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СБОРНИК СТАТЕЙ

ТОМ I

Экономические науки
Сельское хозяйство и перерабатывающая промышленность
Информационные технологии, математика и физика
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ПРИВЕТСТВЕННОЕ СЛОВО РЕКТОРА КОМРАТСКОГО ГОСУДАРСТВЕННОГО УНИВЕРСИТЕТА

Уважаемые студенты, сотрудники, профессорско-преподавательский состав, высокие гости, все присутствующие в зале и те, которые нас смотрят и слушают!

Сегодня мы отмечаем важный момент в истории нашего университета - его 33-летний юбилей!

Разрешите от себя лично всех вас поздравить с замечательным праздником – Днем рождения нашего родного нам университета. Мне думается, что возраст у нас особенный и очень знаковый! Нам 33.



Символично, но нам ровно столько лет – сколько лет со дня принятия независимости Республики Молдова. Это возраст, который знаком всем людям на земле (возраст Христа). Да, ровно 33 года назад университет открыл свои двери для первых студентов.

Сегодняшний день наполнен гордостью и восхищением перед тем, как далеко мы продвинулись и как многого достигли за эти годы.

Это замечательный повод для волнения, радости, гордости и вдохновения, поскольку мы отмечаем множество достижений и вклад каждого члена нашего сообщества в наш общий успех.

Юбилеяра, как известно, красят не годы, а заслуги. Сегодня Комратский государственный университет представляет собой современный научно-образовательный комплекс, отвечающий запросам государства, общества и человека, со всеми присущими ему качествами: имеет широкий спектр специальностей, высококвалифицированный профессорско-преподавательский состав, оснащенную материальную и техническую базу, собственный спортивный комплекс, агро-лаборатории, опытный участок, бизнес-инкубатор, инно-центр, образовательный центр Tekwill, центр непрерывного образования и повышения квалификации и многое другое. В учебном процессе широко используются современные технологии, успешно внедряются инновационные образовательные программы, идет стремительное развитие фундаментальной науки, имеет место интеграция в международное, образовательное и научное сообщество.

Университет заслуженно занимает свое место в числе ведущих вузов страны, стал узнаваемым на международном уровне, имеет партнеров от Европы до Азии, участвует в различных грантовых программах, программах обмена студентами и преподавателями.

Сегодня в КГУ успешно функционирует 15 международных центров, открытые посольствами, аккредитованные в Республике Молдова. Работают преподаватели из Турции, Румынии, Болгарии, Греции, США.

За прошедшие три десятилетия наш университет стал не только местом обучения, но и источником вдохновения, исследований и инноваций. Мы поддерживаем высокие стандарты качества образования и стремимся к постоянному росту и развитию.

Сегодня мы отмечаем не только наши прошлые достижения, но и смотрим в будущее с оптимизмом и решимостью. Мы стремимся к тому, чтобы наш университет продолжал быть лидером в области образования, науки и инноваций, и готовил наших студентов к вызовам и возможностям, которые ждут их в современном мире.

Мы стремимся к тому, чтобы наша академическая обстановка была стимулирующей и вдохновляющей для всех студентов, преподавателей и сотрудников.

Каждый из нас играет важную роль в формировании репутации нашего университета. Мы все работаем усердно, чтобы он оставался узнаваемым центром образования, где стремятся к совершенству и превосходству во всех сферах.



Уверен, что у нас обучаются будущие лидеры, успешные предприниматели, ученые, замечательные педагоги, прославленные деятели культуры и искусства, которые готовы вносить свой вклад в развитие общества и создавать изменения в мире.

Наши студенты не только обучаются, но и развиваются как личности, становясь талантливыми специалистами, готовыми к вызовам современного мира.

Студенты здесь получают глубокие теоретические знания, хорошую профессиональную подготовку, разносторонние практические навыки и умения.

За прошедшее время Университетом было подготовлено большое число высококвалифицированных специалистов, работающих в различных отраслях экономики и сельского хозяйства, в системе государственного управления, образования и культуры, в судебной системе и правоохранительных органах, что, безусловно, способствовало ее дальнейшему укреплению и развитию.

Выражаю глубокую уверенность в том, что, поддерживая традиции, заложенные многими поколениями преподавателей и студентов, сохраняя и приумножая накопленный потенциал университета, наш коллектив способен внести значительный теоретический и практический вклад в инновационное развитие и конкурентоспособность.

Пусть наш университет продолжает прославляться своими достижениями, привлекать лучших умов и вдохновлять новые поколения на погружение в мир знаний и открытий. Вместе мы можем достичь еще больших высот и сделать наш университет еще более великим и значимым для нашего общества.

От всей души желаю всем крепкого здоровья, сил и энергии для дальнейшей плодотворной работы! Счастья и благополучия Вам и Вашим близким, мира, любви и добра! Пусть вокруг Вас всегда будут единомышленники и друзья, Ваша семья, любимые и родные, а тепло их сердец сохранит Вас от бед и невзгод! Пусть мир, тепло и благополучие не покидают Ваш дом, а удача сопутствует во всех делах и начинаниях!

Я хочу поблагодарить всех вас за ваш вклад в наш университет. Благодаря вашей преданности, стараниям и таланту мы можем гордиться тем, что достигли. Пусть наш университет продолжает процветать и оставаться местом, где каждый может раскрыть свой потенциал и вдохновиться на новые высоты.

