде біздің тақырып бойынша сандық әдіс алынды. Себебі сандық әдіс статистикалық мәліметтер негізінде әсер етуші мәселелерді түсінуге мүмкіндік береді.

Зерттеу нәтижесі

Корреляциялық әдісті қолдану арқылы, біз Қазақстандағы аймақтар бойынша кедейлік деңгейлерін салыстырып, қай аймақта қандай факторлар әсер ететінін зерттеу керек болды. Қазақстан бойынша біз 4 аймақты таңдап алып, салыстырып көрдік. Олар: Солтүстік Қазақстан, Оңтүстік Қазақстан, Шығыс Қазақстан және Батыс Қазақстан. Осы облыстар бойынша, кедейлік деңгейінің төмендеуіне қай фактордың көбірек әсер ететінін анықтадық. Төменде көрсетілгендей, әр облыс бойынша таңдап алынған факторларымыз белгіленген:

Y – Қазақстан мемлекетіндегі өңірлер бойынша кедейліктің тереңдігі алынды. Оған әсер етуші факторлар:

X1 – Жұмыссыздар саны, адам;

X2 – ҚР-ның өңірлері бойынша орташа айлық жалақы, тг.;

X3 –Тұтыну тауарларының бага индексі, %;

X4 – Шағын және орта кәсіпкерлік субъектілерінің өнім шығарылымы, млн тг.;

X5 – Ішкі туризм бойынша (резиденттер) орналастыру орындарымен қызмет көрсетілген келушілер, адам;

X6 – Қазақстан Республикасы халқының табиғи өсімінің (кему) жалпы коэффициенті, 1000 адамға;

X7 – Өңірлер бойынша экономикалық қызмет түрлері бойынша өнеркәсін өнімдерінің нақты көлем индекстері (өнеркәсіп), %

X8 – Ауыл шаруашылығы өнімдерінің (көрсетілетін қызметтерінің) жалпы шыгарылымы, млн.тг.

Мақалада зерттеу сұрағына байланысты факторларды, кестелерді және статистикалық мәліметтерді қолданып, зерттеу жүргіздік. Зерттеу нәтижесінде келесі нәтижелерге қол жеткізе алдық (кесте 1):

Кесте 1. Батыс Қазақстан аймағы бойынша корреляциялық талдау

	Y	*X1*	*X2*	*X 3*	*X4*	*X5*	*X6*	*X7*	*X8*
Y	1								
X1	0,489682	1							
X2	0,085002	-0,62516	1						
X3	0,456143	0,12530	0,353269	1					
X4	-0,26092	-0,67992	0,766111	0,346413	1				
X5	-0,51415	-0,70107	0,318959	-0,126923	0,648035	1			
X6	-0,83201	-0,69150	0,092681	-0,155164	0,560152	0,6960	1		
X7	0,314257	0,08889	-0,10755	-0,145099	-0,377474	-0,3900	-0,40587	1	
X8	0,184963	-0,59934	0,981794	0,328373	0,660908	0,2482	-0,01787	0,0388	1
Кесте https://www.stat.gov.kz/ мәліметтері негізінде автормен есептелген									

Корреляциялық талдау нәтижесінде Батыс Қазақстан аймагы бойынша кедейшілік деңгейі 8 факторлармен байланыста әр түрлі нәтижені көрсетіп тұр. Батыс Қазақстан аймагы бойынша X1 (Жұмыссыздар саны, адам), X2 (ҚР-ның өңірлері бойынша орташа айлық жалақы, тг.), X3 (Тұтыну тауарларының бага индексі), X7 (Өңірлер бойынша экономикалық қызмет түрлері бойынша өнеркәсін өнімдерінің нақты көлем индекстері (өнеркәсін), %), X8 (Ауыл шаруашылыгы өнімдерінің (көрсетілетін қызметтерінің) жалпы шыгарылымы, млн. тг.) факторларымен әлсіз байланысты көрсетін тұрса, X5 (Ішкі туризм бойынша (резиденттер) орналастыру орындарымен қызмет көрсетілген келушілер, адам), X6 (Қазақстан Республикасы халқының табиги өсімінің (кему) жалпы коэффициенті, 1000 адамга) теріс байланысты көрсетін тұр. Экономикалық тұрғыдан қарастырғанда кедейшілік деңгейіне

кері байланысты көрсетін тұрған факторлар тығыз байланыста болу керек, бірақ экономикалық–математикалық әдісті қолдана отырып, Батыс Қазақстан аймағы бойынша бұл факторлар кедейшілік деңгейіне байланыссыз екені дәлелденді. Ал нақты кедейшілік деңгейін төмендету үшін Батыс Қазақстан аймағы бойынша ішкі туризмді дамыту керек екені анықталды және де халық санын арттыру керек екені айқындалды.

Берілген екінші кестеде Солтүстік Қазақстан аймағы бойынша корреляциялық талдау нәтижесі көрсетілген. Барлық қарастырылып жатқан аймақтарға бірдей факторлар алынған (кесте 2).

Кесте 2. Солтүстік Қазақстан аймағы бойынша корреляциялық талдау

	Y	*X1*	*X2*	*X 3*	*X4*	*X5*	*X6*	*X7*	*X8*
Y	1								
X1	0,789291	1							
X2	-0,38022	-0,78244	1						
X3	0,118473	-0,03363	0,330845	1					
X4	-0,33016	-0,78862	0,979179	0,276708	1				
X5	-0,49662	-0,80139	0,902572	0,085244	0,901925	1			
X6	-0,06186	0,358912	-0,8458	-0,29524	-0,8044	-0,72641	1		
X7	0,045822	-0,28129	0,369814	-0,32674	0,387453	0,371269	-0,44248	1	
X8	-0,24534	-0,72766	0,975668	0,321207	0,969011	0,860192	-0,86488	0,496471	1
Кесте https://www.stat.gov.kz/ мәліметтері негізінде автормен есептелген									

Зерттеу жұмысымыздың зерттеу әдісі бойынша корреляциялық талдау арқылы келесідей нәтижеге қол жеткіздік. Солтүстік Қазақстан аймағы бойынша кедейшілік деңгейі (Y) тек қана X1 -0,78 (Жұмыссыздар саны, адам) факторымен байланысты екені анықталды. Яғни Солтүстік Қазақстан бойынша кедейшілік деңгейін төмендету үшін жұмыссыздықпен күресу керек екенін тұжырымдауға болады. Солтүстік Қазақстан аймағы бойынша жұмыссыздық мәселесі өзекті мәселе екенін айтуға болады.

Үшінші кестеде Оңтүстік Қазақстан аймағы бойынша факторлар арасында тығыз байланысқан, сонымен қатар кері байланысқа түскен факторлар тізбегі көрсетілді (кесте 3).

Кесте 3. Оңтүстік Қазақстан аймағы бойынша корреляциялық талдау

	Y	*X1*	*X2*	*X3*	*X4*	*X5*	*X6*	*X7*	*X8*
Y	1								
X1	0,57793	1,000							
X2	-0,7388	-0,775	1,000						
X3	0,22654	-0,239	0,015	1					
X4	-0,5876	-0,747	0,952	0,21731	1				
X5	-0,4636	-0,602	0,865	0,13879	0,949351	1			
X6	0,49976	0,654	-0,549	0,37143	-0,38054	-0,247	1		
X7	0,41756	0,105	-0,277	0,2547	-0,07209	0,01987	0,41004	1	
X8	-0,7612	-0,752	0,991	0,05191	0,95967	0,8707	-0,4817	-0,2529	1
Кесте https://www.stat.gov.kz/ мәліметтері негізінде автормен есептелген									

Оңтүстік Қазақстан аймағының бойынша кедейшілік көрсеткішіне X1 факторы яғни, жұмыссыздар саны, байланысын көреміз: - 0,57, және де кері байланысты Қ.Р-ның өңірлері бойынша орташа айлық жалақы (X2) -0,73, шағын және орта кәсіпкерлік субъектілерінің өнім шығарылымы (X4) және де ауыл шаруашылығы өнімдерінің (көрсетілетін қызметтерінің) жалпы шығарылымы (X8)-0,76 факторларымен бар екенін көріп отырмыз. Солтүстік Қазақстан аймағында сияқты Оңтүстік Қазақстан аймағы бойынша жұмыссыздық мәселесі кедейшілік мәселесімен байланыс бар екені анықталды. Яғни бұл аймақта да халықты жұмыспен қамту бойынша жұмыстар жүргізу керек екені анық. Және де Оңтүстік Қазақстан аймағы бойынша орташа айлық жалақы өссе, кедейшілік деңгей төмендейтіні дәлелденді. Оңтүстік Қазақстан өзінің орналасқан ғеоғрафиялық орнына және қолайлы климаттық

жагдайына байланысты ауыл шаруашылық саласы бойынша әлеуеті өте жогары. Зерттеу нәтижесі көрсеткендей егер де Оңтүстік Қазақстанда ауыл шаруашылық саласын жогары деңгейде дамытса кедейшілік деңгейі де төмендейтіні анықталды.

Келесі корреляциялық талдауды Қазақстан Республикасының 4-ші аймағы Шыгыс Қазақстан аймағы бойынша зерттеулер жүргізілді (кесте 4).

Кесте 4. Шығыс Қазақстан облысы бойынша корреляциялық талдау.

	Y	X1	X2	X3	X4	X5	X6	X7	X8
Y	1								
X1	0,41197	1							
X2	0,04485	-0,78387	1						
X3	0,46183	0,01710	0,26993	1					
X4	0,10469	-0,7799	0,98552	0,26239	1				
X5	-0,24124	-0,76406	0,55573	-0,20689	0,590806	1			
X6	-0,61797	-0,13922	-0,44177	-0,36073	-0,39607	0,252551	1		
X7	0,28634	0,32964	-0,23204	-0,38724	-0,17735	-0,01595	-0,18339	1	
X8	-0,06056	-0,45416	0,23277	-0,063	0,355816	0,328617	0,416337	-0,05171	1
Кесте https://www.stat.gov.kz/ мәліметтері негізінде автормен есептелген									

Шыгыс Қазақстан аймагы бойынша, мүлдем басқа зерттеу нәтижесін көріп отырмыз. 7 факторлар бойынша төмен байланыс көрсетілген, ал бір фактормен Қазақстан Республикасы халқының табиги өсімінің (кему) жалпы коэффициенті (X6) факторымен теріс байланысты көрсетіп тұр. Бұл өңірде жыл сайын халық санының азайып жатқанын байқауға болады. Бұл жәйтті сол аймақтардан басқа қалаларға, басқа мемлекеттерге көшуімен байланыстыруға болады.

Талқылау

Зерттеу нәтижесі нақтыланып, талқыланды. Жоғарыда көрсетілген мәліметтер негізінде зерттеу нәтижесіндегі дәлелдемелер арқылы нәтижеге қол жеткіздік. Кедейшілік деңгейі Қазақстан Республикасының төрт аймағында да әртүрлі екені анықталды. Бұған әдебиеттік шолуда келтірілгендей себептер өте көп. Кедейшіліктің өсуінің негізгі себебі — Қазақстан аймақтарының халқының 70–80% астамы дерлік тек еңбек табысына тәуелді, яғни жұмыссыздық мәселесін қолға алу керек. Табыс деңгейі біздің елімізде ең маңызды рөл атқаруы керек, себебі бұл фактор ең өзекті болып тұр. Бірақ, Қазақстанда орташа және ең төменгі жалақы деңгейі әлемдегі ең төменгі деңгейлердің біріне жатады.

Дүниежүзілік банктің Орталық Азия бойынша экономисі Уильям Зейң Қазақстандағы кедейлер санының өсуі жайлы дұрыс пікір қалыптастырған. Ягни, экономикалық көрсеткіштер өскенімен, еңбек ақы деңгейінің төмендігі, азық–түлік бағаларының өсуі, халықтың кедейлік деңгейіне қатты әсер етеді.

Мемлекетте жұмыс орындары жеткілікті болса, кәсіпкерлік жогары деңгейде дамыса, жұмыссыздық мәселесінің өршуі де төмендейді. Себебі халықтың табысы кедейшілікке қарсы тұратын маңызды факторлардың бірі. Қазіргі уақытта табысы жогары және орташа халықтың басым бөлігійің өз дамуын қамтамасыз етуге мүмкіндігі бар болғандықтан, аймақтың әлеуметтік-экономикалық жағдайының жақсаруы орын алады.

Тағы айтып кететін жәйт Шыгыс Қазақстан мен Солтүстік Қазақстан аймақтарында халықтың тығыздығы үлкен мәселелердің бірі болып саналады. Себебі кедейшілік мәселесі салдарынан сол аймақтарда тұратын халық көрші мемлекеттерге қоныс аудару және үлкен қалаларға көшу мүмкіндіктерін бүгінгі таңда қарастыруда.

Және де Оңтүстік Қазақстан аймагы бойынша ауыл шаруашылық саласын дамытса, көптеген мәселелер шешіледі. Себебі Қазақстанның агроөнеркәсіптік кешенінің болашағы зор. Көптеген позициялар бойынша Қазақстан әлемдегі ірі аграрлық өнім өндірушілердің бірі бола алады. Оның ішінде экологиялық таза тамақ өнімдерін өндіру бойынша.

Біздің ойымызша Қазақстандағы халықтың кірістерін қайта бөлу саясатының шаралары ретінде мемлекетке бірқатар әдістерді енгізу қажет, мысалы:

– халықтың қаржылық сауаттылығының жалпы деңгейін арттыру. Бұл үшін Қазақстан Үкіметі, атап айтқанда, Қаржы министрлігі, Экономикалық даму министрлігі, сондай-ақ Орталық банк, салық қызметі және басқа да экономикалық қызметтер көп күш салып жатқанын айта кеткен жөн.

– шағын және орта бизнесті толық көлемде дамытуға және жұмыс істеуге ынталандыратын және ірі бизнестің қандай да бір қызметті немесе өндірісті монополиялауына жол бермейтін жағдайларды құру.

Бұл мәселеден шығу үшін Қазақстан үкіметі халықтың әл-ауқатының жақсаруына байланысты өзгерістерді жасауы керек. Біріншіден, халық санының өсуі инвестицияның жоғары деңгейін талап етеді. Инвестициялар мемлекеттен де, бизнестен де түсетіндіктен, бизнеске қолайлы жағдай жасау керек. Үкімет өз кезегінде адами капиталды дамыту үшін ЕЭЫДҰ мүше деңгейлеріне сәйкес білім мен денсаулық сақтау салаларына инвестиция салуы қажет. Екіншіден, билік пен халық арасындағы түсініспеушілікті жою керек. Үкімет үшін жеңілдіктер беру арқылы қалыптасқан өмір сүрудің төмен деңгейін ұстап тұру емес, фискалдық және ақша-несие шараларын қолдану арқылы адамдарды өндірістік қызметке және кәсіпкерлікті дамытуға тарту маңызды. Үшіншіден, халықтың жұмыс орындарымен толықтай қамтамасыз етілмеуі, жалақы мөлшерінің өспеуі және де мемлекетте өнім өндіретін кәсіпорындардың аз болуы мемлекеттің экономикалық-әлеуметтік жағдайының төмендеуіне әсер ететін себептер болып саналады, бұл өз кезегімен урбанизацияның өсуінің себебіне айналдырады.

Көп ғалымдардың пайындауынша кедейшілік қазіргі уақытта жаһандық әлеуметтік проблемаға айналды. Жоғарыда келтірілген дәлеледемелер негізінде кедейшілік — мемлекеттердің экономикалық–әлеуметтік жағдайына әсер ететін көп өлшемді құбылыс болып саналады. Тұжырымдамаларда соңғы он жылда кедейлік ұғымы экономикалық көрсеткіштерден тыс кеңейтілді және де қазіргі кезде әлеуметтік, мәдени көрсеткіштерді қамтиды. Аймақтар арасындағы кедейшілік деңгейі біршама факторларға байланысты екені анықталды. Бір мемлекетте орналасқан аймақтарға өзінің ерекшеліктеріне байланысты әр түрлі кедейшілікпен күресетін әдістер мен тәсілдерді қолдану қажет.

Қорытынды

Қорытындылай келе, біз Қазақстан Республикасындағы төрт аймақтар бойынша толық зерттеулер жүргізіп, нәтижелерін шығарып, анықтадық. Өкінішке орай, қазіргі Қазақстанда кедейлік тақырыбы уақыт өткен сайын өз өзектілігін жоғалтпайды, дәл осындай өткір және маңызды мәселе болып қала береді, бірақ бұл мәселе бойынша кейбір аймақтарда халықтың әл-ауқатының жақсарудың кейбір тенденциялары байқалады. Бұл мәселе өздігінен жойылып кетпейді, онымен күресудің тиімді құралдары қажет. Кедейлікпен күрес стратегиясының тағы бір компоненті – ауыл шаруашылық саласын дамыту. Ал ол үшін қазіргі таңда ауыл шаруашылық саласында келесідей дәйекті жұмыстар атқарылуы тиіс: процестерді цифрландыру, деректерді жинау мен беруді автоматтандыру, кадрлар даярлау. Нормативтік базаны нығайтып, тиімді жоспарлау мен мониторинг жүйесін енгізген жөн. Ауыл шаруашылығын субсидиялау саясатын мемлекеттің өнеркәсіптік саясатына сәйкес келтіру қажет. Осы жүргізілген жұмыстар арқылы халықты жаңа жұмыс орындарымен қамтамасыз ету, халық табысын жоғарлатуға мүмкіндіктер жасауға қол жеткізу.

References

Alkire, S., & Foster, J. (2011). Counting and multidimensional poverty measurement. *J. Publ.Econ*, 95 (7), 476–487.

Alkire, S., & Robles, G. (2017). Multidimensional Poverty Index Summer 2017: Brief Methodological Note and Results. OPHI Methodological Note 44. University of Oxford.

Alkire, S., & Santos, M.E. (2014). Measuring acute poverty in the developing world: robustnessand scope of the multidimensional poverty index. *World Dev,* 59, 251–274.

Amato, P.R., & Zuo, J. (1992). Rural poverty, urban poverty, and psychological well-being.Socio. Q. 33 (2), 229–240.

Bourguignon, F., & Chakravarty, S.R., 2003. The measurement of multidimensional poverty. *J. Econ. Inequal,* 1 (1), 25–49 2003.

Chen, S., & Ravallion, M. (2007). Absolute poverty measures for the developing world,1981–2004. *Proc. Natl. Acad. Sci. U.S.A.,* 104 (43), 16757–16762.

Ding, J., & Leng, Z. (2018). Regional poverty analysis in a view of geography science. ActaGeograph. Sin., 73 (2), 232–247.

Economic Research Institute (2022). Turaqty damu maqsattary: 1-maqsat. Kedeishilikti onyn barlyq nysandaryna zhappai zhoiu [Purposes of the stable development: 1 purpose. The complete elimination of the poverty in all the fields]. Retrieved from https://economy.kz/kz/Novosti_instituta/id=4309/arch=2021_65 [in Kazakh].

Erenstein, O., Hellin, J., & Chandna, P. (2010). Poverty mapping based on livelihood assets: a meso-level application in the Indo-Gangetic Plains, India. *Appl. Geogr.,* 30 (1),112–125.

Foster, J.E. (1998). Absolute versus relative poverty. *Am. Econ. Rev.*, 88 (2), 335–341.
Gauci, A. (2005). Spatial Maps. Targeting & Mapping Poverty. United Nations. Economic Commission for Africa, London.
Harris, C.D. (1954). The market as a factor in the localization of production. *Ann. Assoc. Am. Geogr.,* 44, 35–48.
Liu, Y., & Li, Y. (2017). Revitalize the world's countryside. *Nature*, 548 (7667), 275–277.
Li, Y. (2016). Geographers presided over the third-party assessment major tasks of poverty alleviation effectiveness the National Targeted Poverty Alleviation Precision. *ActaGeograph. Sin.* 71 (7), 1272–1273 (in Chinese).
Milbourne, P. (2004). The local geographies of poverty: a rural case-study. *Geoforum,* 35(5), 559–575.
Powell, M., Boyne, G., & Ashworth, R. (2001). Towards a geography of people poverty and place poverty. *Pol. Polit.,* 29 (3), 243–258.
Park, A., Wang, S. & Wu, G. (2002). Regional poverty targeting in China. J. Publ. *Econ.* 86(1), 123–153.
Sachs, J., 2008. The end of poverty: economic possibilities for our time. *Eur. J. Dent. Educ.,* 12, 17–21.
Sachs, J.D., Mellinger, A.D., & Gallup, J.L. (2001). The geography of poverty and wealth. *Sci. Am.* 284 (3), 70–75.
Stat.gov.kz. Tabysy kunkoristin en tomengi dengeiinin shamasynan tomen khalyqtyn ulesi (VPM) [The share of the population whose income is below the subsistence level]. Retrieved from https://stat.gov.kz/api/getFile/?docId=ESTAT104580&lang=kk [in Kazakh].
Zhou, Y., Guo, Y., & Liu, Y. (2018). Comprehensive measurement of county poverty and anti-poverty targeting after 2020 in China. *ActaGeograph. Sin.,* 73 (8), 1478–1493.
Zhou, Y., Guo, Y., Liu, Y. (2019). The geography of poverty: Review and research prospects.Journal of Rural Studies. Volume 93, July 2022, Pages 408-416.

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Сравнительный анализ уровня бедности по регионам: на примере Казахстана

Аннотация:

Цель: Выявить тенденции и особенности динамики показателей уровня абсолютной бедности в регионах и их влияние на экономическую безопасность.

Методы: В ходе исследования были использованы методы математико-экономического и системного анализа с целью оценки уровня бедности между регионами Республики Казахстан.

Результаты: Результаты исследования показывают, что показатели бедности имеют высокий уровень дифференциации между регионами Казахстана. За исследуемые 10 лет уровень дифференциации между регионами снизился, но он до сегодняшнего дня наблюдается, особенно при абсолютном уровне бедности. Регионы со средним уровнем бедности в Казахстане расположены, в основном, в южных и северных регионах.

Выводы: В целом, на снижение, рост уровня бедности влияют многие факторы. Как показал результат исследования, возникновение проблемы бедности по регионам имеет свои особенности. Поэтому важно использовать различные эффективные инструменты и проводить мероприятия для борьбы с бедностью в каждом регионе.

Ключевые слова: бедность, регионы, платежеспособность, доход, инфляция, безработица, занятость населения, плотность населения, сельское хозяйство, производство.

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Comparative analysis of the level of poverty by region: on the example of Kazakhstan

Abstract

Objective: To identify trends and features of the dynamics of absolute poverty indicators in the regions and their impact on economic security

Methods: In the course of the study, methods of mathematical– economic and system analysis were used to assess the level of poverty between the regions of the Republic of Kazakhstan.

Results: The results of the study show that poverty indicators have a high level of differentiation between the regions of Kazakhstan. Over the past 10 years, the level of differentiation between regions has decreased, but it is still observed, especially at the absolute level of poverty. Regions with an average level of poverty in Kazakhstan are located mainly in the southern and northern regions.

Conclusions: In general, many factors influence the reduction and growth of the poverty level. As the result of the study showed, the emergence of the problem of poverty by region has its own characteristics. Therefore, it is important to use various effective tools and implement measures to combat poverty in each region.

Keywords: poverty, regions, solvency, income, inflation, unemployment, employment, population density, agriculture, production.

References

Alkire, S., Foster, J., 2011. Counting and multidimensional poverty measurement. J. Publ.Econ. 95 (7), 476–487.

Alkire, S., Robles, G., 2017. Multidimensional Poverty Index Summer 2017: Brief Methodological Note and Results. OPHI Methodological Note 44. University ofOxford.

Alkire, S., Santos, M.E., 2014. Measuring acute poverty in the developing world: robustnessand scope of the multidimensional poverty index. World Dev. 59, 251–274.

Amato, P.R., Zuo, J., 1992. Rural poverty, urban poverty, and psychological well-being.Socio. Q. 33 (2), 229–240.

Bourguignon, F., Chakravarty, S.R., 2003. The measurement of multidimensional poverty. J. Econ. Inequal. 1 (1), 25–49 2003.

Chen, S., Ravallion, M., 2007. Absolute poverty measures for the developing world,1981–2004. Proc. Natl. Acad. Sci. U.S.A. 104 (43), 16757–16762.

Ding, J., Leng, Z., 2018. Regional poverty analysis in a view of geography science. ActaGeograph. Sin. 73 (2), 232–247.

Erenstein, O., Hellin, J., Chandna, P., 2010. Poverty mapping based on livelihood assets: a meso-level application in the Indo-Gangetic Plains, India. Appl. Geogr. 30 (1),112–125.

Foster, J.E., 1998. Absolute versus relative poverty. Am. Econ. Rev. 88 (2), 335–341.

Gauci, A., 2005. Spatial Maps. Targeting & Mapping Poverty. United Nations. Economic Commission for Africa, London.

Harris, C.D., 1954. The market as a factor in the localization of production. Ann. Assoc. Am. Geogr. 44, 35–48.

Liu, Y., Li, Y., 2017. Revitalize the world's countryside. Nature 548 (7667), 275–277.

Li, Y., 2016. Geographers presided over the third-party assessment major tasks of poverty alleviation effectiveness the National Targeted Poverty Alleviation Precision. ActaGeograph. Sin. 71 (7), 1272–1273 (in Chinese).

Milbourne, P., 2004. The local geographies of poverty: a rural case-study. Geoforum 35(5), 559–575.

Powell, M., Boyne, G., Ashworth, R., 2001. Towards a geography of people poverty and place poverty. Pol. Polit. 29 (3), 243–258.

Park, A., Wang, S., Wu, G., 2002. Regional poverty targeting in China. J. Publ. Econ. 86(1), 123–153

Sachs, J., 2008. The end of poverty: economic possibilities for our time. Eur. J. Dent. Educ. 12, 17–21.

Sachs, J.D., Mellinger, A.D., Gallup, J.L., 2001. The geography of poverty and wealth. Sci. Am. 284 (3), 70–75.

Zhou, Y., Guo, Y., Liu, Y., 2018. Comprehensive measurement of county poverty and anti-poverty targeting after 2020 in China. ActaGeograph. Sin. 73 (8), 1478–1493.

Zhou, Y., Guo, Y., Liu, Y., 2019. The geography of poverty: Review and research prospects. Journal of Rural Studies. Volume 93, July 2022, Pages 408-416.

Statsenko, O.A. "Paupertas, oeconomia regionalis, pugna contra paupertatem" // Universitas Miras, Nonnullae rationes vigilantiae exsequendi consilium pugnae contra paupertatem in Republica Kazakhstan.

Tsepelev O.A. Factor formationis et differentiae paupertatis gradus incolarum: aspectus regionalis // Bulletin Universitatis Civitatis Pacifici. 2014. N. 1 (32). S . 225-232.

Табысы күнкөрістің ең төменгі деңгейінің шамасынан төмен ъалықтың үлесі (VPM). – Қолжетімді ресурс: https://stat.gov.kz/api/getFile/?docId=ESTAT104580&lang=kk

Тұрақты даму мақсаттары: 1-мақсат. Кедейшілікті оның барлық нысандарында жаппай жою. – Қолжетімді ресурс: https://economy.kz/kz/Novosti_instituta/id=4309/arch=2021_65

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Концептуальные параметры креативной экономики и ее категориальная канва

Аннотация:

Цель: Выявление природы креативной экономики и ареала ее категориальной структуры на основе обзора существующих исследований в данной предметной области с выделением доминирующих трендов и рэперных ориентиров.

Методы: В работе использован арсенал системного, структурного и компаративистского методов анализа, а также инструментарий составления наукометрических карт с применением программного обеспечения VOSviewer для анализа исследований по креативной экономике, опубликованных с 1990 г. до 2022 г. в базе данных Web of Science с библиометрическими методами и визуализацией.

Результаты: Определены параметры текущего уровня научного интереса к вопросам развития креативной экономики; выявлен генезис исследований концепта креативной экономики; систематизирована научная карта, категориальная канва и концептуальная структура тематических кластеров в области исследования креативной экономики; выявлены приоритетные и актуальные тренды перспективных исследований в области концептуализации креативной экономики.

Выводы: Полученные результаты исследования свидетельствуют о постоянно растущем научном интересе к проблематике креативной экономики и креативных индустрий. Креативные индустрии не являются прямой заменяющей альтернативой базовым индустриальным отраслям отечественной экономики. Они вносят свой дополнительный вклад в общие результаты инклюзивного развития и формируют ее отличительные рыночные образцы, специфические блага и кластеры. Именно потому актуализируются вопросы формирования креативной экономики, креативных индустрий, рыночных механизмов их оценки, в том числе в координатах включенности всех социальных групп и имплементации их в государственную экономическую политику в отечественных условиях. Также возникает настоятельная необходимость в выработке инструментов, направленных на расширение границ креативных кластеров для прикладной иллюстрации их эффективности и реальной конкурентоспособности в отечественной среде.

Ключевые слова: креативная экономика, креативные индустрии, креативный кластер, инклюзивный экономический рост.

Введение

В современной инновационной динамике развития с доминированием экономики знаний расширяется и область креативной экономики, интегрирующей в себе как индустриальное начало, так и постиндустриальную базу. При этом по мере трансформации постиндустриальной экономики в креативную, доминирующими детерминантами ее роста становятся: во-первых, творчески-созидательная ценность как источник появления атомизированных, индивидуализированных производств, учитывающих персонализированную специфику каждого актора; во-вторых, растущая инклюзивность как возможность реализации потенциала всех социальных групп. Многовекторное приращение креативных индустрий в мировой и отечественной практике актуализирует вопросы междисциплинарного исследования их источников, детерминат и акторов, приводящих к инклюзивному росту креативного сегмента и социализации экономики, в целом. В данной статье будут исследованы вопросы природы креативной экономики и ареала ее категориальной структуры на основе обзора существующих ис-

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следований в данной предметной области с выделением доминирующих трендов и рэперных ориентиров.

Обзор литературы

Анализ креативной экономики, ее элементов, индикаторов и результатов начался системно в последней четверти XX века, хотя зачатки знаний о ней аккумулировались задолго до массовой прикладной реализации креативных индустрий. Изначально анализ креативности был выделен в работах о приоритетном развитии человеческого капитала и его роли в формировании инновационных технологий и новых знаний. В частности, Р. Солоу обосновал доминирующее значение технологий в экономической динамике (Solow, 1956). В работах Э. Ульмана акцентируется роль человеческого капитала в региональном развитии (Ullman, 1958). Значение городов и регионов в области передачи и распространения знаний подчеркивает Дж. Джейкобс (Jacobs, 1961). Изучая роль креативности в экономическом развитии муниципальных районов, А. Андерссон (Andersson, 1985) отмечает важность знаний, культуры, коммуникаций и креативности в процветании региона. В более поздних исследованиях Р. Барро и Э. Глейзер подтверждают связь между человеческим капиталом и экономическим ростом на национальном уровне (Barro, 1991). Наиболее структурированно о концентрации креативного класса на региональном уровне писал Ш. Мелландер и Р. Флорида с использованием так называемых факторов «3Т-экономического развития»: технология, талант и толерантность (Mellander, Florida, 2007).

В целом, существующее многообразие признаков креативности вызывает постоянные дискуссии в научном сообществе. В экономическом дискурсе креативность предстает не только как потенциальный генератор инноваций (Mansfield, 12995), но и как основа формирования ценностей путем рационального и иррационального процессов принятия решений (Throsby, 2001).

В комплексном экономическом подходе креативная экономика, по Р. Флориду, включает три сферы: инновации (техническая креативность), бизнес (экономическая креативность) и культуру (художественная и культурная креативность), являющиеся единым целым (Флорида, 2007). Такая градация позволяет структурировать виды креативных индустрий. В этом аспекте наиболее весомым является британская систематизация, включающая 13 отраслей, структурированных на основе принципа, что креативные индустрии имеют свой «источник в индивидуальной креативности, умении и таланте и обладают потенциалом создания рабочих мест и благосостояния посредством производства и эксплуатации интеллектуальной собственности» (DCMS, 2001). В это определение креативных индустрий были включены следующие: архитектура, ремесла, исполнительские виды искусства, дизайн, интерактивное программное обеспечение, мода, рынок искусств и антиквариата, музыка, производство фильмов и видео, издательское дело, телевидение и радио, программные и компьютерные услуги, реклама (DCMS, 2001).

В классической структуре креативных индустрий выделяются как культурно-исторические виды, так и технологические. Для оценки их результатов используется категориальный аппарат, включающий такие конструкты, как «культурные индустрии» (Хезмондалш, 20, 201014; Тросби, 2013; Garnham), «креативные индустрии» (O'Connor, 2009; Gabe, 2013; Fleischmann, 2017; Kong, 2014; Флорида, 2007; Хестанов, 2018), «креативный класс» (Зеленцова, Гладких, 2010; Матецкая, 2013; Kacerauskas, 2014), «креативный город» (Лэндри, 2006; Бонет, 2012; Kong, 2014), «креативный кластер» (Jurene, Jureniene, 2017; Boix et al., 2015; Gong, Hassink, 2017), «креативный труд» (Zhao, Guo, 2019; Alacovska, 2018; Finkel et al., 2017). Это позволяет выделить социально-экономическое пространство креативной экономики, проследить ее синергетические эффекты, специфику и адаптивность креативных кластеров в различной экономической среде (Howkins, 2002; Marta-Christina, Ivanovici, 2010; Шарковская, 2020).

Таким образом, границы, показатели, своеобразие креативной экономики достаточно проблемны, поскольку в ее сущностной характеристике приходится учитывать ее междисциплинарную природу. Потому общий анализ креативности в экономике следует увязывать с культурными элементами творчества, рассматривать многообразие как креативных индустрий, так и культурной и досуговой этнопрактики. Вместе с тем технологические инновации сегодня формируют креативные начала в информационном обеспечении как собственно в технологических, так и культурных индустрий. Синергичность эффектов креативной экономики обеспечивает дополнительный прирост ВВП, особенно в региональном разрезе, усиливает постиндустриальную динамичность развития и ее инклюзивность.

В докладе Всемирного экономического форума «Доклад об инклюзивном росте и развитии–2017» отмечается, что «во всем мире нет большей проблемы, чем расширение участия общества в процессе и выгодах экономического роста» (The Inclusive Growth and Development Report, 2017). Именно сквозь призму инклюзивности исследуются все стороны общественного производства (CAFOD; Alfredsson, Wijkman, 2014), в том числе и многовекторное развитие креативной экомики в мировом хозяйстве (Kelly et al., 2016; Ельшин, Гафаров, 2021).

Анализ источников по проблематике креативной экономики выявил огромное разнообразие работ в данной исследовательской области, которая особенно расширилась в последние годы. Это актуализирует необходимость проведения системного библиометрического анализа существующих исследований в области креативной экономики, который бы позволил не только определить и визуализировать концептуальную структуру исследований в данной предметной области, но и способствовал выявлению трендов последующих исследований по данному вопросу.

Таким образом, целью данной статьи является выявление природы креативной экономики и ареала ее категориальной структуры на основе обзора существующих исследований в данной предметной области с выделением доминирующих трендов и рэперных ориентиров. Исходя из данной цели, сформулированы следующие гипотезные исследовательские вопросы:

1. Каковы параметры текущего уровня научного интереса к вопросам развития креативной экономики?

2. Каков генезис исследований концепта креативной экономики?

3. Каковы научная карта, категориальная канва и концептуальная структура тематических кластеров в области исследования креативной экономики?

4. Каковы приоритетные и актуальные тренды перспективных исследований в области концептуализации креативной экономики?

Методы

В соответствии с поставленной целью и сформулированными гипотезными вопросами при проведении исследования использован качественный и количественный анализ имеющихся исследований в области креативной экономики в базе данных Web of Science с использованием библиометрического методологического подхода и возможностей программного инструмента VOSviewer.

Методология настоящего исследования включала в себя следующие основные этапы:

1) формирование выборки опубликованных научных работ по креативной экономике из базы данных Web of Science;

2) выявление динамики публикаций по креативной экономике в базе Web of Science с 1990 г. по 2022 г.;

3) построение научной карты тематических кластеров на основе ключевых слов, используемых в существующих исследованиях по креативной экономике с выявлением ареала связей между исследуемыми терминами и их генезиса;

4) оценка результатов проведенного анализа с выявлением наиболее важных научных трендов и направлений в данной исследовательской области.

Результаты

Библиометрический анализ динамики и структуры имеющихся исследований в области креативной экономики был проведен на основе одной из самых обширных научных баз — Web of Science, где в качестве ключевого запроса было определено понятие «креативная экономика» («creative economy»). На основании данного поискового запроса базой Web of Science были предоставлены 4773 работы, начиная с 1990 г. по 2022 г. Увеличение количества работ за последние 5 лет отражает возрастающий интерес к теме исследования взаимоотношений вузов с выпускниками, особенно динамика резкого роста наблюдается в последние годы (рис. 1). Линия тренда экспоненциальная, коэффициент детерминации (R2), также называемый «величиной достоверности аппроксимации», равен 0,975.