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MARKETING IN THE CONVERGENCE OF SUSTAINABLE DEVELOPMENT

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Abstract. Amidst the global push towards sustainable development, marketing strategies are undergoing profound transformations. This paper explores the nuances of marketing in the context of convergence with sustainable development goals. It examines how businesses are recalibrating their marketing approaches to align with environmental, social, and governance (ESG) criteria, and how these changes are reshaping consumer behavior, corporate responsibilities, and market dynamics. Drawing on a comprehensive review of literature and case studies, the study illuminates the challenges and opportunities that arise from this convergence. It underscores the imperative for marketers to adopt a holistic and ethical approach, integrating sustainability principles into every facet of their strategies. The paper further discusses emerging trends, innovative practices, and the pivotal role of consumer awareness and education in driving sustainable marketing initiatives.

Keywords: economy, marketing strategies, sustainable development, convergence, challenges, consumer, efficient, environmental marketing.

The main goal of any business is to make a profit. To increase this profit, companies use various methods and strategies. Today, marketing plays an important role in ensuring the successful positioning of products or services in the market and in finding potential opportunities for development. Reforming the country's economy with its transition to sustainable development relations has inevitably affected the sphere of marketing and management. Business engagement with the environment involves integrating environmental aspects into innovation and the economy, as well as the active participation of companies in solving environmental problems. Modern marketing plays a key role in shaping natural resource management strategies, with a focus on research to promote environmental responsibility and resource conservation.

The main objective of environmental marketing strategies is the efficient utilisation of nature's resources. In order to address complex economic and environmental issues, it is necessary to apply an innovative approach to natural resource management, which can be characterised as environmental marketing.

Environmentally oriented marketing in international practice is associated with the active introduction of eco-technologies and innovations aimed at reducing the negative impact on nature. In the conditions of rapid growth of the environmental services market, it is necessary to effectively use marketing tools to manage this segment.

The implementation of environmental strategies and management systems in a company brings direct economic benefits, allowing it to expand its audience and increase sales. To successfully



promote domestic products in domestic and global markets, it is necessary to improve their competitiveness.

Sustainability marketing convergence refers to the process of combining and merging different marketing strategies, tools and practices to promote sustainable development of business and society as a whole. Here are a few key aspects of this concept [1, 2]:

Holistic approach: Marketing convergence involves integrating economic, social and environmental aspects into marketing strategies, which helps companies create value not only for business but also for society.

Responsible Consumption: With sustainable development, the focus is on creating products and services that meet the needs of today's customers without compromising the ability of future generations to meet their needs.

Social and Environmental Responsibility: Companies actively integrate corporate social responsibility (CSR) and sustainability principles into their marketing strategies, demonstrating their responsibility to society and the environment.

Consumer education and awareness: Sustainability marketing aims to raise consumer awareness of the importance of sustainable consumption and to encourage consumers to choose sustainability-compliant products and services.

Innovation: Convergence marketing also helps stimulate innovation in sustainability by encouraging companies to develop new technologies, products and solutions that promote environmental and social sustainability.

Overall, sustainability marketing convergence is a strategic approach that integrates marketing efforts with sustainability goals, thereby creating long-term value for business, society and the environment.

Today's global market increasingly emphasises environmental safety of products and services. Ukrainian manufacturers need to take this trend into account in order to successfully compete with foreign companies. The application of environmental approaches can help reduce costs, conserve resources, and attract investments. In addition, it can increase employee satisfaction, improve relations with the community and contribute to the formation of environmental culture of the population, which, in turn, will improve the company's reputation.

Marketing, at its core, is socially oriented, and through its principles it manages to resolve the social contradiction between producers who want to maximise sales and consumers who are looking for quality and environmentally friendly goods or services.

Classical marketing fulfils a key social role by reconciling the interests of sellers and buyers. However, with the growing environmental consciousness of consumers, contradictions between the economic goals of enterprises and the environmental needs of society arise. These contradictions are expressed in the impact of marketing on nature and public interests. The main task of environmental marketing is to resolve these conflicts, given that natural resources and living conditions are fundamental human needs.

Environmental marketing seeks to create conditions under which businesses adopt environmentally friendly production methods. The main objective of this approach is to motivate companies to change their technologies and to use natural resources sustainably. In addition, environmental marketing encourages producers to develop and promote environmentally friendly products and services, and to provide a safe environmental environment for consumers [3].

Marketing and environmental marketing convergence is the process of merging and integrating traditional marketing strategies with the principles of sustainability and environmental responsibility. This approach reflects the growing awareness of the importance of environmental and sustainable practices in today's business and society. Here are some key aspects of marketing convergence and environmental marketing:

Integration of environmental values. Under marketing and environmental marketing convergence, companies are integrating environmental values and sustainability principles into their marketing strategies and practices.



Green Product Promotion Strategies. Companies actively promote green and sustainable products, emphasising their benefits to consumers and the environment.

Consumer Education. Convergence marketing focuses on raising awareness and educating consumers about the importance of sustainable consumption and their role in keeping the planet sustainable. **Transparency and Responsibility.** Companies are striving for greater transparency regarding environmental practices and actions, demonstrating their responsibility to consumers and society at large.

Innovation and development. The convergence of marketing and environmental marketing encourages companies to innovate in sustainable technologies, products and services to create more sustainable and effective solutions.

Overall, the convergence of marketing and environmental marketing reflects global trends towards integrating environmental and sustainable principles into business strategies, enabling companies to not only meet the needs of today's consumers, but also contribute to creating a more sustainable and responsible future.

Ultimately, it advocates for a symbiotic relationship between marketing and sustainable development, emphasizing their collective potential to foster a more equitable, resilient, and environmentally conscious global economy. Expanding the understanding of ecomarketing involves deepening its conceptualisation in several aspects:

An expanded understanding of the 'commodity' in ecological marketing allows the approach to be applied to elements such as regions, natural resources, intellectual assets and organisational structures, and introduces the term 'ecological good or service'.

Ecomarketing principles can also be applied to new areas of marketing such as non-profit and counter-marketing. By applying ecomarketing principles to a non-standard area of marketing, emphasis is placed on stimulating environmental interests and preferences in consumers.

Incorporating the current global trend of economic 'servitisation' into the ecomarketing approach highlights the growing importance of environmental services in the global economy. Environmental marketing should be seen in the context of a specific system structured on the basis of different concepts, each of which emphasises a particular aspect of the field. In doing so, classical marketing concepts such as subject, product, external environment and purpose take on a new role and meaning in the context of environmental marketing.

With the convergence of steel development, marketing strategies and approaches require adaptation to new environmental and social realities. It has become clear that successful marketing strategies will integrate environmental and sustainable practices as key elements of their approach.

Companies operating in the steel development sector face increased responsibility to society and the environment, requiring them to be transparent and socially responsible.

Successful market entry in a converging environment requires a strategic focus on long-term sustainability that takes into account the interests of all stakeholders.

The importance of education and consumer awareness of sustainability and environmental issues becomes a key factor in the successful implementation of marketing strategies.

Overall, marketing in a converging steel development environment requires a deep understanding of changing realities and a willingness to innovate in order to respond effectively to the challenges and opportunities of today's world.

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NECESITATEA ACTIVITĂȚII INCUBATORULUI UNIVERSITAR ÎN VEDEREA FORMĂRII VIITORILOR ANTREPRENORI

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Abstract. The promotion of entrepreneurial education is an institutional preferably, as evidenced by the strategic program in the educational field for the coming years. Tends to promote economic and financial education in the curriculum for all levels of the education system, so that over the course of two years at least more than half of the learners have the respective skills (in relation to the specifics of the age and the designed purposes). For students, in addition to the compulsory studies related to university programs, a solution to improve skills would be the creation of university incubators. What would allow them to apply theoretical concepts in practice, to socialize with other students interested in the same fields of knowledge, and to train the teaching staff. Open to new interactive didactic methods and at the same time such an incubator would be a platform for interaction on a small scale with the business environment, but also with the legislative environment of the state.

Therefore, the activation of university incubators will bring benefits to several interested parties, and the direct beneficiaries will be the educables, preferably also remembered by state institutions. Because a business incubator located within the university environment is a link in a complex system whose success depends on external factors, such as the macroeconomic situation the legal system in which the incubator carries out its activity and the entrepreneurial culture, but also by internal factors, such as: scientific techniques, the skills of academic (university) staff, teamwork, access to financial sources and programs, etc.

Keywords: business incubator, university incubator, entrepreneur, entrepreneurial skills.

Un incubator de afaceri amplasat în cadrul mediului universitar este o verigă a unui sistem complex al cărui succes depinde de factori externi, cum ar fi situația macroeconomică, sistemul juridic în care incubatorul își desfășoară activitatea și cultura antreprenorială dar și de factori interni, așa ca: tehnico științifici, abilitățile personalului (universitar) academic, activitatea în echipă, accesul la surse financiare și programe ș.a.

În contextul sistemului educațional prezent, competențele antreprenoriale și a spiritului de inițiativă devine tot mai vizibil și prezent în cadrul Planurilor de studii, deoarece în recomandarea



Parlamentului European și a Consiliului Europei inclusiv în cadrul Programului național pentru promovarea antreprenoriatului și creșterea competitivității în anii 2023-2027 privind competențele-cheie pentru învățarea pe tot parcursul vieții sunt menționate și competențele antreprenoriale precum: recomandarea ca să fie dezvoltate competențe cheie, orientate și spre competențe antreprenoriale prin experiența antreprenorială practică [3].

Totodată o prioritate a Strategiei Naționale de Dezvoltare Regională a Republicii Moldova 2022-2028 constă în consolidarea și extinderea infrastructurii de afaceri în fiecare regiune de dezvoltare, una din acestea fiind: Extinderea și diversificarea infrastructurii existente de suport pentru dezvoltarea afacerilor (incubatoare și acceleratoare de afaceri, centre de inovare tehnologică, centre de business, etc.) [5].

Obiective privind dezvoltarea educației pe termen mediu și pe termen lung sunt incluse în Programul de implementare a Strategiei de dezvoltare “Educația 2030” spre focusarea către următoarele: Promovarea educației antreprenoriale, economice și financiare în curriculum pentru toate nivelurile sistemului de învățământ, astfel încât până în anul 2025 cel puțin 60% dintre educabili să posede competențe respective (în raport cu specificul vârstei și finalitățile proiectate).

Conform planului de acțiuni privind realizarea obiectivului specific 1.11, costurile de implementare până în trimestrul IV al anului 2025 oferite de Bugetul Public Național vor constitui circa 700,0 mii lei (39,4 mii\$), fiind repartizate anual în sumă de 233,3 mii lei (13,1 mii\$). (calculat conform cursului de schimb valutar din www.curs.md, 14.01.2024).