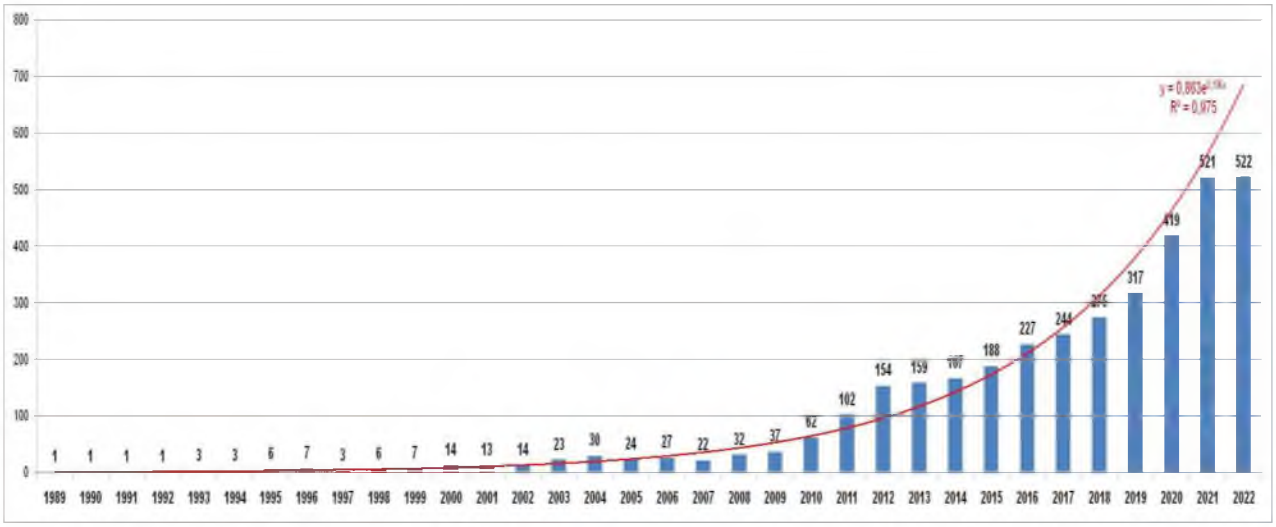

Рисунок 1. Публикационная активность в области исследований
по креативной экономике на основе базы Web of Science с 1992 г. по 2022 г.

Примечание. База данных Web of Science.

Возрастающая тенденция наблюдается и в количестве цитирований статей по изучаемой проблеме (рис. 2). В настоящее время среднее число цитирований, приходящееся на одну работу в данной области, составляет 12,3. При этом более ранние опубликованные исследования имеют большое количество цитирований.

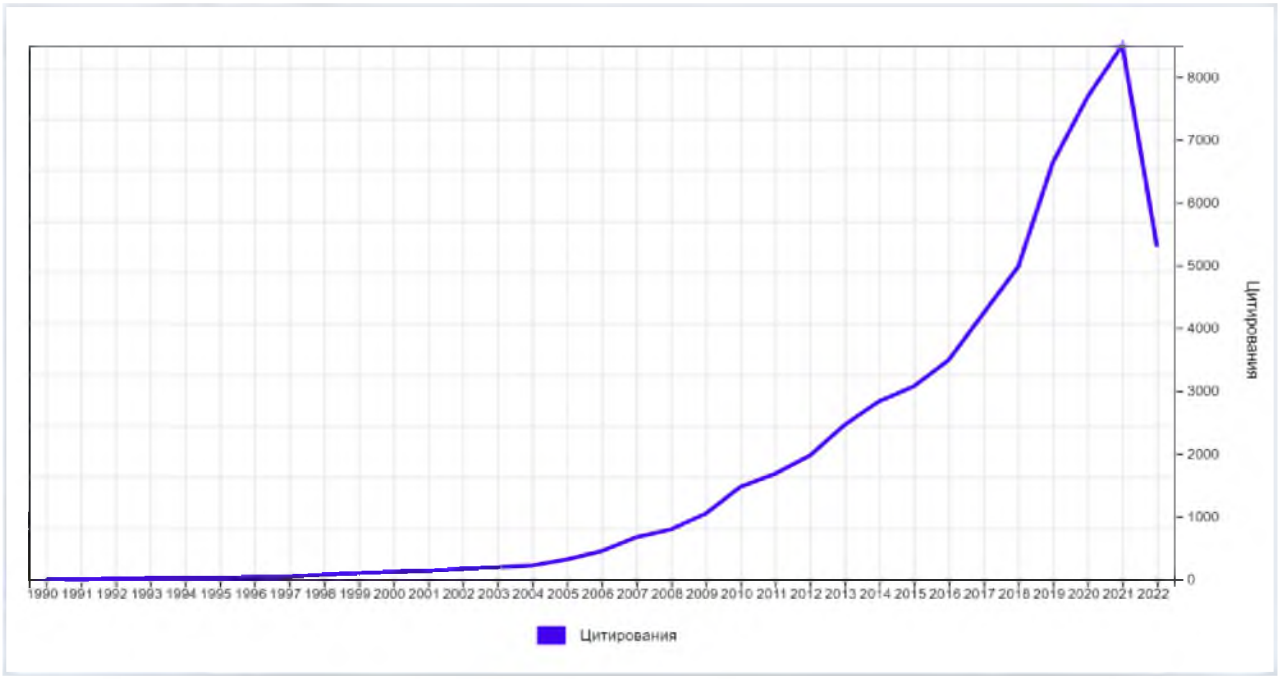

Рисунок 2. Динамика цитирований публикаций по креативной экономике
на основе базы Web of Science с 1992 г. по 2022 г.

Примечание. База данных Web of Science.

Результаты анализа демонстрируют междисциплинарную природу существующих исследований в области креативной экономики, то есть представленность работ в различных категориях базы Web of Science (рис. 3). При этом наибольшее количество работ опубликовано по категориям «Экономика» (759 публикаций, или 16 % от всех опубликованных работ); «Менеджмент» (604 публикации, или 13 %); «Бизнес» (525 публикаций, или 11 %).

Рисунок 3. Распределение исследований по креативной экономике по категориям Web of Science

Примечание. База данных Web of Science.

Географический охват имеющихся в базе Web of Science опубликованных исследований по креативной экономике демонстрирует концентрацию научного интереса к данной проблеме в развитых странах — США и Европе (рис. 4), при этом интерес к данной предметной области возрастает в последнее время и в развивающихся странах (рис. 5).

Рисунок 4. Географический охват исследований по креативной экономике в базе Web of Science

Примечание. База данных Web of Science.

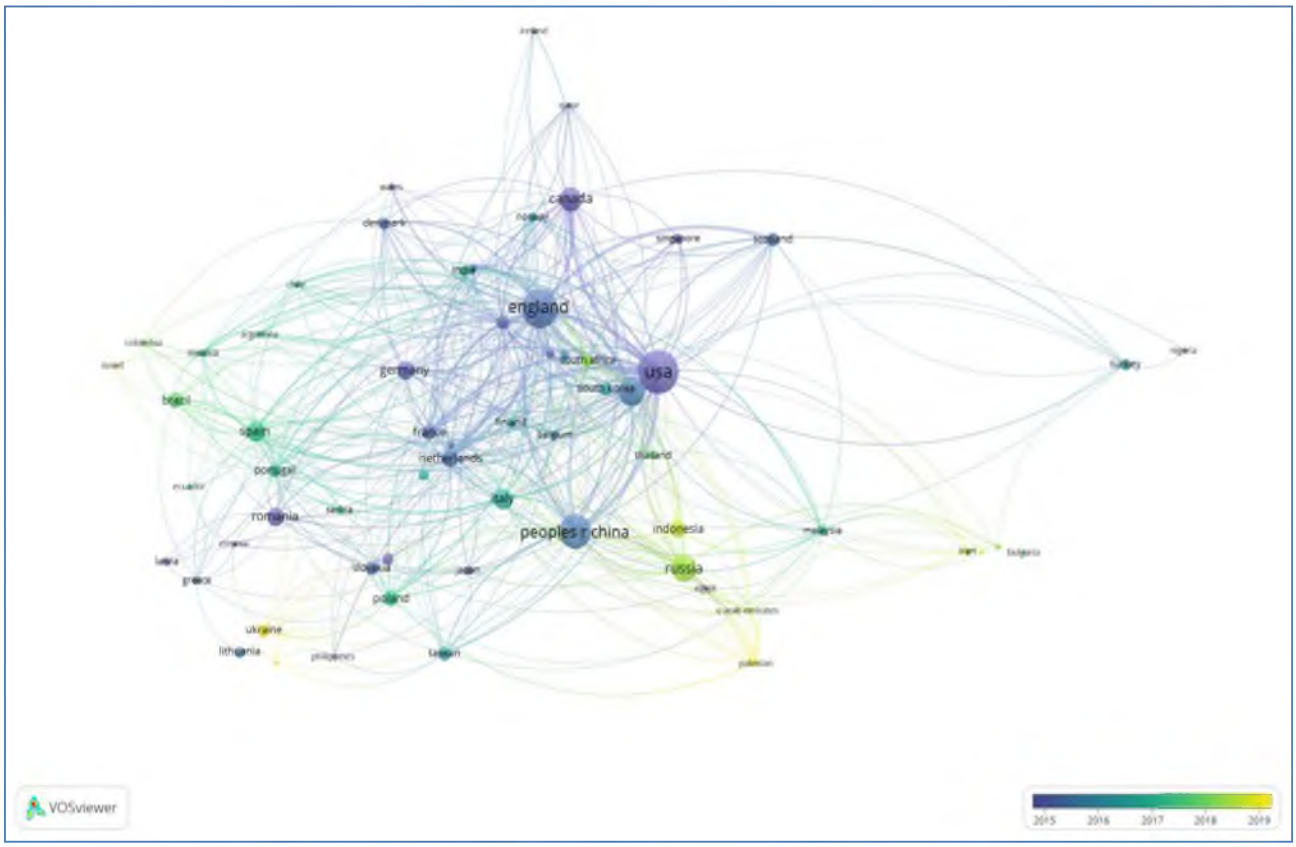

Рисунок 5. Географический охват исследований по креативной экономике в базе Web of Science с учетом фактора времени

Примечание. Составлено авторами на основе базы данных Web of Science с помощью VOSviewer.

Основным значимым этапом исследования стало построение научной карты тематических кластеров на основе ключевых слов, используемых в существующих исследованиях по креативной экономике с выявлением ареала связей между исследуемыми терминами и их генезиса. Для целей терминологического картрирования с использованием программного инструмента VOSviewer был применен метод Co-occurence: Author keywords, на основе которого был проанализирован терминологический массив из 11129 ключевых слов в существующих 4773 публикациях по креативной экономике базы Web of Science. На основе данного анализа и оценки интенсивности использования выявленных ключевых слов был составлен специализированный тезарус, состоящий из терминов, которые встречаются в выборке не менее 20-ти раз, при этом были объединены похожие термины с устранением опечаток. Таким образом, был сформирован окончательный специальный тезарус из 38 ключевых слов (см. табл.), объединенных в 5 тематических кластерах по их смысловой близости, идентичности и интенсивности совместного использования (рис. 6).

Таблица

Сформированный тезарус из наиболее распространенных ключевых слов в области исследований креативной экономики

№ п/п	Ключевое слово	Количество публикации	Количество связей	№ п/п	Ключевое слово	Количество публикации	Количество связей
1	2	3	4	5	6	7	8
1	Creative economy (Креативная экономика)	383	397	20	Creative labour (Креативный труд)	32	49
2	Creative Industries (Креативные индустрии)	347	385	21	Regional development (Региональное разви-	41	48

1	2	3	4	5	6	7	8
					тие)		
3	Innovation (Инновации)	265	313	22	Creative destruction (Креативное разрушение)	53	39
4	Creativity (Творчество)	248	303	23	Urban development (Городское развитие)	27	39
5	Entrepreneurship (Предпринимательство)	124	150	24	Employment (Занятость)	29	38
6	Creative Class (Креативный класс)	100	129	25	Globalization (Глобализация)	39	37
7	Cultural Policy (Культурная политика)	72	121	26	Creative clusters (Креативные кластеры)	26	35
8	Cultural industries (Творческие индустрии)	73	115	27	Competitiveness (Конкурентоспособность)	27	33
9	Education (Образование)	77	107	28	Social media (Социальные медиа)	32	30
10	Creative city (Креативный город)	75	93	29	Creative work (Креативная работа)	29	29
11	Sustainability (Устойчивость)	77	87	30	Gender (Гендер)	27	28
12	Human capital (Человеческий капитал)	58	79	31	Digital economy (Цифровая экономика)	33	27
13	Cultural economy (Культурная экономика)	50	70	32	Collaboration (Коллаборация)	24	26
14	Technology (Технологии)	37	68	33	Social innovation (Социальные инвестиции)	21	23
15	Knowledge economy (Экономика знаний)	72	65	34	Circular economy (Циркулярная экономика)	44	20
16	Economic development (Экономическое развитие)	47	64	35	Copyright (Авторское право)	20	20
17	Economic growth (Экономический рост)	45	57	36	Experience economy (Экономика впечатлений)	25	19
18	Knowledge (Знания)	40	56	37	Sharing economy (Экономика совместного потребления)	24	16
19	Sustainable development (Устойчивое развитие)	57	51	38	Knowledge management (Управление знанями)	28	13

Примечание. Составлено авторами на основе базы данных Web of Science с помощью VOSviewer.

В представленной наукометрической кластерной карте исследований по креативной экономике (рис. 6) тематические кластеры представлены различными цветами, при этом размер метки каждого ключевого слова (размеры узлов и шрифта) отражает силу и частоту его связи с другими ключевыми словами («total link strength»), а линий между понятиями — отношения между ними и их совместное использование («link strength») (Van Eck, Waltman, 2010; Van Eck et al., 2010).

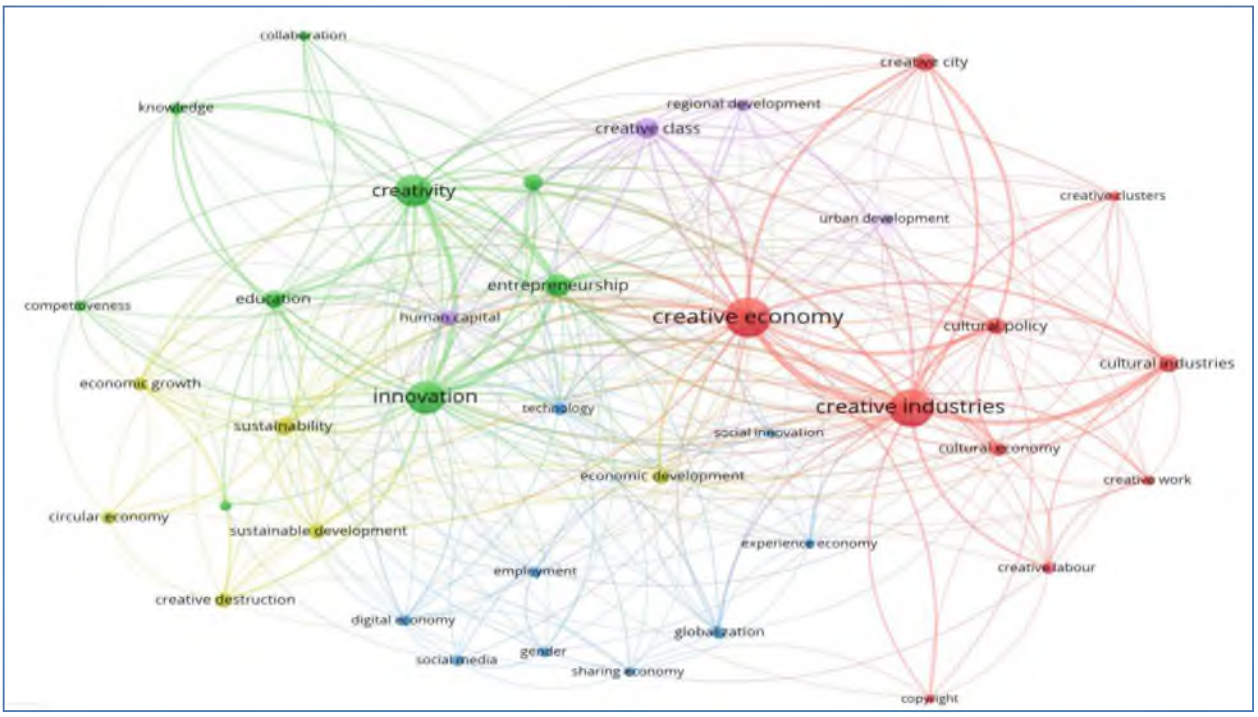

Рисунок 6. Библиометрическая научная карта тематических кластеров существующих исследований в области креативной экономики по базе Web of Science

Примечание. Составлено авторами на основе базы данных Web of Science с помощью VOSviewer.

Содержательный анализ 38 наиболее распространенных ключевых слов в отобранных 4773 публикациях публикациях позволил выделить 5 понятийных кластера, которые мы условно обозначили: «Составляющие креативной экономики» (красный кластер); «Креативность и инновации» (зеленый кластер); «Человеческий капитал и креативный класс» (фиолетовый кластер); «Новые тренды в экономике» (синий кластер); «Развитие и рост» (желтый кластер). Важно отметить, что приведенное разделение кластеров является условным, так как кластеры и ключевые слова в них тесно взаимосвязаны.

Кластер красного цвета «Составляющие креативной экономики» охватывает многочисленные работы, в которых исследуются такие основные элементы креативной экономики, как «креативные индустрии», «творческие индустрии», «креативные кластеры», «креативный труд», «креативный город». Зеленый кластер «Креативность и инновации» связан с работами, в которых исследуются взаимосвязи между креативностью, инновациями, предпринимательством, образованием. Фиолетовый кластер, который мы условно обозначили как «Человеческий капитал и креативный класс», включает работы, в которых ключевыми вопросами являются проблемы развития человеческих ресурсов и формирования креативного класса, в том числе в контексте регионального и городского развития. Синий кластер «Новые тренды в экономике» объединяет концепты, связанные с вопросами взаимосвязей креативной экономики с развитием новых технологий, цифровой экономикой, экономикой впечатлений и экономикой совместного потребления. Желтый кластер «Развитие и рост» играет определенную интегративную роль, охватывая исследования, посвященные проблемам взаимосвязи между креативной экономикой и экономическим ростом, а также устойчивым развитием.

Представленная кластерная карта обладает значительной плотностью, связанной с многочисленностью связей между ключевыми словами, и свидетельствует о высоком уровне их совместного употребления в различных исследованиях.

Далее мы исследовали распределение ключевых слов во временных периодах по степени их разработанности в отобранных исследованиях по креативной экономике (рис. 7). Чем ближе к фиолетовому и синему цвету, тем «старше» исследования, чем ближе к зеленому и желтому цвету, тем современнее.

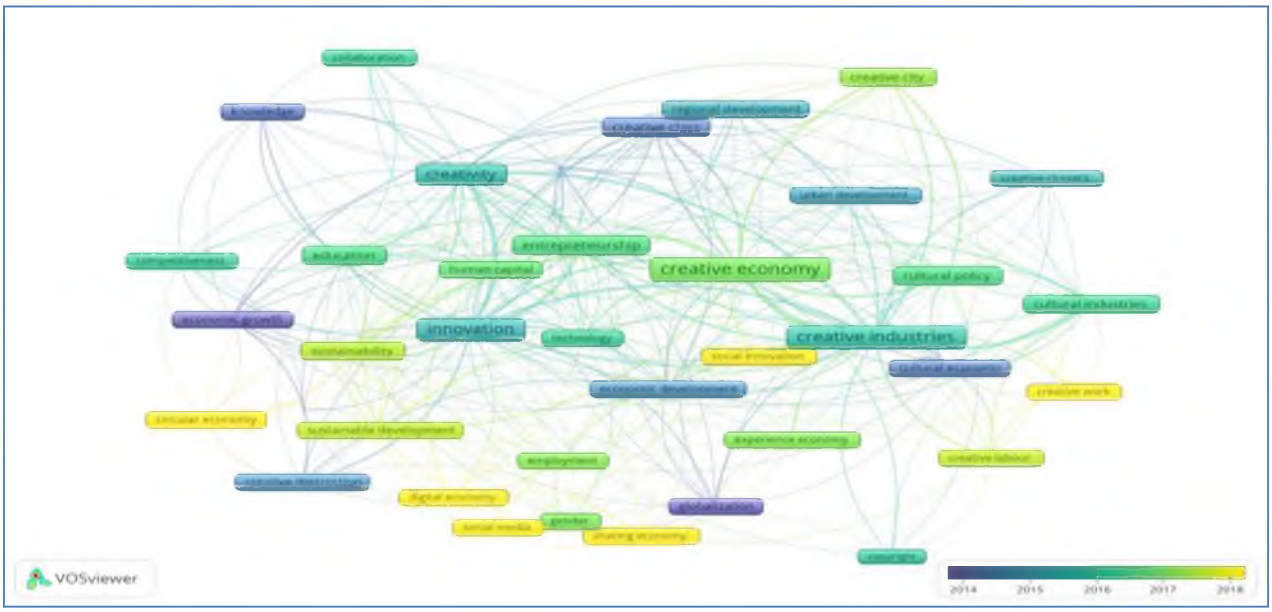

Рисунок 7. Распределение ключевых слов по времени в существующих исследованиях в области креативной экономики по базе Web of Science

Примечание. Составлено авторами на основе базы данных Web of Science с помощью VOSviewer.

Из полученных результатов видно, что в течение последних 10 лет происходил некий сдвиг научного интереса в исследованиях по креативной экономике от проблем взаимосвязи креативного развития с экономическим ростом к проблемам развития креативных индустрий и креативных кластеров.

Также были определены «горячие области» в исследованиях по креативной экономике, т.е. наиболее актуальные концепты со значительным количеством опубликованных статей (рис. 8). Такие области наукометрической карты, представленные более интенсивным желтым цветом, содержат наибольшее число научных публикаций и связаны с такими понятиями, как «креативные индустрии», «креативность», «инновации».

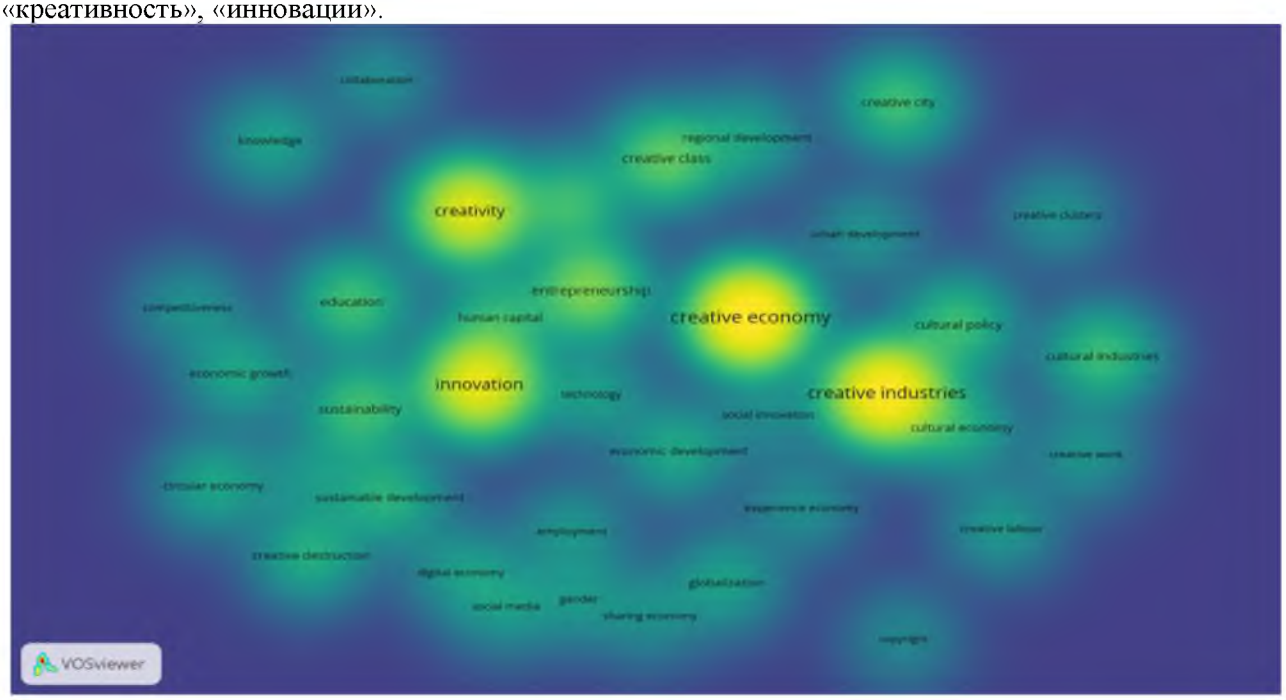

Рисунок 8. Актуальные темы («горячие области») в существующих исследованиях по креативной экономике в базе Web of Science

Примечание. Составлено авторами на основе базы данных Web of Science с помощью VOSviewer.

Обсуждение

Как показывает проведенное исследование, проблема развития креативности, в целом, и определение параметров креативной экономики, в частности, является актуальной во всем мировом хозяйстве. Данный сектор, доля которого сегодня в развитых странах по экспертным оценкам составляет 2,5–3 % от ВВП, существовал всегда как ниша недоминирующих индустрий, где оригинальная идея воплощалась в практику в среде этнокультурных ремесел, искусства, дизайна и пр. Однако, сейчас, при развитой глобальной инновационной системе, креативный сектор становится комплементарным (дополняющим) элементом экономики знаний, соединяя в своей структуре, как индустриальное начало, так и постиндустриальную базу.

Устойчиво высокие уровни корпоративного развития, малого и среднего бизнеса, обеспечивающие высокие и постоянно растущие параметры ВВП и национального богатства в развитых странах мира, позволяют им системно подойти к вопросам развития креативной экономики. Это относится и к ее устойчивому институциональному базису, и к уровню ее инклюзивной составляющей, и к вопросам региональной мультипликации роста креативных индустрий.

Сегодня поступательное расширение креативного сектора определяется растущей инклюзивностью рыночной среды и потребностью в новых формах сервиса на базе атомизированных, индивидуализированных производств, которые, с одной стороны, алгоритмируют монетизацию созидательно-уникальных идей, а с другой — учитывают персонализированную специфику каждого актора. Иными словами, креативная экономика — это сегмент формирования ценностей на основе дихотомии инноваций, творческо-созидательной персонификации производства и инклюзивности, создающей условия для развития уникальных компетенций индивидов всех поколений. При этом наметилась устойчивая прямая закономерность: чем выше степень креативности производства, тем активнее проявляются тренды его инклюзивности (Мамедов, 2017). Таким образом, креативной экономике присущи не только новизна, адаптивность, но и творчески-созидательная ценность, как стимул и источник рационального экономического поведения, а также инклюзивность, как возможность реализации потенциала всех социальных групп для максимизации межпоколенческого благосостояния.

В прикладном значении креативная экономика не носит универсально-унифицированный характер, а типологизируется по видам креативных индустрий (английская, американская, скандинавская, гонконгская методики), что позволяет оценить их формирование и в отечественной среде. 30 ноября 2021 г. была принята Концепция развития креативных индустрий на 2021–2025 годы» (Постановление Правительства Республики Казахстан от 30 ноября 2021 г. № 860). Данная Концепция определяет общие рамки развития креативного сектора, целевые индикаторы и ожидаемые результаты, а также начальный базовый план действий по их достижению. В то же время для активизации креативизации постиндустриальной динамики Казахстана необходим междисциплинарный компаративистский анализ гносеологических основ креативной экономики, ее культурно-исторического значения и строения с оценкой экономического эффекта кластеризации креативных индустрий с позиции быстроты их распространения и монетарной мультипликации, а также в координатах включенности в креативный сектор всех социальных групп для дальнейшей выработки механизмов, направленных на расширение границ креативных кластеров с последующей имплементацией этих инструментов в государственную экономическую политику.

Однако, несмотря на общемировую актуальность изучения креативной экономики с позиции ее устойчивого и инклюзивного роста, проблема развития креативной экономики и ее кластеризации в Казахстане является мало изученной и представлена в небольшом ряде работ (Альжанова, Днишев, 2015; Королева и другие, 2021; Пилипенко, Жумагали, 2020; Kazakhstan's Crafts and Creative Economy, 2020), в которых рассмотрены общие вопросы развития креативного сектора в нашей стране. В частности, в казахстанской теории и практике креативного развития:

- слабо очерчены его контуры в условиях преимущественно индустриального типа развития экономики;
- не структурированы задачи формирования креативной экономики, целеполагающий алгоритм системного развития и кластеризации креативных индустрий, в том числе в контексте инклюзивного роста;
- не оценен потенциал диверсификации социально-экономического участия различных социальных групп в развитии креативных индустрий и их кластеризации;
- не обоснованы реальные шаги имплементации инклюзивного креативного развития в государственную социально-экономическую политику.

Исходя из этого в аналитическом аспекте необходимо обоснование потенциальных параметров креативного развития в Казахстана на базе анализа его конституирующих элементов. Это приводит к необходимости выработки аналитического инструментария адаптивной интеграционной модели развития креативных индустрий. В прикладном аспекте надо сформировать на основе экспертных оценок и статистических выборок модель поддержки и активизации креативных кластеров.

Выводы

Таким образом, в рамках данного исследования был проведен анализ природы креативной экономики и ареала ее категориальной структуры на основе обзора существующих исследований в данной предметной области с выделением доминирующих трендов и рэперных ориентиров. Результаты проведенного исследования были визуализированы в виде рисунков и таблиц, отражающих статус исследований в области, креативный момент в настоящий момент и в процессе их генезиса. В целом, полученные результаты исследования свидетельствуют о постоянно растущем научном интересе к проблематике креативной экономики и креативных индустрий.

Проведенный анализ концептов показал, что креативные индустрии не являются прямой заменяющей альтернативой базовым индустриальным отраслям отечественной экономики. Они вносят свой дополнительный вклад в общие результаты инклюзивного развития и формируют ее отличительные рыночные образцы, специфические блага и специфические кластеры. Именно потому актуализируются вопросы формирования креативной экономики, креативных индустрий, рыночных механизмов их оценки, в том числе в координатах включенности всех социальных групп, и имплементации их в государственную экономическую политику в отечественных условиях. Также возникает настоятельная необходимость выработки инструментов, направленных на расширение границ креативных кластеров для прикладной иллюстрации их эффективности и реальной конкурентоспособности в отечественной среде.

Разработка модели развития кластеров креативных индустрий в Республике Казахстан повысит общую социально-экономическую результативность отечественного воспроизводства, будет способствовать социально-экономической диверсификации кретивных индустрий и активизации гражданского общества в контексте инклюзивного роста. С макроэкономических позиций данный проект способствует нахождению дополнительных факторов снижения безработицы, механизма вовлечения всех социальных слоев населения в постиндустриальную среду и устойчивому развитию креативного сектора в отечественных условиях.

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Список литературы

Alacovska A. Informal creative labour practices: A relational work perspective / A. Alacovska // Human Relations. — 2018. — Vol. 71, Issue 12. — 1563–1589 p. — DOI: 10.1177/0018726718754991. — Retrieve from https://www.webofscience.com/wos/woscc/full-record/WOS:000449033000001

Alfredsson E. The Inclusive Green Economy / E. Alfredsson, A. Wijkman. — MISTRA, Prestudy, 2014, April. — Retrieved from http://www.mistra.org/download/18.2f9de4b14592a1589d172e2/1473225485133/ Mistra_Prestudy_TheInclusiveGreenEconomy_April2014+%281 %29.pdf

Andersson A.E. Creativity and Regional Development / A.E. Andersson // Papers of the Regional Science Association. — 1985. — Vol. 56. — No. 1. — P. 5–20.

Barro R.J. Economic Growth in a Cross Section of Countries / R.J. Barro // Quarterly Journal of Economics. — 1991. — No. 106(2). — P. 407–443.

Boix R. Micro-geographies of creative industries clusters in Europe: From hot spots to assemblages / R. Boix, J.Luis Hervas-Oliver, B. De Miguel-Molina // Papers in regional science. — 2015. — Vol. 94, Issue 4. DOI: 10.1111/pirs.12094. Retrieved from https://www.webofscience.com/wos/woscc/full-record/WOS:000365760900004

CAFOD. Discussion paper: What is "inclusive growth"? Retrieved from https://cafod.org.uk/content/download/17224/133626/file/Inclusive

DCMS. Creative Industries Mapping Document. — London, 2001. Retrieved from https://static.a-n. c0.uk/wp-c0ntent/upl0ads/2016/12/DCMS-Creative-Industries-Mapping-D0cu-ment-2001.pdf

Finkel R. Diversifying the creative: Creative work, creative industries, creative identities / R. Finkel, D. Jones, K. Sang, D. Russell // Organization. — 2017. — Vol. 24, Issue 3. — 281–288 p. — DOI: 10.1177/1350508417690167. Retrieved from https://www.webofscience.com/wos/woscc/full-record/WOS:000401241000001

Fleischmann K. Creative industries and regional economic development: can a creative industries hub spark new ways to grow a regional economy? / K. Fleischmann, R. Welters, R. Daniel // Australasian Journal of regional studies. — 2017. — Vol. 23, Issue 2. — 217–242 p. Retrieved from https://www.webofscience.com/wos/woscc/full-record/WOS:000417430500004

Gabe T. The Creative Class and the crisis / T. Gabe, R. Florida, C. Mellander // Cambridge Journal of regions economy and society. — 2013. — Vol. 6, Issue 1. — 37–53 p. DOI: 10.1093/cjres/rss012. Retrieved from https://www.webofscience.com/wos/woscc/full-record/WOS:000315554200003

Garnham N. Concepts of culture: public policy and the cultural industries (Originally published as a pamphlet by the Greater London Council) / N. Garnham // Reprinted in Cultural Studies. — 2000. — No. 1 (1). — P. 23–37.

Gong H. Exploring the clustering of creative industries / H. Gong, R. Hassink // European Planning Studies. — 2017. — Vol. 25, Issue 4. — 583–600 p. — DOI: 10.1080/09654313.2017.1289154. Retrieved from https://www.webofscience.com/wos/woscc/full-record/WOS:000395250100002

Howkins J. The Creative Economy: How people make money from ideas / J. Howkins. — London: AllenLane, Penguin, 2002. — 288 p.

Jacobs J. The Death and Life of Great American Cities / J. Jacobs. — N.Y: Random House, 1961. — 458 p.

Jurene S. Creative cities and clusters / S. Jurene, V. Jureniene // Transformations In Business & Economics. — 2017. — Vol. 16, Issue 2. — 214–234 p. Retrieved from https://www.webofscience.com/wos/woscc/full-record/WOS:000402941200013

Kacerauskas T. Creative class: economical, sociological and philosophical issues / T. Kacerauskas // Filosofija-Sociologija. — 2014. — Vol. 25, Issue 3. — 155–163 p. Retrieved from https://www.webofscience.com/wos/woscc/full-record/WOS:000344416600004

Kazakhstan's Crafts and Creative Economy: Proceedings of an International Symposium. — Washington, 2020. — 104 p.

Kelly M. Strategies for financing the inclusive economy / M. Kelly, V. Duncan, S. Dubb. Democracy Collaborative – Washington, 2016. Retrieved from https://democracycollaborative.org/sites/default/files/downloads/FinancingTheInclusiveEconomy.pdf

Kong L. From cultural industries to creative industries and back? Towards clarifying theory and rethinking policy / L. Kong // Inter-Asia cultural studies. — 2014. — Vol. 15, Issue 4. — 593–607 p. — DOI: 10.1080/14649373.2014.977555. https://www.webofscience.com/wos/woscc/full-record/WOS:000346197100007

Kong L. Transnational mobilities and the making of creative cities / L. Kong // Theory Culture & Society. — 2014. — Vol. 31, Issue 7. — 273–289 p. — DOI: 10.1177/0263276414549329 — https://www.webofscience.com/wos/woscc/full-record/WOS:000346015900017

Mansfield E. Innovation, Technology and the Economy: Selected Essays of Edwin Mansfield / E. Mansfield. — Aldershot, UK; Brookfield, Vt., US: E. Elgar, 1995. — 696 p. Retrieved from https://www.e-elgar.com/shop/gbp/innovation-technology-and-the-economy-9781858980355.html

Marta-Christina S. Urban development and creative communities / S. Marta-Christina, M. Ivanovici // Business transformation through innovation and knowledge management: an academic perspective. — 2010. — Vol 3. — 1834–1840 p. Retrieved from https://www.webofscience.com/wos/woscc/full-record/WOS:000330684100031

Mellander C. The Creative Class or Human Capital? Explaining Regional Development in Sweden / C. Mellander, R. Florida // CESIS. — 2007. — Paper No. 79. — 34 p. Retrieved from http://www.ausicom.com/filelib/PDF/ResearchLibrary/Creative%20class%20in%20Sweden.pdf

O'Connor J. Creative industries: a new direction? / J. O'Connor // International Journal of cultural policy. — 2009. — Vol. 15, Issue 4. — 387–402 p. — DOI: 10.1080/10286630903049920. Retrieved from https://www.webofscience.com/wos/woscc/full-record/WOS:000208083900003

Solow R.A. Contribution to the Theory of Economic Growth / R.A. Solow // Quarterly Journal of Economics. — 1956. — No. 70. — P. 65–94.

The Inclusive Growth and Development Report 2017 // World Economic Forum. Retrieved from https://www.weforum.org/reports/the-inclusive-growth-and-development-report-2017

Throsby D. Economics and Culture / D. Throsby. — Cambridge: Cambridge University Press, 2001. — 228 p.

Ullman E.L. Regional development and the geography of concentration / E.L. Ullman // Papers and proceedings of the Regional Science Association. — 1958. — No. 4. — P. 179–198.

Van Eck N.J. A comparison of two techniques for bibliometric mapping: Multidimensional scaling and VOS / N.J. Van Eck et al. // Journal of the American Society for Information Science and Technology. — 2010. — 61. — No. 12. — P. 2405–2416.