În cadrul obiectivului specific 2.2 se pune accent pe: Dezvoltarea infrastructurii de suport pentru afaceri, se fixează accent pe infrastructura extinsă de structuri de susținere a afacerilor, inclusiv 7 Zone Economice Libere cu 34 de sub-zone, 10 parcuri industriale și 11 incubatoare de afaceri și 4 incubatoare inovative (din cadrul mediului universitar) [2].

Tabelul 1. Populație ocupată după statutul ocupațional și grupa de vârstă, mii persoane

Anii	15-24 ani		25-34 ani		35- 44 ani		Total employed population, across all age groups
	Salariați	Patroni	Salariați	Patroni	Salariați	Patroni	
2016	52,3	0,2	217,2	0,7	-	-	1219,5
2019	45,1	-	175,4	0,8	169,8	0,4	872,4
2020	36,0	-	164,1	0,4	168,1	0,7	834,2
2021	34,3	-	161,1	1,0	175,3	1,2	843,4
2022	35,2	-	159,0	1,0	187,8	0,9	864,3

Sursa: elaborat și calculat conform datelor www.statistica.md

Conform datelor Biroului Național de Statistică al Republicii Moldova observăm că pentru anul 2016, ponderea tinerilor, cu vârste cuprinse între 15 și 24 de ani, care dețin afaceri proprii constituie 0,2 mii din totalul populației ocupate.

Dimpotrivă, în anul 2021-2022, tinerii de 25-34 de ani sunt mai activi, ei reprezintă 0,12% din totalul populației ocupate, adică peste 1000 de tineri sunt proprietari de afaceri proprii, iar în anul 2022 aceiași categorie de vârstă, dețin propriile afaceri și reprezintă 0,14% din totalul populației ocupate. Cifrele statistice confirmă potențialul major și nevalorificat al generației tinere.



Tabelul 2. Evoluția numărului companiilor incubate 2013-2022

Incubatorul de Afaceri	Companii rezidente	Companii Start	Companii administrate de tineri	Total locuri de muncă	Nr. locuri de muncă pentru tineri
IA Soroca	25	8	11	123	61
IA Ștefan-Vodă	26	12	14	61	22
IA Leova	17	10	9	27	15
IA Rezina	15	5	5	45	6
IA Sângerei	30	17	12	121	62
IA Dubăsari	24	5	8	58	11
IA Ceadâr-Lunga	16	7	10	50	33
IA Nisporeni	45	36	32	117	71
IA Cimișlia	17	8	5	65	24
IA Călărași	43	36	28	151	81
IA Cahul	21	21	12	110	23
Total	279	165	146	928	409

Sursa: Raportul anual al ODA, www.oda.md.

Conform Rapoartelor Organizației de Dezvoltare a Antreprenoriatului companiile rezidente în cele 11 incubatoare de afaceri au contribuit la crearea și menținerea a 928 locuri de muncă ocupate la finele anului 2022, cu 4% în creștere față de anul precedent, dintre care 409 locuri de muncă destinate pentru tineri și 411 locuri de muncă pentru femei. Totodată, se remarcă faptul că această performanță este inferioară perioadei anului 2019, când IA au facilitat crearea și menținerea a 937 de locuri de muncă.

Dacă e să analizăm datele financiare, observăm că în anul 2021 au fost înregistrate cele mai mari rezultate comparativ cu perioada anilor precedenți, 247 milioane lei, dintre care 128 milioane lei reprezintă cifra de afaceri a Incubatorului de la Dubăsari. Iar creșterea în anul 2022 este mai mare cu 26% față de anul 2019, care și acesta a avut o cifră de afaceri mai mare cu 24,6% față de anul precedent.

Tabelul 3. Mijloace financiare alocate de ODA, mln \$

Program	Ani	2021	2022
Start pentru Tineri		973,8	1548,8
Femei în Afaceri		992,4	281,6
Ecologizare a IMM		443,3	281,6
Sustinere a Inovațiilor Digitale		709,1	1408,1
Instrumente de susținere a IA			180,2
Gestiunea eficientă a afacerii			39,4
Promovarea a participării la târguri și expoziții			68,1
Program pilot de creare a Platformei Industriale Multifuncționale			844,8
Sustinerea mediului privat prin modele de investiții inovative			11,3

Sursa: Raportul anual ODA pentru anul 2021, 2022 (calculat conform cursului de schimb valutar din www.curs.md, 14.01.2024)

Potrivit datelor Raportului anual al Organizației de Dezvoltare a Antreprenoriatului, ponderea cea mai mare din numărul total de programe aprobate spre finanțare o deține Programul de re tehnologizare și eficiență energetică cu 36,40% și Programul de creștere a competitivității având 21,41%.

De menționat că Programul START pentru TINERI: o afacere durabilă la tine acasă a obținut finanțare doar 11,78%, însă comparativ cu anul precedent observăm o creștere de 575 mln \$. De



cealaltă parte, cea mai mică pondere o deține Programul femeii în afaceri și Programul de ecologizare a IMM ambele atingând 2,14% [4].