Van Eck N.J. Software survey: VOSviewer, a computer program for bibliometric mapping / N.J. Van Eck, L. Waltman //scientometrics. — 2010. — Vol. 84. — No. 2. — P. 523–538.

Zhao H. The trickle-down effects of creative work involvement: The joint moderating effects of proactive personality and leader creativity expectations / H. Zhao, L. Guo// Personality And Individual Differences. — 2019. — Vol. 142. — 218–225 p. — DOI: 10.1016/j.paid.2018.05.042. Retrieved from https://www.webofscience.com/wos/woscc/full-record/WOS:000463125300032

Альжанова Ф.Г. Креативная экономика: синергия культуры, бизнеса и технологий (мировая практика и Казахстан) / Ф.Г. Альжанова, Ф.М. Днишев. — Вена, Австрия: Ассоциация перспективных исследований и высшего образования «Восток–Запад», 2015. — 276 с.

Бодрунов С. Новое индустриальное общество второго поколения: человек, производство, развитие / С. Бодрунов // Общество и экономика. — 2016. — № 9. — С. 5–21.

Бонет Л. Креативные города и культурные индустрии: концептуальные парадоксы, конкурентные факторы и правительственные стратегии / Л. Бонет // Творческие индустрии и креативная экономика как пространство исследовательской и проектной деятельности: материалы Междунар. конф. / ред. Н. Гладких. — М.: Классика–XXI, 2012. — С. 23–27.

Ельшин Л.А. Стимулирование экономической динамики региона в рамках реализации концепции инклюзивно-креативного роста / Л.А. Ельшин, М.Р. Гафаров // Креативная экономика. — 2021. — Т. 15. — № 11. — С. 4201–4214. DOI: 10.18334/ce.15.11.113737

Зеленцова Е.В. Творческие индустрии: теории и практики / Е.В. Зеленцова, Н.В. Гладких. — М.: Классика–XXI, 2010. — 240 с.

Королева А.А. Анализ развития креативных индустрий в Казахстане / А.А. Королева, А.О. Норец, И.А. Селютин // Экономика Центральной Азии. — 2021. — Т. 5. — № 2. — С. 185–192. — DOI: 10.18334/asia.5.2.41494.

Культурные индустрии в Казахстане: модели, проблемы, стратегии. — British Council Kazakhstan, 2016. — https://kazakhstan.britishcouncil.org/sites/default/files/123_report_design_a4_v10_web.pdf

Лэндри Ч. Креативный город / Ч. Лэндри; пер. с англ. — М.: Классика–XXI, 2006. — 399 с.

Мамедов О.Ю. Экономика инклюзивной цивилизации / О.Ю. Мамедов // Terra economicus. — 2017. — Т. 15. — № 3. — С. 6–18.

Матецкая М.В. Творческие индустрии сквозь призму культурной политики: сб. науч. тр. / отв. ред. А.Я. Рубинштейн, В.Ю. Музычук. — М.: ИЭ РАН, 2013. — 398 с.

Пилипенко Е.Н. Креативная экономика: некоторые аспекты теории и казахстанской практики [Электронный ресурс] / Е.Н. Пилипенко, Ы. Жумагали // Вестн. Моск. ун-та им. С.Ю. Витте. Сер. Экономика и управление. — 2020. — № 1 (32). — С. 23–29. — Режим доступа: https://cyberleninka.ru/article/n/kreativnaya-ekonomika-nekotorye-aspekty-teorii-i-kazahstanskoy-praktiki

Постановление Правительства Республики Казахстан от 30 ноября 2021 г. № 860 «Об утверждении Концепции развития креативных индустрий на 2021–2025 годы». [Электронный ресурс]. — Режим доступа: https://adilet.zan.kz/rus/docs/P2100000860

Тросби Д. Экономика и культура / Д. Тросби; пер. с англ. И. Кушнаревой. — М.: Изд. дом Высшей школы экономики, 2013. — 256 с.

Флорида Р. Креативный класс: люди, которые меняют будущее / Р. Флорида; пер. с англ.. — М.: Классика–XXI, 2007. — 421 с.

Хезмондалш Д. Культурные индустрии / Д. Хезмондалш. — М.: Высш. шк. экон., 2014. — 456 с.

Хестанов Р.З. Креативные индустрии — модели развития / Р.З. Хестанов // Социологическое обозрение. — 2018. — Т. 17. — № 3. — С. 173–196. — DOI: 10.17323/1728–192X-2018–3-173–196

Шарковская Н.В. Индустрия досуга как социально-культурный феномен / Н.В. Шарковская // Вестн. Моск. гос. ун-та культуры и искусств. — 2020. — № 2(94). — С. 126–134. — DOI: 10.24411/1997–0803–2020–10213

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Креативті экономиканың тұжырымдамалық параметрлері және оның категориялық канвасы

Аңдатпа

Мақсаты: Басым трендтер мен рэперлік бағдарларды бөліп көрсете отырып, осы пән саласындағы бар зерттеулерді шолу негізінде креативті экономиканың табиғатын және оның категориялық құрылымының ареалын анықтау.

Әдісі: Жұмыста жүйелік, құрылымдық және салыстырмалы талдау әдістерінің арсеналы, сондай-ақ библиометрикалық әдістер мен визуализацияны қолдана отырып, Web of Science деректер базасында 1990 жылдан 2022 жылға дейін жарияланған креативті экономика бойынша зерттеулерді талдау үшін VOSviewer бағдарламалық жасақтамасын қолдана отырып, ғылымиметриялық карталарды құру құралдары қолданылды.

Қорытынды: Креативті экономиканы дамыту мәселелеріне ғылыми қызығушылықтың ағымдағы деңгейінің параметрлері айқындалды; креативті экономика тұжырымдамасы зерттеулерінің генезисі анықталды; креативті экономиканы зерттеу саласындағы ғылыми карта, категориялық канва және тақырыптық кластерлердің тұжырымдамалық құрылымы жүйеленді; креативті экономиканы концептуализациялау саласындағы перспективалық зерттеулердің басым және өзекті трендтері айқындалды.

Тұжырымдама: Зерттеу нәтижелері креативті экономика мен креативті индустрия мәселелеріне үнемі өсіп келе жатқан ғылыми қызығушылықты көрсетеді. Креативті индустриялар отандық экономиканың базалық индустриялық салаларына тікелей алмастыратын балама болып табылмайды. Олар инклюзивті дамудың жалпы нәтижелеріне қосымша үлес қосады және оның ерекше нарықтық үлгілерін, ерекше артықшылықтары мен ерекше кластерлерін қалыптастырады. Сондықтан креативті экономиканы, креативті индустрияларды, оларды бағалаудың нарықтық тетіктерін қалыптастыру, оның ішінде барлық әлеуметтік топтардың қосылу координаттарында және оларды отандық жағдайларда мемлекеттік экономикалық саясатқа имплементациялау мәселелері өзектендіріледі. Сондай-ақ, отандық ортадағы олардың тиімділігі мен нақты бәсекеге қабілеттілігін қолданбалы бейнелеу үшін креативті кластерлердің шекараларын кеңейтуге бағытталған құралдарды әзірлеу қажеттілігі туындайды.

Кілт сөздер: креативті экономика, креативті индустрия, креативті кластер, инклюзивті экономикалық өсу.

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Conceptual parameters of the creative economy and its categorical outline

Abstract

Object: Шdentification of the nature of the creative economy and the area of its categorical structure based on a review of existing research in this subject area with the identification of dominant trends and rapper guidelines.

Methods: An arsenal of systemic, structural and comparative methods of analysis, VOSviewer software, bibliometric methods and visualization.

Results: The parameters of the current level of scientific interest in the development of the creative economy are determined; the genesis of research on the concept of the creative economy is revealed; the scientific map, categorical outline and conceptual structure of thematic clusters in the field of creative economy research are systematized; priority and current trends of promising research in the field of conceptualization of the creative economy are determined.

Conclusions: The study results indicate an ever-growing scientific interest in the problems of the creative economy and creative industries. Creative industries are not a direct substitute alternative to the basic industrial sectors of the domestic economy. They make an additional contribution to the overall results of inclusive development and form its distinctive market patterns, specific benefits and specific clusters. Thus, the issues of the formation of the creative economy, creative industries, market mechanisms for their assessment, including in the coordinates of the inclusion of all social groups, and their implementation in the state economic policy in domestic conditions are being updated. There is also an urgent need to develop tools aimed at expanding the boundaries of creative clusters for applied illustration of their effectiveness and real competitiveness in the domestic environment.

Keywords: creative economy, creative industries, creative cluster, inclusive economic growth.

References

Alacovska, A. (2018). Informal creative labour practices: A relational work perspective. *Human Relations, Vol. 71, Issue 12,* 1563–1589. https://doi.org/10.1177/0018726718754991. https://www.webofscience.com/wos/woscc/ full-record/WOS:000449033000001

Alfredsson, E., & Wijkman, A. (2014). The Inclusive Green Economy. MISTRA, Prestudy, April. *mistra.org.* http://www.mistra.org/download/18.2f9de4b14592a1589d172e2/1473225485133/ Mistra_Prestudy_ TheInclusive-GreenEconomy_April2014+%281 %29.pdf

Alzhanova, F.G., & Dnishev, F.M. (2015). *Kreativnaya ekonomika: sinergiya kultury, biznesa i tekhnologii (mirovaya praktika i Kazakhstan) [Creative economy: synergy of culture, business and technology (world practice and Kazakhstan)].* Vienna, Austria: Assotsiatsiya perspektivnykh issledovanii i vysshego obrazovaniya «Vostok–Zapad» [in Russian].

Andersson, A.E. (1985). Creativity and Regional Development. *Papers of the Regional Science Association, 56,* 1, 5–20.

Barro, R.J. (1991). Economic Growth in a Cross Section of Countries. *Quarterly Journal of Economics, 106(2),* 407–443.

Bodrunov, S. (2016). Novoe industrialnoe obshchestvo vtorogo pokoleniya: chelovek, proizvodstvo, razvitie [New industrial society of the second generation: man, production, development]. *Obshchestvo i ekonomika — Society and economy, 9,* 5–21 [in Russian].

Boix, R., Luis Hervas-Oliver, J., & De Miguel-Molina, B. (2015). Micro-geographies of creative industries clusters in Europe: From hot spots to assemblages. *Papers in regional science, 94, Issue 4.* https://doi.org/10.1111/pirs.12094. https://www.webofscience.com/wos/woscc/full-record/WOS:000365760900004

Bonet, L. (2012). Kreativnye goroda i kulturnye industrii: kontseptualnye paradoksy, konkurentnye faktory i pravitelstvennye strategii [Creative Cities and Cultural Industries: Conceptual Paradoxes, Competitive Factors, and Government Strategies]. Proceedings from Creative industries and the creative economy as a space for research and pro-

ject activities: *Mezhdunarodnaya konferentsiya (2012 god) — International Conference*. (pp. 23–27). N. Gladkikh (Ed.). Moscow: Klassika–XXI [in Russian].

British Council Kazakhstan (2016). Kulturnye industrii v Kazakhstane: modeli, problemy, strategii [Cultural industries in Kazakhstan: models, problems, strategies]. *kazakhstan.britishcouncil.org.* Retrieved from https://kazakhstan.britishcouncil.org/sites/default/files/123_report_design_a4_v10_web.pdf [in Russian].

CAFOD. Discussion paper: What is "inclusive growth"? *cafod.org.* https://cafod.org.uk/content/download/17224/133626/file/Inclusive

DCMS. Creative Industries Mapping Document. London (2001). *static.a-n.* https://static.a-n. c0.uk/wp-c0ntent/upl0ads/2016/12/DCMS-Creative-Industries-Mapping-D0cu-ment-2001.pdf

Elshin, L.A., & Gafarov, M.R. (2021). Stimulirovanie ekonomicheskoi dinamiki regiona v ramkakh realizatsii kontseptsii inkliuzivno-kreativnogo rosta [Stimulating the economic dynamics of the region as part of the implementation of the concept of inclusive and creative growth]. *Kreativnaya ekonomika — Creative Economy, 15, 11,* 4201–4214. https://doi.org/10.18334/ce.15.11.113737 [in Russian].

Finkel, R., Jones, D., Sang, K., & Russell, D. (2017). Diversifying the creative: Creative work, creative industries, creative identities. *Organization, 24, 3,* 281–288. https://doi.org/10.1177/1350508417690167. https://www.webofscience.com/wos/woscc/full-record/WOS:000401241000001

Fleischmann, K., Welters, R., & Daniel, R. (2017). Creative industries and regional economic development: can a creative industries hub spark new ways to grow a regional economy? *Australasian Journal of regional studies, 23, 2,* 217–242. https://www.webofscience.com/wos/woscc/full-record/WOS:000417430500004

Florida, R. (2007). *Kreativnyi klass: liudi, kotorye meniaiut budushchee [Creative class: people who change the future)*. Moscow: Klassika–XXI [in Russian].

Gabe, T., Florida, R., & Mellander, C. (2013). The Creative Class and the crisis. *Cambridge Journal of regions economy and society, 6, 1,* 37–53. https://doi.org/10.1093/cjres/rss012. https://www.webofscience.com/wos/woscc/full-record/WOS:000315554200003

Garnham, N. (2000). Concepts of culture: public policy and the cultural industries (Originally published as a pamphlet by the Greater London Council). *Reprinted in Cultural Studies, 1 (1),* 23–37.

Gong, H., & Hassink, R. (2017). Exploring the clustering of creative industries. *European Planning Studies, 25, 4,* 583–600. https://doi.org/10.1080/09654313.2017.1289154. https://www.webofscience.com/wos/woscc/full-record/WOS:000395250100002

Howkinsm, J. (2002). *The Creative Economy: How people make money from ideas.* London: AllenLane, Penguin.

Jacobs, J. (1961). *The Death and Life of Great American Cities.* N.Y: Random House.

Jurene, S., & Jureniene, V. (2017). Creative cities and clusters. *Transformations In Business & Economics, 16, 2,* 214–234. https://www.webofscience.com/wos/woscc/full-record/WOS:000402941200013

Kacerauskas, T. (2014). Creative class: economical, sociological and philosophical issues. *Filosofija-Sociologija, Vol. 25, Issue 3,* 155–163. https://www.webofscience.com/wos/woscc/full-record/WOS:000344416600004

Kazakhstan's Crafts and Creative Economy: Proceedings of an International Symposium. Washington (2020).

Kelly, M., Duncan, V., & Dubb, S. (2016). Strategies for financing the inclusive economy. Democracy Collaborative — Washington. *democracycollaborative.org.* https://democracycollaborative.org/sites/default/files/downloads/FinancingTheInclusiveEconomy.pdf

Khezmondalsh, D. (2014). *Kulturnye industrii [Cultural industries].* Moscow: Vysshaia shkola ekonomiki [in Russian].

Khestanov, R.Z. (2018). Kreativnye industrii — modeli razvitiya [Creative industries – development models]. *Sotsiologicheskoe obozrenie — Sociological review, 17, 3,* 173–196. DOI: 10.17323/1728–192X-2018–3-173–196 [in Russian].

Kong, L. (2014). From cultural industries to creative industries and back? Towards clarifying theory and rethinking policy. *Inter-Asia cultural studies, Vol. 15, Issue 4,* 593–607. https://doi.org/10.1080/14649373.2014.977555. https://www.webofscience.com/wos/woscc/full-record/WOS:000346197100007

Kong, L. (2014). Transnational mobilities and the making of creative cities. *Theory Culture & Society, Vol. 31, Issue 7.* 273–289. https://doi.org/10.1177/0263276414549329. https://www.webofscience.com/wos/woscc/full-record/WOS:000346015900017

Koroleva, A.A., Norets, A.O., & Seliutin, I.A. (2021). Analiz razvitiya kreativnykh industrii v Kazakhstane [Analysis of the development of creative industries in Kazakhstan]. *Ekonomika Tsentralnoi Azii — Economics of Central Asia, 5, 2,* 185–192. DOI: 10.18334/asia.5.2.41494 [in Russian].

Lendri, Ch. (2006). *Kreativnyi gorod [Creative City].* Moscow: Klassika–XXI [in Russian].

Mamedov, O.Yu. (2017). Ekonomika inkliuzivnoi tsivilizatsii [The Economy of an Inclusive Civilization]. *Terra economicus, 15,* 3, 6–18 [in Russian].

Mansfield, E. (1995). Innovation, Technology and the Economy: Selected Essays of Edwin Mansfield. Aldershot, UK; Brookfield, Vt., US: E. Elgar, 696. *e-elgar.com.* https://www.e-elgar.com/shop/gbp/innovation-technology-and-the-economy-9781858980355.html

Marta-Christina, S., & Ivanovici, M. (2010). Urban development and creative communities. *Business transformation through innovation and knowledge management: an academic perspective, 3,* 1834–1840. https://www.webofscience.com/wos/woscc/full-record/WOS:000330684100031

Matetskaia, M.V. (2013). *Tvorcheskie industrii skvoz prizmu kulturnoi politiki: sbornik nauchnykh trudov [Creative industries through the prism of cultural policy: a collection of scientific papers].* A.Ya. Rubinshtein, V.Yu. Muzychuk (Ed.). Moscow: IE RAN [in Russian].

Mellander, C., & Florida, R. (2007). The Creative Class or Human Capital? Explaining Regional Development in Sweden. *CESIS, Paper No. 79,* 34. http://www.ausicom.com/filelib/PDF/ResearchLibrary/ Creative%20class%20in%20Sweden.pdf

O'Connor, J. (2009). Creative industries: a new direction? *International Journal of cultural policy, 15, 4,* 387–402, https://doi.org/10.1080/10286630903049920. https://www.webofscience.com/wos/woscc/full-record/WOS:000208083900003

Pilipenko, E.N., & Zhumagali, Y. (2020). Kreativnaia ekonomika: nekotorye aspekty teorii i kazakhstanskoi praktiki [Creative Economy: Some Aspects of Theory and Kazakhstani Practice]. Vestnik Moskovskogo universiteta imeni S.Yu. Vitte. Seriia Ekonomika i upravlenie — Bulletin of the Moscow University named after S.Yu. Witte. Series Economics and Management, 1 (32), 23–29. Retrieved from https://cyberleninka.ru/article/n/kreativnaya-ekonomika-nekotorye-aspekty-teorii-i-kazahstanskoy-praktiki [in Russian].

Postanovlenie Pravitelstva Respubliki Kazakhstan ot 30 noiabria 2021 goda № 860 «Ob utverzhdenii «Kontseptsii razvitiia kreativnykh industrii na 2021–2025 gody» [Decree of the Government of the Republic of Kazakhstan of November 30, 2021 N 860 "On approval of the Concept for the development of creative industries for 2021-2025"]. *adilet.zan.kz.* Retrieved from https://adilet.zan.kz/rus/docs/P2100000860 [in Russian].

Sharkovskaia, N.V. (2020). Industriia dosuga kak sotsialno-kulturnyi fenomen [Industry is a social and cultural phenomenon]. *Vestnik Moskovskogo gosudarstvennogo universiteta kultury i iskusstv — Journal of the Moscow State University of Culture and Arts, No. 2(94),* 126–134. DOI: 10.24411/1997–0803–2020–10213 [in Russian].

Solow, R.A. (1956). Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics, 70,* 65–94.

The Inclusive Growth and Development Report 2017. *World Economic Forum.* https:// www.weforum.org/reports/the-inclusive-growth-and-development-report-2017

Throsby, D. (2001). *Economics and Culture.* Cambridge: Cambridge University Press.

Trosbi, D. (2013). *Ekonomika i kultura [Economy and culture].* I. Kushnareva (Trans). Moscow: Izdatelskii dom Vysshei shkoly ekonomiki [in Russian].

Ullman, E.L. (1958). Regional development and the geography of concentration. *Papers and proceedings of the Regional Science Association, 4,* 179–198.

Van Eck, N.J. & et al. (2010). A comparison of two techniques for bibliometric mapping: Multidimensional scaling and VOS. *Journal of the American Society for Information Science and Technology, 61, 12,* 2405–2416.

Van Eck, N.J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics, Vol. 84, 2,* 523–538.

Zelentsova, E.V., & Gladkikh, N.V. (2010). *Tvorcheskie industrii [Creative industries].* Moscow: Klassika–XXI [in Russian].

Zhao, H., & Guo, L. (2019). The trickle-down effects of creative work involvement: The joint moderating effects of proactive personality and leader creativity expectations. *Personality And Individual Differences, Vol. 142,* 218–225, https://doi.org/10.1016/j.paid.2018.05.042. https://www.webofscience.com/wos/woscc/full-record/WOS:000463125300032

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Агроөнеркәсіптік сектордағы кооперативтердің жағдайы мен дамуын талдау

Аңдатпа

Мақсаты: Авторлар жүргізген зерттеу басқарудың кооперативті формаларын дамыту мәселесі әлеуметтік-экономикалық маңыздылығына ғана емес, сонымен бірге оның жеткіліксіз зерттелуіне байланысты өзекті екенін растаған. Мақаланың мақсаты — экономиканың аграрлық секторындағы кәсіпкерлік қызмет нысандарының бірі ретінде Қазақстанның агроөнеркәсіптік өндірісіндегі өндірістік кооперативтердің ағымдағы жағдайымен даму бағыттарын талдау.

Әдісі: Мақала авторлары бірқатар әдістерді қолданды: жүйелік талдау, шегеру және индукция, талдау және синтез, сонымен қатар графикалық әдіс. Осы әдістерді қолдану кооперативтердің ерекшеліктері мен даму қарқындарын аграрлық саладағы кәсіпкерліктің нысаны ретінде объективті қабылдауға мүмкіндік береді.

Қорытынды: Авторлар мақаланың мақсатына жету үшін экономиканың агроөнеркәсіптік секторындағы шаруашылық жүргізудің кооперативтік нысандарының ерекшелігін зерттеп, оларды дамытудың негізгі бағыттарын анықтады.

Тұжырымдама: Зерттеу нәтижесінде авторлар ауылшаруашылық кооперативтік қозғалысының қазіргі жағдайына талдау жасап, негізгі жетекші аймақтарды анықтаған, басқарудың кооперативті нысандарының жұмыс істеу мәселелерін зерттеген, сонымен қатар қазіргі мәселелерді шешуге ықпал ететін дамудың негізгі бағыттарды көрсеткен.

Кілт сөздер: кооператив, ауылшаруашылығы, азық-түлік қауіпсіздігі, ауылшаруашылық өнімі, кооперативтік серіктестік, мал шаруашылығы.

Кіріспе

Әлемдік тәжірибе шаруашылық жүргізудің табиғи және жеткілікті тиімді нысаны өндірістік кооперативтер болып табылатынын көрсетеді. Сонымен бірге, бүгінгі таңда ынтымақтастық өзінің негізін қалаушы қағидаларын жоғалтты және жойылу қаупінде тұр. Ауылшаруашылық кооперативтік жүйесінде тоқырау байқалады. Ең алдымен, олар дамудың ішкі резервтерін әлсіз пайдалануда көрінеді. Осыған байланысты тұтыну кооперативтері шынымен әлеуметтік және экономикалық тартымды ұйымдар болса, олар экономиканың бір тұтас кооперативті секторын құрап немесе кооперативті қозғалысты басқара алмайды.

Біздің елімізде кооперативті қозғалысты дамыту үшін оның ғасырдан астам тарихы бар екендігі көрсетілген объективті алғышарттар бар, сонымен қатар көптеген отандастар еңбек пен өндірістің ұжымдық формаларына оң көзқараспен қарайды. Ауылшаруашылық кооперациясына бір жақты көзқарас, тиісті заңнамалық базаның болмауы және ағарту, білім беру және тәрбие берудің ойластырылған жүйесі, кооперативті құндылықтарды насихаттау бұл үдерісті тежейді (Kurakin, A., Visser, O., 2017).

Қазақстанның аграрлық экономикасының жалпы дағдарыстық жағдайы, оның ішінде кооперативтердің өздерінің материалдық-өндірістік базасының әлсіздігі, ауылшаруашылығы кооперативтері қызметінің құқықтық базасы да тиісті дәрежеде қалыптаспаған ауылшаруашылығы өндірістік кооперациясының дамуына теріс әсер етуде.

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Қазақстанда ауылшаруашылық кооперациясы ауылдық тұтыну кооперативтерімен, өндірістік кооперативтермен, су пайдаланушылардың ауылдық тұтыну кооперативтерімен және т.б., ұсынылған. Қазіргі уақытта ауылшаруашылық кооперациясы шикізаттан дайын өнімге дейінгі тізбек бойынша қызығушылық білдіретін барлық қатысушыларды бір тұтас жүйеге біріктіру орталығы ретінде қажет. Бірақ ол шаруашылықтанудың оқшауландырылған түрі ретіндегі қызметті басқарудың қағидасы толық танылғанда ғана болады (Молдашев А.Б., Никитина Г.А., Гусева Г.Л., 2017).

Әдебиетке шолу

Ауылшаруашылығы кооперациясын ұйымдастыру және дамыту мәселелері зерттеуші ғалымдардың еңбектерінде кеңінен көрініс тапты. Көптеген зерттеушілер ауылшаруашылық кооперациясын экономикалық және әлеуметтік мәселелерді шешудің тиімді құралы ретінде қарастырады және оны мемлекеттік қолдаудың қажеттілігін негіздейді. Тарихи тұрғыдан алғанда, кооперативтер тәуелсіз фермерлер жергілікті және трансұлттық бөлшек саудагерлердің нарықтық күшіне қарсы тұра алатын негізгі институционалдық және ұйымдастырушылық құрал болды (Tortia, Valentinov, Iliopoulas, 2013). М. Кук кооперативтердің нарықтық сәтсіздіктердің әртүрлі нысандарын түзету қабілетін атап өтті. Бұл рөлде кооперативтер нарықтың тиімділігін арттыратын бәсекелестік өлшегіші ретінде әрекет етеді (Cook, 1993). Чен мен Скоттың зерттеулері ауылшаруашылық кооперативтерінің ауылдық жерлердің экономикалық және әлеуметтік дамуындағы рөлін растайды (Chen, Scott, 2014). Халықтың кедей топтарымен шағын фермерлердің иелігіндегі және бақылауындағы кооперативтер олардың материалдық әл-ауқатының өсуін қамтамасыз ете алады (Hooks T., McCarthy O., Power C., Macken-Walsh A.A., 2017).

Бүгінгі қазақстандық шынайылық мынадай, бірқатар объективті себептерге байланысты шағын және орта ауылшаруашылығы тауарын өндірушілер ірі өнім берушілерге елеулі бәсекелестік жасай алмайды. Үй саласындағы ауылшаруашылығы өндірісінің шағын көлемі кеңейтілген селекциялық-асыл тұқымдық қызметті қамтамасыз етуге, аграрлық секторда инновациялық технологияларды қолдануға және қажетті ауыспалы егісті сақтауға мүмкіндік бермейді (Акимбекова, 2017). У.К. Керимованың (Керимова, 2017) пікірінше, шағын ауылшаруашылық тауар өндірушілері азықтүлік өндірісінің бәсекеге қабілеттілігімен қауіпсіздігіне қолжеткізу мәселелерін қаржылық және материалдық тұрғыдан шеше алмайды. Сонымен қатар, білікті агротехникалық кадрлар мен қамтамасыз ету мәселелері бар, бұл өнім сапасына теріс әсер етеді.

Жоғарыда көрсетілген мәселелердің пысықталуының жоғары деңгейіне қарамастан, агроөнеркәсіптік сектордағы кооперативтерді дамыту мәселесі өзекті мәселе болып табылады, өйткені қазіргі кезеңде даму осы үдерісті, оны іске асыру үшін неғұрлым тиімді ұсыныстарды мұқият талдауды талап етеді.

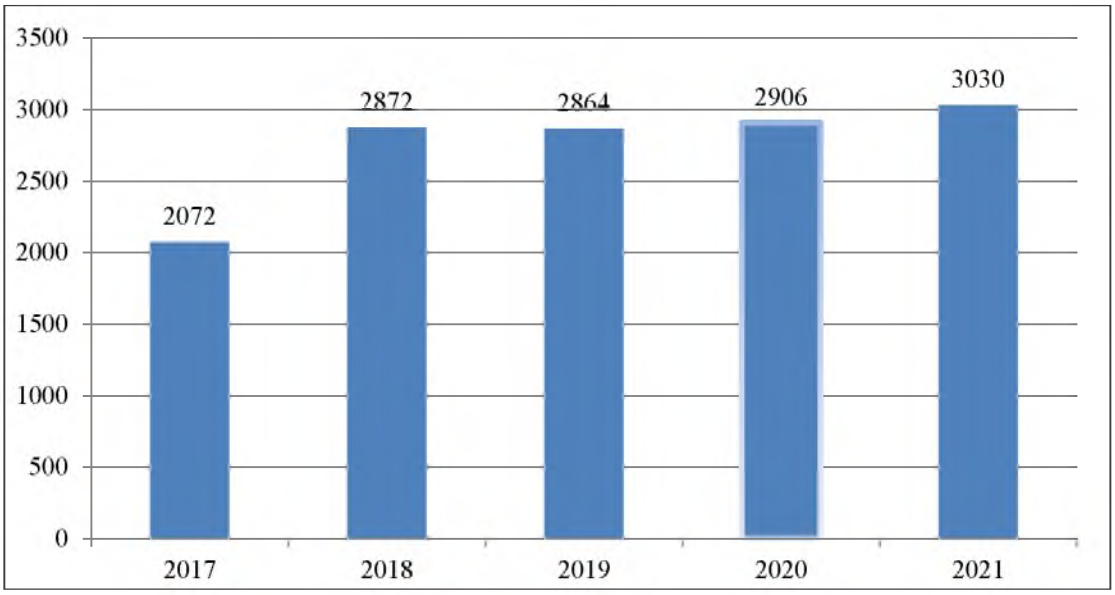
Материалдар және әдістер

Зерттеу жүйелік талдау, шегеру және индукция, талдау және синтез әдістерін, сондай-ақ графикалық әдісті қолдануға негізделген. Осы әдістерді қолдану кооперативтердің ерекшеліктерімен даму қарқындарын аграрлық саладағы кәсіпкерліктің нысаны ретінде объективті қабылдауға мүмкіндік береді.

Зерттеудің теориялық негіздерін шетелдік және ресейлік ғалымдардың агроөнеркәсіптік сектордағы кооперативтерді дамыту, басқарудың кооперативті нысандарының жұмыс істеу мәселелерін зерттеу, ұйымдастыру және бар мәселелерді шешу мәселелері бойынша еңбектері құрайды.

Нәтижелер және талқылау

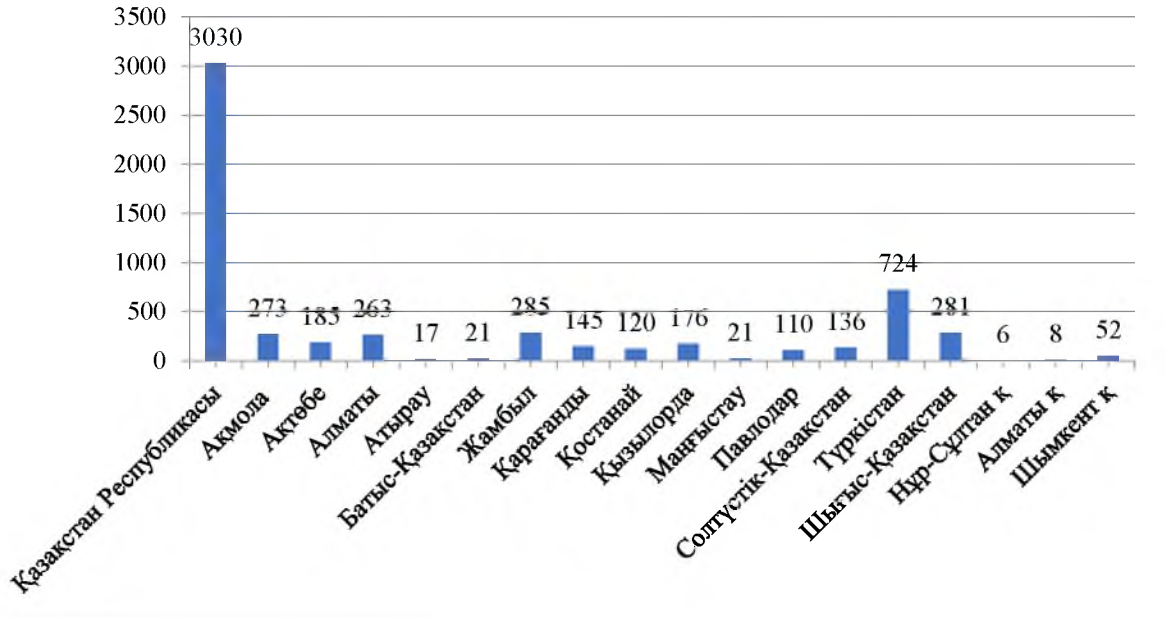
Соңғы 30 жылда өндірістік кооперативтердің саны шамамен 2 есеге қысқарды. 1999 жылдан бастап ауылдық тұтыну кооперативтері пайда бола бастады және қазіргі уақытта олардың саны 1,5 еседен астам өсті. 2000 жылдардың басынан бастап су пайдаланушылардың ауылдық тұтыну кооперативтері пайда болды және 2020 жылы олардың саны 346-га жетті. Су пайдаланушылардың ауылдық тұтыну кооперативтерінің, сонымен қатар шаруа және фермерлік қожалықтардың көп бөлігі Қазақстанның оңтүстік өңірлерінде (Алматы және Түркістан облыстарында) жұмыс істейді.



Сурет 1. Қазақстан Республикасында қолданыстағы ауылшаруашылық кооперативтерінің саны

Ескертпе: авторлармен (Ұлттық статистика бюросы, 2021) негізінде құрылған

Бірінші суретте көрсетілгендей, 2021 жылдың II тоқсанының қорытындысы бойынша республикамызда 3030 ауылшаруашылық кооперативі қызмет жасаған, ол көрсеткіш өткен жылдың осы кезеңімен салыстырғанда 124 кооперативке көп (сурет 1).



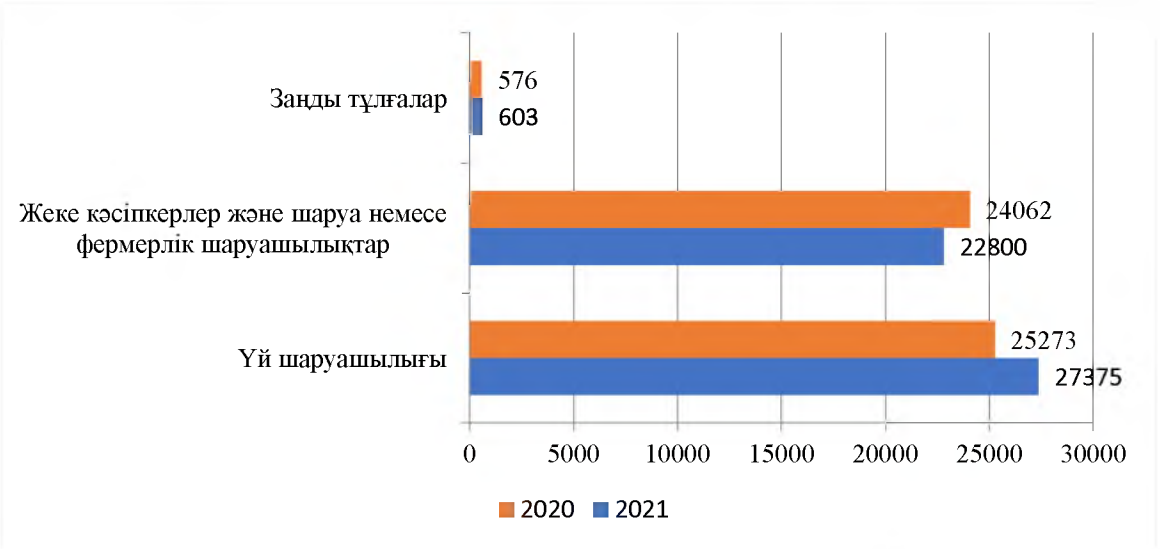
Сурет 2. Өңірлер аясында ауылдық тұтыну кооперативтерінің саны

Ескертпе: авторлармен (Ұлттық статистика бюросы, 2021) негізінде құрылған

Олардың төрттен бір бөлігі Түркістан облысына (724 ауылшаруашылығы кооперативі), одан кейін Жамбыл (285) және Шығыс Қазақстан (281) облыстарына тиесілі. Ауылшаруашылығы кооперативтерінің ең аз саны — Астана (6) және Алматы (8) мегаполистерінде байқалды. Ал құрғақшылықтан қатты зардап шеккен өңірде, яғни Маңғыстау облысында 21 ауылшаруашылығы кооперативі бар (сурет 2).