Rezultatele sondajului al cadrelor didactice implicate în procesul de studii care activează la următoarele facultăți: Facultatea Științe Economice; Facultatea Psihologie, Științe ale Educației, Sociologie și Asistență Socială; Facultatea de Relații Internaționale, Științe Politice și Administrative; Facultatea de Litere; Facultatea de Matematică și Informatică din cadrul USM ne direcționează spre argumentarea faptului că 39 de profesori dintr-un total de 65 chestionați sunt total de acord că un incubator universitar ajută la creșterea competențelor antreprenoriale, 31 de profesori sunt de acord că un incubator de afaceri ar putea fi un centru de profit pentru universitate, iar 50 de profesori sunt de acord sau total de acord că existența unui asemenea incubator ar impulsiona viitorii studenți să selecteze anume universitatea cu perspective în oferirea anumitor condiții și susținerea în a forma competențe și abilități antreprenoriale. Referindune la modul de susținere a educației antreprenoriale de către mediul universitar (în cadrul Universității de Stat din Moldova) putem accentua că primele două locuri sunt acordate pentru efectuarea concursului Cea mai bună Ideie de Afaceri și Mentori voluntari pentru antreprenori din cadrul incubatorului inovativ [6].

Dorim să accentuăm că scopul activității incubatorului universitar (incubator inovativ) este menținerea și îmbunătățirea conexiunii dintre incubatoarele universitare și incubatoarele de afaceri. Principalele obiective includ:

- Formarea spiritului antreprenorial și de echipă,
- Dezvoltarea și promovarea cercetării/inovării practice și aplicative,
- Îmbunătățirea/formarea competențelor antreprenoriale ale studenților, cercetătorilor tineri
- Contribuția spre activitatea economică locală/regională.

Elementele menționate ce se încadrează în structura acestora și fiecare din ele având o influență, importantă și necesitate în dezvoltarea durabilă atât a mediului universitar/academic, cât și mediul de afaceri. Printre aceste elemente fiind parte a Ecosistemului antreprenorial fiind foarte importante și pentru susținerea incubatoarelor din cadrul mediilor universitare, sunt:

- *Guvernul* –suport administrativ, cadru legislativ, strategii antreprenoriale, instituții și agenții guvernamentale.
- *Antreprenorii* –extinderea colaborărilor între antreprenori, mentorat, ghidare, idei inovative.
- *Educația* –suport în cercetare, educația antreprenorială, competențe antreprenoriale la diferite etape de educație,
- *Cultura* –statutul antreprenorial în societate, ambiție, promovarea inițiativei, istorii de succes, economie verde, ecosistem antreprenorial.
- *Suportul* – infrastructura, suport financiar, suport la conferințe, evenimente de promovare, mentori voluntari profesioniști în antreprenariat.

În baza celor menționate ne propunem să prezentăm următoarele recomandări orientate spre argumentarea necesității activității incubatorului universitar în vederea formării viitorilor antreprenori pot fi evidențiate în următoarele:

- ✓ Echilibrarea discrepantei legislative între incubatoarele inovative (universitare) și incubatoarele de afaceri prin revizuirea legislației existente și includerea recomandărilor propuse orientate în special spre incubatoarelor din mediul universitar;
- ✓ Echilibrarea discrepantei financiare între incubatoarele inovative (universitare) și incubatoarele de afaceri prin revizuirea la nivel legislativ a metodologiei de direcționare/repartizare a resurselor financiare și gestionarea acestora din bugetul public național / bugetul de stat;
- ✓ Necesitatea revizuirii a tuturor componentelor structurale direcționate spre antreprenariat, precum: incubatoarelor de inovare, hub-uri de afaceri, centre de cultură antreprenorială, green hub-uri, centre de business ș.a. în cadrul mediului universitar având ca obiectiv atragerea studenților/profesorilor și implementarea Start-up-urilor.



Conferința internațională științifico-practică în onoarea a 33-a aniversării a Universității de Stat Comrat

- ✓ Dezvoltarea Educației antreprenoriale în mediul studenților și cadrelor didactice universitare (de la alte facultăți decât Științe Economice) facultățile fără profil economic prin integrarea disciplinelor din acest domeniu).

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MARKETING ASPECTS OF THE IMPLEMENTATION GREEN IT FOR INNOVATION SUSTAINABLE DEVELOPMENT OF SOCIETAL SYSTEMS

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Abstract. The paper substantiates the importance of taking into account the marketing and social aspects of the implementation of green IT to ensure the sustainable development of societal systems. The exponential growth trend of the clean technology market and gaps in national models for achieving these ESG goals have been identified. The technological factors of Green IT (cloud computing, artificial intelligence, UX/UI design, IoT), applied tools for their implementation and the results of the environmental impact were analyzed. The marketing effects of Green IT in the context of societal systems are discussed. The emphasis is on the need for convergence of technological, organizational, environmental and marketing aspects of Green IT to achieve a synergistic effect.

Keywords: digital transformations, societal system, marketing aspects Green IT, sustainable development, ESG concept.

Currently, digitalization, customer focus and greening have become the main trends that are drivers of global economic and social transformations. These trends not only have a powerful impact

on the development of economic systems at the macro and micro levels. They put forward demands for the pragmatic aspect based on the principles of sustainable development of societal systems [1].

Global challenges in managing societal systems related to reducing pressure on the environment, reasonable consumption of resources, and an emphasis on issues of social and corporate responsibility increase the criticality of the convergence of digitalization and greening in the direction of Green IT [2, p. 245].

The theoretical direction and practical application of green IT in various industries are the objects of study and publications of leading world and Ukrainian scientists, such as: Winston A., Welte T., Welte A., Webbr L., Wallance M., ElsenPeter R., Jean Baptiste V., Vincent V., Belkhir Lotfi, Elmelgi A., Masanet E., Shehabi A., Smith S., Koomey J., Stone R., Hugghaalli R., Gupta S., Srivastava R., Gupta R., Sadchenko O., Obykhod H., Yaroshenko I., Levkovska L., Deineha O., Dombrovska T., Chaikovska M., Kuznetsov E., etc.

However, the accelerated development of technology and the increasing criticality of their impact on the existence of civilization necessitate an integral approach to the issue.

Green IT (green information technology) is the practice of creating and using environmentally sustainable computing aimed at combating the consequences of man-made actions of humanity that create serious problems for survival and development [3, p.23].

Green IT strives to minimize the negative environmental impact of its operations by designing, manufacturing, operating and disposing of PCs and related products in an environmentally friendly manner [4, p.57].

According to statistics, the cleantech and sustainability market size was approximately \$14 billion in 2023. According to analysts, by 2030 it will show exponential growth (over 20% per year) and could reach \$ 62 billion [5].

In recent years, the world has been taking decisive steps towards carbon neutrality. Back in 2019, the European Union announced the Green Deal, announcing a goal of achieving net-zero emissions by 2050 [6]. However, national models for achieving these goals and the conditions for practical implementation show significant differences (Table 1).

Table 1. Time frame for achieving carbon neutrality/net zero emissions targets

Country/ Region	Target year	Country/ Region	Target year	Country/ Region	Target year
EU	2050	Andorra	2050	Japan	2050
Austria	2040	Argentina	2050	Kazakhstan	2060
Bulgaria	2050	Australia	2050	Laos	2050
Cyprus	2050	Bahrain	2060	Liberia	2050
Denmark	2050	Barbados	2030	Malawi	2050
Finland*	2035	Bhutan	Realized	Malaysia	As early as 2050
France	2050	Brazil	2060	Maldives	2030
Germany	2045	Canada	2050	Marshall Islands	2050
Hungary	2050	Cape Verde	2050	Mauritania	2030
Ireland	2050	Chile	2050	Mauritius	2070
Italy	2050	China	2060	Monaco	2050
Latvia	2050	Colombia	2050	Montenegro	2050
Lithuania	2050	Costa Rica	2050	Namibia	2050
Luxembourg	2050	Dominican	2050	Nauru	2050
Portugal	2050	Fiji	2050	Nepal	2045



Slovakia	2050	Iceland	2040	New Zealand	2050
Slovenia	2050	India	2070	Nigeria	2060
Spain	2050	Israel	2050	Panama	2050
Sweden	2045	Jamaica	2050	Russia	No later than 2060
Rwanda	2050	Sri Lanka	2060	Britain	2050
Sao Tome and Principe	2060	Switzerland	2050	United States	2050
Seychelles	2050	Thailand	After 2050	Uruguay	2050
Singapore	After 2050	Türkiye	2053	Vietnam	2050
Solomon Islands	2050	Ukraine	2060	South Africa	2050
Korea	2050	UAE	2050		

Source: compiled by the author based on [6, 7]

Nevertheless, the interpretation of Green IT should not be limited only to the environmental component and its practical results only to reducing the use of hazardous materials, maximizing energy efficiency over the entire life of the product, promoting the biodegradability of unused and obsolete products.

Green IT should be aimed not only at improving the environmental consequences of technologies, saving natural resources, preventing/slowing down global climate change, but also pay special attention to social development issues.

Green IT governance should emphasize the deep integration of green development concepts and practices into digital transformation through technology and innovative means to reduce environmental and human impacts by integrating sustainable practices into the design, production, use and disposal of ICT products and services.

The ESG concept (environmental, social, governance) aims to converge the efforts of economic entities at different levels in each of these areas (cuts) to achieve a synergistic effect in the sustainable development of marketing societal systems [8, p.195].

The GITAM (Green IT Adoption Model) defines Green IT as a functionality defined based on four distinct but interrelated groups of factors that characterize technological, organizational, environmental and marketing aspects [9,10]. The model seeks to identify the dynamic parameters of green IT readiness, rank influencing factors and propose effective mechanisms and driving forces for green IT (Table 2).

Table 2. Technological factors of Green IT

Technology	Characteristics/ advantage	Results/influence
Cloud computing data centers.	The transition from large, energy-hungry data centers that were not only difficult to manage but also damaging to the environment to Internet-based data centers. Data centers are becoming more energy efficient with advanced cooling systems, server virtualization and improved hardware design	The ability to eliminate these physical storage systems and reduce carbon emissions, not only reducing energy consumption but also leading to significant cost savings, further strengthening the business case for sustainability.
Artificial intelligence.	Sustainability Impact - With AI's ability to measure and evaluate large amounts of data,	The introduction of artificial intelligence allows us to solve the problem of the information crisis,



	professionals can create algorithms used to predict climate conditions, improve environmental practices, and optimize energy networks.	provides access to incredible amounts of data, which helps to get a better overall understanding of how things work and affect other areas. Sustainability practices can be better monitored and assessed using artificial intelligence.
UX/UI design	Designing user interfaces with not only user needs in mind, but also the environment as a top priority.	The result is a user experience that is as comfortable as possible, promotes inclusivity, and minimizes negative environmental impact. By applying sustainable, circular, and regenerative design principles, UX/UI designers can choose both the user and the environment.
Internet of Things (IoT).	Smart sensors and devices help companies track and control energy consumption, water use and waste generation in real time.	The result is a data-driven approach that allows you to make informed decisions and improve efficiency.

Source: compiled by the author

Notwithstanding, active technological development without taking into account organizational, environmental and marketing aspects can also have an effect opposite to the principles of sustainable development.