Ауылшаруашылығы кооперативтерінің құрамында 603 заңды тұлға бар, оның ішінде 498 шаруашылық серіктестігі, 1 — акционерлік қоғам, 104 — басқа ұйымдық-құқықтық нысандары бар заңды тұлғалар. Бұдан басқа, ауылшаруашылығы кооперативтерінің құрамына 22,8 мың жеке кәсіпкерлер

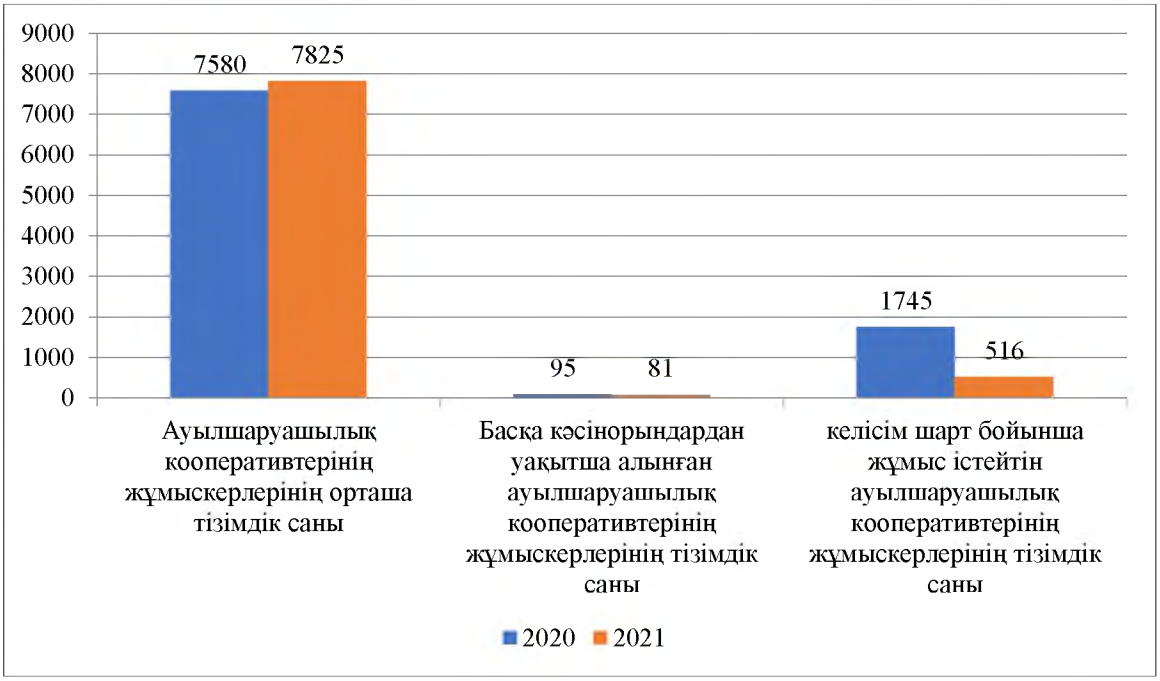
мен шаруа немесе фермер қожалықтары, сондай-ақ 27,4 мың үйшаруашылықтары кіреді (Бекбусинова Г., Султанова Г. Т., 2018) (сурет 3).



Сурет 3. Қазақстан Республикасында ауылшаруашылық кооперативтернің құрамының мүшелері

Ескертпе – авторлармен (Ұлттық статистика бюросы, 2021) негізінде құрылған

ҚР ауылшаруашылығы кооперативтерінде 2021 жылғы маусымның соңында 7,9 мыңнан астам адам жұмыс істеді, бұл ретте олардың саны бір жылда 394 немесе 3%-ға өсті. Олардың ішінде 7,8 мыңы кооперативтер қызметкерлері, тағы 81 адам басқа ұйымдардан қосымша жұмысқа қабылданды. Ауылшаруашылық кооперативтерінде 516 адам азаматтық-құқықтық сипаттағы келісімшарттар бойынша жұмыс істеді, бірақ олардың саны өткен жылмен салыстырғанда 3,4 есе азайды (сурет 4).



Сурет 4. Қазақстан Республикасында ауылшаруашылық кооперативтерінің құрамындағы жұмыскерлердің тізімдік саны

Ескертпе: авторлармен (Ұлттық статистика бюросы, 2021) негізінде құрылған

Ағрарлық өндірістің инфрақұрылымын қалыптастыру, ауылдық тұтыну кооперативтерін құру үшін мемлекет ауылшаруашылығы өндірісі субъектілеріне жеңілдікпен несие беруді жүзеге асыруды көздеді, сонымен қатар, салықтық жеңілдіктер де бар.

Алайда, ауылшаруашылығы кооперативтерінің сандық және сапалық даму серпіні ауылшаруашылығының орнықты дамуын қамтамасыз етудің қазіргі заманғы талаптарына және кооперативтер, мемлекеттік орғандар мүшелерінің үміттеріне жауап бермейді. Біріккен тауар өндірушілердің үлес салмағы шамамен 2% құрайды (Burkitbayeva S., Swimnen J., 2018).

Мәселен, 2021 жылғы маусымның соңында ауылшаруашылығы кооперативтеріндегі ірі қара мал саны өткен жылмен салыстырғанда 132,8 мың басты, яғни 7,1%-ға артық құрады, бірақ оның деңгейі әлі де жоғары емес.

Кесте 1. Қазақстан Республикасы ауылшаруашылық кооперативтеріндегі мал мен құстың саны

Атауы	2020	2021	Өсу қарқыны, %
Ірі қара мал, оның ішінде:	124 026	132 844	7,1
Сиыр	61 032	65 389	7,1
Қой	143 186	152 349	6,4
Жылқы	10 871	9 164	18,6
Ешкі	4 371	2 363	-45,9
Түйе	367	696	89,6
Шошқа	78	58	-25,6
Құс	888	48 883	349,0
Ескертпе: авторлармен (Ұлттық статистика бюросы, 2021) негізінде құрылған			

Олардың ішінде сиырлардың саны 65,4 мың басты құрады, бір жылда 7,1% өсті. Қойлардың саны 152,3 мың басты (жылына 6,494 басқа өсті), жылқы 10,9 мың басты (18,694 басқа өсті), түйе саны 696 басты (саны жылына 89,6% пайызға өсті) құрады. Сол уақытта ешкілер саны 45,9%, 2,4 мың басқа дейін, ал шошқа саны 25,694%, 58 басқа дейін төмендеді. Құс басы 4,5 есе, яғни 48,9 мың басқа дейін өсті, жаздың екінші жартысында республикамызда құрғақшылықтың салдарынан құстардың өлімі көрінді. Маңғыстау облысы ең көп зардап шекті, онда жергілікті атқарушы орғандардың халықтан қолдау сұрауға және қайырымдылық көмекті аудару үшін арнайы қор құруына тура келді. Мал өлімі Қызылорда облысында да орын алды (Есентуғелов А., Дебердеев А., Семенова Л., Забусова В., 2006).

Ауыл шаруашылығы өндірісі кәсінорындарының жалпы айналымы 133,4 млн. теңгені құрады, оның ішінде 2020 жылды 2017 жылмен салыстырғанда (тиісінше 161,3 млн. теңге және 140,7 млн. теңге) өндірістік қызмет қарқынының төмендеуін көрсетеді. Өнімнің негізгі түрлері бойынша өндіру динамикасы 2-кестеде келтірілген.

Кесте 2. 2017-2021 жылдарда өнімнің негізгі түрлері бойынша өндіру қарқыны, мың тонна

Өнім түрлері	2017	2018	2019	2020	2021
Нан және нан-тоқаш өнімдері	2,4	1,9	1,6	1,7	1,3
Кондитерлік өнімдер	0,04	0,03	0,03	0,01	-
Шұжық өнімдері	0,02	0,01	-	0,04	-
Консервілер	302	549	260	1378	1755
Алкогольсіз сусындар	1,7	1,1	0,8	-	-
Сүт өнімдері	-	-	-	0,181	0,6
Ескертпе: авторлармен (Ұлттық статистика бюросы, 2021) негізінде құрылған					

2021 жылы өндіріс кәсіпорындарының жалпы айналымының 2017 жылмен салыстырғанда 94%-ға шығуы консервілер өндірісінің күрт өсуіне байланысты болды, қалған көрсеткіштер қатты төмендеді (нан және нан-тоқаш өнімдері, кондитерлік өнімдер, сусындар) немесе шамалы өсуді көрсетті (шұжық өнімдері).

Кооперативті өндірісті дамытуда дәстүрлі ауылшаруашылық өндірісі ерекше маңызға ие. Бұл жагдайда неғұрлым болашағы бар іс-шаралар мыналар болып табылады: бау-бақша, дәнді және басқа да дақылдарды өсіру үшін жерді тиімді пайдалану бойынша мол тәжірибесі бар ауыл халқын тарту; ірі қара малды, шошқаларды, құстарды бордақылаумен айналысу, өсімдік шаруашылығы мен мал шаруашылығының басқа да түрлерін өндіру.

Тұтыну кооперациясы қызметінің тағы бір дәстүрлі саласы ауылшаруашылыгы өнімдері мен шикізатын сатып алу болып табылады. Кооперативтік ұйымдарда ауданы 150,2 мың ш.м. жалпы тауар қоймалары, сыйымдылығы 2,8 мың тонна көкөніс қоймалары, сыйымдылығы 1,5 мың тонна тоңазытқыштар бар, дайындау пункттерінің желісі 54 бірліктен тұрады; ауылшаруашылыгы өнімдері мен шикізатты сатып алу бойынша дайындау айналымы 2017 жылы 9,9 млн. теңгені құрады, бұл өткен жылғы көрсеткіштен 47% -га артық.

Қазақстандағы кооперацияның жағдайын талдай отырып, ол дәстүрлі түрде облыстық одақтарды, ауыл шаруашылыгы тауарын өндірушілерді және агросервистік кәсіпорындарды көпжақты шарттар негізінде біріктіретін коммерциялық емес ұйым болып табылатын Қазтұтынуодағы ұлттық кооперативтік одақ түрінде жұмыс істейтінін атап өтуге болады. Қауымдастықтар мен одақтар, оның ішінде Қазтұтынуодағы қатысушылардың кәсінкерлік қызметін үйлестіру, сондай-ақ олардың ортақ мүліктік мүдделерін қорғау мақсатында құрылады. Бұл ретте қауымдастықтар мен одақтар құрылтайшыларға қатысты жогары органдар болып табылмайды, бірақ қатысушылардың кәсінкерлік қызметін үйлестіру функциялары оларга тиісті өкілеттіктерді өз еркімен берген басқарушы орган тарапынан басқарушылық ықпал етуді көздейді қажет (Marcis J., Pinheiro de Lima E., Gouvea da Costa S.E., 2019).

Ауылшаруашылығы кооперациясының Қазақстан экономикасында бірқатар себептерге байланысты өзіндік орны болуы керек. Біріншіден, Қазақстан экономикасы, сонымен қатар оның тарихи-географиялық бейнесі инфрақұрылымдық мәселелерді шешуді қажет ететін тауар өндірушілердің ауылшаруашылық өнімдерін дамыту ұшін тартымды. Бірінші кезекте өткізу, қайта өңдеу, қаптау, кептіру инфрақұрылымын жандандыру керек. Ауылшаруашылық өнімін соңғы тұтынушы ретіндегі ауыл тұрғындары және көптеген жағдайларда қала тұрғындары үшін қол жетімді бағамен сапалы отандық ауылшаруашылық өнімі қажет. Осы сұрақтардың барлығы ауылшаруашылық кооперациясы жүйесін дамыту арқылы шешіледі. Ауылшаруашылық кооперациясының мүшесі ретінде барлық қызығушылығы бар жақтар болуы мүмкін.

Екіншіден, алдыңғы қатарлы елдердің әлемдік тәжірибесі аграрлық экономикада тұрақты даму орын алғанын көрсетеді. Кейбір елдерде ауылшаруашылық тауар өндірушілердің бастамасы бойынша мемлекетпен қолдау көрсетілетін ауылшаруашылық кооперативтерінің санының өсу қарқыны көрінеді. Жаһандық нарық жағдайында алдыңғы қатарлы тәжірибені елемей сыртқы әлемнен жеке даму мүмкін емес.

Кооперативтердің ел экономикасындағы рөлі мен мағынасын талдау үдерісінде, олар дағдарыс, тұрақсыздық және қолданыстагы ұйымдастырушылық модельдердің қоғамның қажеттіліктерін қанағаттандыра алмайтын құрылым ретінде пайда болғаны байқалады. Осы тұрғыдан алғанда, ауылшаруашылыгы кооперативтері ауылшаруашылыгы тауар өндірушілерін тұқыммен, ЖЖМ материалдарымен қамтамасыз ету керек. Ол агробизнесті тиімді жүргізу, өндірілген өнімді өткізу және нарыққа қараганда негұрлым қолжетімді бағалармен қамтамасыз ету үшін қажет. Ауылшаруашылыгы кооперативтері — бұл ауыл тұрғындарын жұмыс орындарымен, ұй шаруашылығында өндірілген өнімді өткізу және қайта өңдеу орындарымен, әртүрлі материалдар мен тауарларды нарықтық бағадан едәуір төмен бағамен сатып алумен қамтамасыз етуге қабілетті құрылым.

Мемлекет тұрғысынан алганда, ауылшаруашылық кооперативтері — бұл азық-түлік қауіпсіздігі, ауылдық жерлердің әлеуметтік дамуы мәселелерін шешетін ұйымдар. Ауылшаруашылыгы өнімдерін түпкілікті сатып алушылар үшін ауылшаруашылыгы кооперативтері қолжетімді бағалар бойынша сапалы отандық ауылшаруашылыгы өнімдерін жеткізін берушілер болып табылады. Осыған байланысты, ауылшаруашылыгы тауарын өндірушілерге субсидиялар мен жеңілдігі бар несиелер түріндегі мемлекеттік қолдау, бірінші кезекте, ауылдық тұтыну кооперативінің атынан жүзеге асырылады. Несиелер кооперативтің кепілдік мүлкімен (кемінде 60%) және сатып алынатын жабдықпен (50%-дан кем емес) қамтамасыз етіле отырып, төлемді бір жылға дейін кейінге қалдыру мүмкіндігімен жылдық 5% сыйақы мөлшерлемесі бойынша 7 жылға дейінгі мерзімге беріледі. Экономиканы ынталандырудың бұл шаралары ауылдық тұтыну кооперативін құруда ауылда шаруашылық субъектілердің қызметін дамытуға мүмкіндік береді.

Қатысушылардың ең көп қамтылуы, кемінде 10 әлеуетті қатысушы (ауылдық тауар өндірушілер), сатып алынатын мүліктің үздіксіз жұмыс істеуі үшін кооператив қатысушыларының шикізат базасының жеткіліктілігі (жылдық қажеттіліктен кемінде 75%), пай қорын қалыптастыру, өтімді кепілмен қамтамасыз етудің болуы кооперативтерді құру және оларға несие беру кезіндегі негізгі талаптар болып табылады.

Қазіргі таңда Қазақстанда ауылшаруашылық кооперативтерінің әртүрлі моделдері қызмет етеді.

1) ауылшаруашылық өнімін алғашқы өңдеу бойынша кооператив және мал өнімдерін өсіру бойынша кооперативтер (ірі қара малы, шошқа және құс);

2) өндірістік кооператив ауылшаруашылық мәдениетін өндіруде барлық технологиялық үдерістерді жүзеге асырады, ал қайта өңдеу кооперативтері ауылшаруашылық өнімдерін қайта өңдеу мен сақтауды жүзеге асырады;

3) қызмет көрсету және сатып алу-сату кооперативтері. Бұл кооперативтер ауылшаруашылығына қажетті қызметтер көрсетеді және қажет материалды-техникалық ресурстарды сатып алумен сатумен айналысады;

4) ауылшаруашылық серіктестіктері (ауылшаруашылық өнімдерін сату, қайта өңдеу, материалды-техникалық ресурстармен жабдықтау, сервистік қызмет көрсету);

5) су пайдаланушылардың ауылдық тұтыну кооперативтері (САТК).

Республикада 60%-дан астамын сатып алу-өткізу және қызмет көрсету кооперативтері құрайды. Кооперативтердің мүшелері мен клиенттері негізінен шаруа (фермер) қожалықтары, үй шаруашылықтары, дара кәсіпкерлер және ауылшаруашылығы өнімдерін өндірумен айналысатын шаруашылық жүргізудің басқа да шағын нысандары болып табылады. Әдетте жоғарыда аталған шаруашылық жүргізуші субъектілердің әрқайсысы ауылшаруашылығы өнімін шағын көлемде өндіреді. Осыған байланысты өнімді өзі үшін тиімді сата алмайды. Өнімнің (ресурстың) бірлігіне есептегенде өткізуге және материалдық-техникалық жабдықтауға неғұрлым жоғары шығындарға байланысты негізгі құралдарды тиімді пайдалана алмайды. Шағын бизнес субъектілерінің әрқайсысында өндірістің шамалы көлемі олардың жеткізу және сату нарықтарына қол жетімділік дәрежесін шектейді. Бұл жағдай өнімді қымбат сатуға және материалдық-техникалық ресурстарды арзанырақ сатып алуға мүмкіндік береді (Султанова Е.Т., 2017).

Ірі сауда және жабдықтау ұйымдары үлкен шығындарға байланысты шағын бизнес түрлерімен өзара әрекеттесуді қаламайды. Мұндай жағдай жеке кәсінкерлердің және шаруашылық жүргізудің басқа да шағын нысандарының Ш(Ф)Қ, ЖӨҚ ауылшаруашылығы өнімін өндіру көлемінің қысқаруына, оны өндіру тиімділігінің төмендеуіне, ауыл халқының жұмыспен қамтылуы мен кірістерінің азаюына әкеп соғады. Сондықтан ол, елдің әлеуметтік-экономикалық даму мақсаттарына – еңбекшілердің әл-ауқатының өсуіне қайшы келеді (Royer A., Bijman G., Abebe G.K., 2017).

Әр түрлі аймақтарда бұл мәселенің шиеленісу деңгейі айтарлықтай өзгереді, сонымен қатар ірі бизнестің өнімді өндіру және сату, қызмет көрсету саласындағы басқарудың күрделі формаларымен өзара әрекеттесуіне реакциясы да өзгереді. Бұл мәселелерді ауылшаруашылығы тұтыну кооперативтерін дамытудың облыстық және өңірлік бағдарламаларын әзірлеу кезінде ескеру қажет.

Республикада қайта өңдеу зауыттары мен Сервистік дайындау орталықтарының (СДО) айналасында құрылатын Ауылшаруашылық тұтыну кооперативі (АТК) ұлғаюда. Олардың резервтерінде барлық негізгі құралдар – тракторлар, комбайндар, ауылшаруашылығы машиналары және басқа да ауылшаруашылығы техникасы мен жабдықтары шоғырланған, олар ауылшаруашылығы дақылдарын өсіру бойынша қызметтер көрсетеді. Ауылдық тұтыну кооперативтерінің өз қатысушыларына және үшінші тұлғаларға көрсететін қызметтерінің құны бойынша есептік бағалар барлық жерде қолайлы бола бермейді. Мысалы, қайта өңдеу зауытында шаруашылық жүргізуші субъектілерге қызмет көрсететін барлық қажетті техника бар, сонымен бірге фермерлерге орындалған жұмыстары үшін олар белгілеген есептік бағалар өте жоғары болып табылады. Осылайша көрсетілген қызметтердің құны келесілерден тұрады:

– 1 га жер жырту үшін — 8314 теңге;

– топырақты жоспарлау үшін — 4838 теңге,

– улы химикаттарды енгізгені үшін — 3404 теңге және т.б.