Data centers, the backbone of digital services, consume enormous amounts of energy, contributing to greenhouse gas emissions. It is estimated that global data centers consumed more than 200 terawatt-hours of electricity in 2020 alone. This is more electricity than many countries' entire annual consumption. A number of technological tools are used to solve these problems (Table 3)

Table 3. General greening transformation measures of data center

Type	Main influencing factors	General energy-saving technical transformation measures
Building and building thermal engineering	Heat transfer of building envelope	New thermal insulation materials
Information system	Equipment selection and operation	Purchase efficient and energy-saving equipment, business classification and improve processing efficiency
Ventilation and air conditioning system	Ventilation system	Fan regulation and transformation
	Cold source system	Apply natural cooling source, purchase efficient equipment, improve system efficiency, etc
	Transmission and distribution system	Equipment update, frequency conversion transformation, etc
	End system	Temperature control and humidity control system, purchase efficient equipment, improve sensible heat ratio, etc
	Air distribution	Optimize air distribution

Electrical system	Power supply and distribution	Optimize system design, purchase efficient equipment and improve equipment efficiency
	Standby power supply	Optimize system design, high-pressure diesel generator set, etc
	Uninterruptible power supply	Select UPS power supply, etc
	HV and LV distribution	Optimize layout, etc
	Lighting	Energy saving lamps and intelligent control system
	Renewable energy and comprehensive utilization of resources	Renewable energy, demand response, waste heat recovery, liquid cooling, etc
Operation and maintenance management system	Energy consumption monitoring system	Energy saving intelligent management

Source: compiled by the author based on [11, 12]

Digital and green transformations complement and develop each other. Digitalization is an important means of solving environmental problems and a necessary condition for the Green Transformation. Promoting green transformation cannot do without digitalization. Green transformation requires strong support for digital technologies and also gives rise to new green and digital integration. Through joint digital and green transformation and development, it is possible to achieve the goals of sustainable development of societal systems.

In addition, the production and disposal of electronic devices are major contributors to the generation of electronic waste (e-waste), which leads to soil and water pollution. Recognizing these challenges, the industry is shifting its focus to sustainable solutions and the need to consider marketing and organizational aspects (Table 4).

Table 4. Marketing effects of Green IT in the Context of Societal Systems

Technology	Characteristics/ advantage	Results/influence
Energy efficiency and energy saving.	Achieved through a transition to the use of devices and technologies that are more energy efficient and consume less energy; improving data center efficiency, including developing a standard requiring the use of highly efficient power supplies to power servers.	Energy savings and increased energy efficiency, enterprises reduce operating costs and increase competitiveness.
Using environmentally friendly equipment design.	Achieved through the use of renewable resources and recycled materials.	Increased recycling rates, reduced dependence on limited resources, extended equipment life and reduced e-waste generation.
Electronic waste recycling	Achieved by focusing on recycling, dismantling e-waste, reusing the most valuable parts.	The result is an extended service life of devices and a reduction in the generation of electronic waste.
Sustainable Design, Green IT Management	Achieved by - taking into account the impact on the environment throughout the entire life cycle of information technology, adopting the principles of sustainability,	The result is the introduction of standards for the construction and operation of environmentally friendly data centers, including new liquid



	starting from the design stage. This includes material selection, energy use, equipment life and waste disposal.	cooling technology, new data center temperature management.
Comprehensive performance management	Achieved through the introduction of environmentally breakthrough technologies that integrate the concept of sustainable development into the design and operation of data centers.	Data center energy management based on a common solution to improve energy efficiency in data centers.
Implementation of circular economy principles	Transforming the traditional linear “make, use, dispose” model to a circular approach that emphasizes repair, refurbishment and recycling.	A special focus on developing environmentally friendly products and responsible waste management. This not only reduces waste, but also saves valuable resources.
Innovative Concepts and Practices (ERP II, CRM, SCM, APS).	The transition to a Green IT model requires the combined efforts of governments, consumers and businesses from different industries. Governments can encourage sustainable practices through policy frameworks and tax incentives. Consumers can support this movement by choosing environmentally friendly products and services.	Expanding international cooperation, developing a culture of environmental consciousness, forming and increasing the level of maturity of societal systems, increasing global sustainability. The business receives a boost to its brand reputation and attracts environmentally conscious customers.

Source: compiled by the author

Green IT is an effective management concept based on the integration of digitalization and greening in the context of increasingly serious global climate change and environmental problems. The main goals of Green IT management are to reduce energy consumption, promote the protection of a green environment, and promote sustainable development. When developing and applying information technologies, it is necessary to take into account marketing and social aspects, using technologies and innovative means to reduce environmental impact, save costs through energy-efficient operations, and open new opportunities for growth based on the principles of sustainable development. Green IT should become a global trend in modern management, an effective strategy for responding to environmental problems that emphasizes reducing environmental impact through technological and innovative means in the development and application of information technology.

The driving force Green IT is the growing awareness of all agents of economic systems of the need to protect the environment and sustainable development, a deep understanding of the marketing and social aspects of the process. The implementation of Green IT requires continuous efforts, cooperation and innovation of all agents of societal systems. Only the convergence of government, businesses and consumers will usher in a new era in which technology and sustainable development coexist harmoniously.