МТС зауытының осындай жоғары бағасының себептерінің бірі — өте қымбат жабдықты сатып алу, алынған несие сомаларын тезірек қайтаруға деген үлкен ықылас, бұл қызметтердің есептік бағасының негізсіз өсуіне әкелді.

Сервистік дайындау орталықтарында көрсетілетін қызметтердің бағасы шамамен осындай. Қайта өңдеу зауыттары мен сервистік дайындау орталықтары жеке қосалқы шаруашылықтарға және шаруашылық жүргізудің басқа да шағын нысандарына өз бейіндері бойынша өсіруге, ауылшаруашылығы өнімдерін қайта өңдеуге және өткізуге гана көмек көрсетеді. Бір алаңдағы шаруа қожалықтары немесе жеке шаруа қожалықтары жыл сайын бірдей дақыл себе алмайды. Ауыспалы егіс қажет екені анық. Егер басқа дақылдар өсірілсе, өңдеу зауыты да, сервистік дайындау орталығы да көмектесе алмайды. Егер мұндай көрініс басым болса, онда бұл егістік түсімінің жыл сайынғы төмендеуіне әкеледі, нәтижесінде еңбек ынталандырылуы төмендейді және шаруашылық жүргізуші субъектілер осы немесе басқа дақылды өсіруді орынсыз деп санайды. АШК құру, ягни алғашқы ұжымдарды өндірістік кооперативке біріктіру, егін өсірушілердің пікірінше, осы жағдайдан шығудың жалғыз жолы болады. Қазіргі уақытта ауылдық тұтыну кооперативтерінің болашақта пилоттық жобаға айналуы мүмкін қызметтерін ұйымдастырудың кейбір ерекшеліктері мен құны бойынша есептеулер негізделген. Бірақ іс жүзінде олар жоқ және бұл елдегі кооперативті қозғалыстың дамуына кедергі келтіреді (Stukach V.F., 2019).

Алматы технологиялық университетінің гылыми қызметкерлерімен жүргізілген зерттеулердің негізінде келесі басты құжаттар әзірленді:

– ауылшаруашылық өнімін жабдықтау, дайындау, өткізу және қайта өңдеу бойынша өз қатысушыларына қызметтерді ұсыну бөлігінде ауылдық тұтыну кооперативтерінде бухгалтерлік есепті ұйымдастыру мен жүргізудің ерекшеліктері ескерілген әдістемелік нұсқаулықтар;

– ауылшаруашылық тауар өндірушілерге ұсынылатын қызметтерінің түрлері бойынша ауылдық тұтыну кооперативтерін ұйымдастыру бойынша өңірлік карталар;

– ауылдық тұтыну кооперативтерімен көрсетілетін қызметтердің құнын анықтау бойынша есептер.

Орындалған жұмыстардың қорытындысы бойынша және ауылшаруашылық кооперативтерінің экономикалық тиімді қызмет етуінің мақсатында әртүрлі типтегі АТК құру жоспарлануда, олар ішкі нарықтың қажеттілігін және экспорттық ресурстарды жабу үшін бәсекеге қабілетті ауылшаруашылық өнімін өндіру көлемін ұлғайтуға бағытталған. Соңғы өнімді бөлуде объективтілікті толығымен қамтамасыз ету мақсатында ауылшаруашылық тауар өндірушілердің ұсынылатын қызметінің түрлері бойынша әмбебап тәсілдемені табу және құру ұйғарылады.

Ауылшаруашылық кооперациясының әлсіз даму көрінісін көптеген жағдайлармен түсіндіруге болады. Фермерлердің жеткілікті білімінің және ҚР және шетелде кооперативтердің жемісті жұмысы туралы қазіргі заманғы ақпараттың жоқтығыда үлкен әсер етеді. Бұқаралық ақпарат құралдар арқылы еліміздегі және дамыған елдердегі тиімді жұмыс істейтін ауылшаруашылық кооперативтері туралы ақпаратты тұрақты негізде таратып отыру керек (теледидар, радио, әлеуметтік желілер).

Ақпараттық тапшылық мәселесін шешу үшін Еуропа, АҚШ, Канада сияқты шетелдерден ғалымдарды және тәжірибелі мамандарды тарту және ауылшаруашылық кооперациясын дамыту бойынша біріккен жобаларды ұйымдастыру қажет. Әрі қарай, келесі кезең ауылшаруашылық кооперативтерін ұйымдастыру және басқару бойынша бұл білімдерді жүйелендіру болып табылады. Ягни, кооперативтердің жұмысының тетіктерінің және қағидаларының мәнін, олардың артықшылығы мен жетіспеушілігін, олардың міндеттері мен қызметтерін, табысты бөлуді және т.б., білу. Агробизнесте кооператив мүшелерінің, мемлекеттік құрылымның өздерінің арасында кооперативті форманың артықшылығы мен айрықша ерекшелігін түсінбеу кездеседі (Сагинова С.А., Султанова Г.Т., 2017).

Қорытынды

Республикадағы тұтынушылық кооперация жүйесінің қазіргі жағдайы өте гетерогенді көрініс болып табылады. Кейбір аймақтар экономикалық тұрғыдан жеткілікті дамыған, ал басқалары өте қиын жағдайда. Халық тұтынатын тауарлар өндірісін талдау халық тұтынатын тауарлар өндірісі Ақмола, Павлодар, Қызылорда, Түркістан облыстарында барынша дамығанын көрсетеді.

Ауылдағы шаруашылық жүргізуші субъектілердің қызметін ауылдық тұтыну кооперативін құруға ынталандыру үшін, сондай-ақ, аграрлық өндірістің инфрақұрылымын қалыптастыру үшін ауылдық тұтыну кооперативтерін құру үшін мемлекет ауылшаруашылығы өндірісі субъектілеріне жеңілдік пен кредит беруді жүзеге асыруды көздейді және салық төлеуі тұрғысынан жеңілдіктер қарастыруда. Пай қорын қалыптастыру, сатып алынатын мүліктің үздіксіз жұмыс істеуі үшін кооператив қатысушыларының шикізат базасының жеткіліктілігі, өтімді кепілмен қамтамасыз етудің болуы, сондай-ақ кооперативтерді құру және оларга кредит беру кезінде қатысушылардың барынша көп

қамтылуы негізгі талаптар болып табылады. Республика бойынша қызмет түрлері бойынша жұмыс істейтін әртүрлі кооперативтік нысандарды орындалатын функцияларға сәйкес 5 топқа топтастыруға болады.

Шаруашылықтанудың барлық субъектілері ауылшаруашылық өнімін аз көлемде өндіруін ескере отырып, және олар оны өздеріне тиімді сату мүмкіндігі жоқ болуының себебі бойынша ауылдық тұтыну кооперативтерімен көрсетілетін қызметті ұйымдастырудың және құнының ерекшеліктері бойынша есеп айырысу қажеттілігі туды, бұл осы салада пилотты жоба болуы мүмкін. Бірақ олар жергілікті жерлерде жоқ және бұл фактор республикада кооперативтік қозғалыстың дамуына әсер етеді.

Әдебиеттер тізімі

Burkitbayeva S. Smallholder agriculture in transition economies of Agrarian Change / S. Burkitbayeva, J.Swimnen // Moscow. — 2018. — 18 (4). — P. 882-892.

Cook M.L. Cooperatives and group action in Food and Agricultural Marketing Issues for the 21st Century / M.L. Cook // Texas: A&M University. — 1993. — P.154-169.

Chen A. Rural Development Strategies and Government Roles in the Development of Farmers' Cooperatives in China / A. Chen, S. Scott //Journal of Agriculture, Food Systems, and Community Development. — 2014. — No 4. — P. 35-55.

Hooks T. A Co-operative Busmess Approach in a Values-based Supply Chain: A Case Study of a Beef Cooperative / T. Hooks, O. McCarthy, C. Power // Joumal of Co-operative Organization and Management. — 2017. — Vol. 5, Iss. 2. — P. 65-72.

Kurakin A. Post-socialist agricultural cooperatives in Russia: a case study of top-down cooperatives in the Belgorod Region /A. Kurakin, O. Visser // Postcommunist Economics. — 2017. — Vol. 29. — P. 2.

Marcis J. Model for assessing sustainability performance of agricultural cooperatives / J. Marcis, E. Pinheiro de Lima, S.E. Gouvea da Costa // Journal of Cleaner Production. — 2019. — No. 234. — P. 933-948.

Royer A. Cooperatives, partnerships and the challenges of quality upgrading: A case study from Ethiopia / A. Royer, G. Bijman, G. Abebe // Journal of Cooperatives Organization and Management. — 2017. — No. 5 (1). — P. 48-55.

Sultanova E.T. Economic mechanism of functioning of agricultural manufacture / E.T. Sultanova // Procced. 13th international scientific and practical conference Scientific Horizons-2017". Sheffield: Science and education LTD. — 2017. — P. 68-74.

Stukach V.F. Degraded soils: a resource for providing organic nutrition to socially vulnerable segments of the population, motivation farmers to use environmentally friendly technologies /V.F. Stukach // Journal of Agriculture and Environment. — 2019. — Vol. 3(ll). — P. 33-39.

Акимбекова Г.Ю. Сельскохозяйственная кооперация в Республике Казахстан: проблемы и пути решения. Сельскохозяйственная кооперация в Республике Казахстан: проблемы и пути решения [Текст] / Г.Ю. Акимбекова // Материалы Междунар. науч.-практ. конф. «Российская деревня и кооперация: сегодня и завтра». — М., 2017. — С. 36–44.

Бекбусинова Г. Роль информационных технологий в развитии аграрного производства в Республике Казахстан // Г. Бекбусинова, Г. Султанова // Экономика и статистика. — 2018. — №4. — С. 109–113.

Бюро национальной статистики Агентства по стратегическому планированию и реформам Республики Казахстан. – 2021. https://stat.gov.kz/offrcial/industry/14/statistic/7

Есентугелов А. Сельское хозяйство Казахстана: проблемы, пути их решения / А. Есентугелов, А. Дебердеев, Л. Семенова, В. Забусова // Результаты исследования 2000 г. — Алматы: РГП «Институт экономических исследований», 2006. — 92 с.

Керимова У.К. Текущая роль производственных и обслуживающих кооперативов в сельском хозяйстве Южного Казахстана / У.К. Керимова // Дискуссионный документ. Институт сельскохозяйственного развития Лейбница в странах с переходной экономикой. — 2017. — https://www.econstor.eu/bitstream/10419/170716/1/1001267605.pdf

Молдашев А.Б. Повышение роли агропромышленного производства Казахстана на общем рынке стран-участниц ЕАЭС [Текст]: реком. /А.Б. Молдашев, Г.А. Никитина, Г.Л. Гусева. — Алматы, 2017. — 35 с.

Сагинова С.А. Зарубежный опыт инновационного развития агропроизводства в решении проблемы продовольственного обеспечения населения [Текст] /С.А. Сагинова, Г.Т. Султанова // Вестн. Кыргыз. экон. ун-та им. М. Рыскулбекова. — 2017. — №2(40). — С. 91–94.

Тортиа Е.С. Сельскохозяйственные кооперативы [Текст] /Е. Тортиа, В. Валентинов, С. Илиопулас //Журнал Предпринимательского и организационного разнообразия. — 2103. — №2 (1). — С. 23–36.

С.С. Шакеев, К.А. Невматулина, Г.И. Купалова, Т. Болатжанулы

Анализ состояния и развития кооперативов в агропромышленном секторе Республики Казахстан

Аннотация:

Цель: Проведенное авторами исследование подтвердило, что проблема развития кооперативных форм хозяйствования актуальна не только в силу социально-экономической значимости, но и вследствие недостаточной ее изученности. Целью работы является анализ текущего состояния и направлений развития производственных кооперативов в агропромышленном производстве Казахстана как одной из форм предпринимательской деятельности в аграрном секторе экономики.

Методы: Авторами были использованы следующие методы: системный анализ, дедукция и индукция, анализ и синтез, а также графический метод. Применение данных методов позволяет объективно воспринимать особенности и тенденции развития кооперативов как формы предпринимательства в аграрной сфере.

Результаты: Для достижения поставленной цели авторами исследована специфика кооперативных форм хозяйствования в агропромышленном секторе экономики, выявлены основные направления их развития.

Выводы: В результате исследования авторами проведен анализ текущего состояния сельскохозяйственного кооперативного движения, определены основные регионы-лидеры, изучена проблематика функционирования кооперативных форм хозяйствования, а также выделены основные направления развития, способствующие решению существующих проблем.

Ключевые слова: кооператив, сельское хозяйство, продовольственная безопасность, сельскохозяйственная продукция, кооперативные товарищества, животноводство.

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Analysis of the state and development of cooperatives in the agro-industrial sector of the Republic of Kazakhstan

Abstract

Object: The study conducted by the authors confirmed that the problem of the development of cooperative forms of management is relevant not only because of its socio-economic significance, but also because of its insufficient knowledge. The purpose of the work is to analyze the current state and directions of development of production cooperatives in the agro-industrial production of Kazakhstan as one of the forms of entrepreneurial activity in the agricultural sector of the economy.

Methods: System analysis, deduction and induction, analysis and synthesis, and the graphical method.

Results: The authors investigated the specifics of cooperative forms of management in the agro-industrial sector of the economy, identified the main directions of their development.

Conclusions: As a result of the study, the authors analyzed the current state of the agricultural cooperative movement, identified the main leading regions, studied the problems of functioning of cooperative forms of management, and also identified the main directions of development that contribute to solving existing problems.

Keywords: cooperative, agriculture, food security, agricultural products, cooperative partnerships, animal husbandry.

References

Akimbekova, G.U. (2017). Selskokhoziaistvennaya kooperatsiya v Respublike Kazakhstan: problemy i puti resheniya [Agricultural cooperation in the Republic of Kazakhstan: problems and solutions]. Proceedings from Russian Village and Cooperation: Today and Tomorrow: *Mezhdunarodnaya nauchno-prakticheskaya konferentsiya (2017 god) – International Scientific and Practical Conference. (pp.* 36–44) [in Russian].

Bekbusinova, G., & Sultanova, G.T. (2018). Rol informatsionnykh tekhnologii v razvitii agrarnogo proizvodstva v Respublike Kazakhstan [The role of information technology in the development of agricultural production in Kazakhstan]. *Ekonomika i statistika – Ecomomics and statistics,* 4, 109–113 [in Russian].

Burkitbayeva, S., & Swimnen, J. (2018). Smallholder agriculture in transition economies of Agrarian Change. *Moscow,* 18 (4), 882-892.

Byuro natsionalnoi statistiki Agentstva po strategicheskomu planirovaniiu i reformam Respubliki Kazakhstan [Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan]. (n.d.). *stat.gov.kz* . Retrieved from https://stat.gov.kz/offrcial/industry/14/statistic/7 [in Russian].

Cook, M.L. (1993). Cooperatives and group action in Food and Agricultural. *Marketing Issues for the 21st Century. Texas: A&M University*, 154-169.

Chen, A., & Scott, S. (2014). Rural Development Strategies and Government Roles in the Development of Farmers' Cooperatives in China. *Journal of Agriculture, Food Systems, and Community Development*, 4, 35-55.

Esentugelov, A., Deberdeev, A., Semenova, L., & Zabusova, V. (2006). Selskoe khozyaistvo Kazakhstana: problemy, puti ikh resheniya [Agriculture of Kazakhstan: problems, ways of their solution]. *Almaty: RGP «Institut ekonomicheskih issledovanii» — Almaty: RSE "Institute of economic researches"*, 92 [in Russian].

Hooks, T., McCarthy, O., Power C., & Macken-Walsh, A.A. (2017). Co-operative Business Approach in a Values-based Supply Chain: A Case Study of a Beef Cooperative. *Journal of Co-operative Organization and Management,* 5, 2, 65-72.

Kerimova, U. (2017). Tekushchaya rol proizvodstvennykh i obsluzhivayushchikh kooperativov v selskom khozyaistve Yuzhnogo Kazakhstana [Current role of production and service cooperatives in agriculture in Southern Kazakhstan]. *Diskussionnyi dokument. Institut selskohozyaistvennogo razvitiya Leibnitsa v stranakh s perekhodnoi ekonomikoi – Discussion Paper. Leibniz Institute of Agricultural Development in Transition Economies. www.econstor.eu.* Retrieved from https://www.econstor.eu/bitstream/10419/170716/1/1001267605.pdf [in Russian].

Kurakin, A., & Visser, O. (2017). Post-socialist agricultural cooperatives in Russia: a case study of top-down cooperatives in the Belgorod Region. *Postcommunist Economics*, 29, 2.

Marcis, J., Pinheiro de Lima, E., & Gouvea da Costa, S.E. (2019). Model for assessing sustainability performance of agricultural cooperatives. *Journal of Cleaner Production 234*, 933-948.

Moldashev, A.B., Nikitina, G.A., & Guseva, G.L. (2017). Povyshenie roli agropromyshlennogo proizvodstva Kazakhstana na obshchem rynke stran-uchastnits EAYES: rekomendatsii [Increasing the role of agro-industrial production in Kazakhstan in the common market of the EAEU member countries: recommendations]. *Almaty*, 35 [in Russian].

Royer, A., Bijman, G., & Abebe, G.K. (2017). Cooperatives, partnerships and the challenges of quality upgrading: A case study from Ethiopia. *Journal of cooperatives Organization and Management*, 5 (1), 48-55.

Saginova, S.A., & Sultanova, G.T. (2017). Zarubezhnyi opyt innovatsionnogo razvitiya agroproizvodstva v reshenii problem prodovolstvennogo obespecheniya naseleniya [Foreign experience of innovative development of agricultural production in solving the problem of food supply for the population]. *Vestnik Kyrgyzskogo ekonomicheskogo universiteta imeni M. Ryskulbekova — Bulletin of the Kyrgyz Economic University named after M. Ryskulbekova*, 2 (40), 91–94 [in Russian].

Stukach, V.F. (2019). Degraded soils: a resource for providing organic nutrition to socially vulnerable segments of the population, motivation farmers to use environmentally friendly technologies. *Journal of Agriculture and Environment*, Vol. 3(ll), 33-39

Sultanova, E.T. (2017). Economic mechanism of functioning of agricultural manufacture. *Procced.13th international scientific and practical conference "Scientific Horizons-2017", Sheffield: Science and education LTD*, 68-74.

Tortia, E.C., Valentinov, V., & Iliopoulas, C. (2013). Selskokhozyaistvennye kooperativy [Agricultural cooperatives]. *Zhurnal Predprinimatelskogo i organizatsionnogo raznoobraziya — Journal of Entrepreneurial and Organizational Diversity*, 2(1), 23–36 [in Russian].