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ANALIZA ȘI MANAGEMENTUL ACTIVITĂȚII DE INOVARE AL ÎNTRINDERILOR DIN REPUBLICA MOLDOVA

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Abstract. Organizational innovations implement new ways of doing business, organizing jobs and external relations. They are aimed at increasing the efficiency of the enterprise by reducing administrative and transaction costs, increasing employee satisfaction with the organization of jobs, and gaining access to assets that are not available in the market. These include developing and implementing a new or significantly changed corporate strategy; the introduction of modern methods of organizational management, based on information technology; the development and



implementation of new or significantly modified organizational structures; innovations in the use of shift work hours; application of modern quality control systems, certification of goods, works, services. Thus, this article analyzes how the innovation activity of enterprises in the Republic of Moldova evolved and what was the management's contribution to this activity.

Keywords: innovation, innovative enterprises, development regions, innovative activity, innovation expenses.

Astăzi putem afirma că interesul științific și practic pentru inovare și conceptele asociate este extrem de mare. Problemele inovației sunt dezbătute pe larg la diferite evenimente științifice și de către specialiști cu calificări înalte. Și, cu toate acestea, problema inovației și activității inovatoare nu își pierde relevanța, indiferent de domeniul de activitate și mai ales în combinație cu subiectele de management [1, p. 65]. Domeniile în care inovarea este posibilă sunt, de asemenea, variate și includ dezvoltarea și managementul resurselor umane, furnizarea de servicii publice și private, utilizarea tehnologiei informației și comunicațiilor, etc. [3, p. 15]. Din punct de vedere structural, inovarea în management cuprinde agenți de schimbare, procese și mecanisme, precum și sisteme de valori și regimuri de reglementare, tehnologii și resurse. Inovatorii își asumă de obicei riscuri fără a fi siguri de rezultatul final al acțiunilor lor. În unele cazuri se obțin rezultate pozitive, dar în cazurile în care acest lucru nu se întâmplă, eșecurile pot duce la deteriorarea performanței întreprinderilor care depind de continuitate și de un anumit grad de stabilitate, de responsabilitate strictă [6, p. 5].

Este interesant de observat că lipsa resurselor financiare nu este unul dintre factorii care limitează inovarea în activitățile de management. În practică, sunt multe exemple când lipsa resurselor financiare a fost cea care a stimulat activități inovatoare în domeniul managementului. Practica ne permite să tragem următoarea concluzie pentru un manager axat pe inovație: indicatorul cantitativ al resurselor financiare este important, dar un indicator și mai important este disponibilitatea acestora sau posibilitatea de primire potențială [7, p. 284].

Oricât de importantă este inovația, este necesar să se ia în considerare și aspectele organizaționale care creează condițiile pentru inovare. În acest sens, analiza inovației ar trebui să fie un proces în două etape: înțelegerea inovației în sine, precum și o analiză a acelor trăsături caracteristice ale întreprinderii care determină relevanța inovației. Oamenii de știință și practicienii își concentrează tot mai mult eforturile pe rezolvarea problemei transformării constructive a întreprinderilor sale în cele de învățare și inovatoare, depășind în același timp tendința de a se concentra exclusiv pe mecanismul motivațional pentru dezvoltarea unui proiect de inovare specific [5, p. 89].

Astfel, inovațiile nu pot fi considerate un tribut adus modei sau doar o altă întreprindere. De asemenea, este foarte important să nu uităm că inovarea nu este un scop în sine, ci unul dintre mijloacele de îmbunătățire a managementului în vederea îmbunătățirii calității activității firmei. În plus, fiecare întreprindere trebuie să decidă singură în ce măsură are nevoie de inovare și cum să realizeze echilibrul optim între stabilitate și continuitate, pe de o parte, și inovație și risc, pe de altă parte [4, pp. 99-101].

Metodologia de cercetare. În vederea analizei managementului activității întreprinderilor inovatoare din Republica Moldova, materialul de cercetare a fost bazat pe sursele informaționale generate din baza de date statistică, iar metodele de analiză utilizate, au fost: observarea, analiza și sinteza, comparația, inducția și deducția logică, metoda graficelor și metode ale analizei cantitative etc. Așadar, scopul cercetării este de a examina activitatea de inovare desfășurată de întreprinderile din Republica Moldova în perioada anilor 2021-2022. Prin urmare, datele ce privesc întreprinderile inovatoare sunt prezentate în tabelul de mai jos.

Tabelul 1. Întreprinderile inovatoare pe genuri de activitate în perioada anilor 2021-2022

	Întreprinderi inovatoare - total	din care:		
		întreprinderi care au realizat mai multe tipuri de inovări	întreprinderi inovatoare de produse și/sau procese	întreprinderi inovatoare de metode de organizare și/sau marketing
Total (unități)	420	185	64	171
Industrie - total	210	101	34	75
Industrie extractivă	1	0	0	1
Industrie prelucrătoare	194	95	30	69
Producția și furnizarea de energie electrică și termică, gaze, apă caldă și aer condiționat	8	4	3	1
Distribuția apei; salubritate, gestionarea deșeurilor, activități de decontaminare	7	2	1	4
Servicii - total	210	84	30	96
Comerț cu ridicata	85	30	11	44
Transport și depozitare	37	10	6	21
Informații și comunicații	48	23	5	20
Activități financiare și asigurări	21	12	3	6
Activități profesionale, științifice și tehnice	19	9	5	5

Sursa: Elaborată de autor în baza datelor www.statistica.gov.md

Din numărul total de 420 de întreprinderi inovatoare în perioada anilor 2021-2022 în Republica Moldova, în domeniul industriei s-au poziționat 210 întreprinderi și respectiv celelalte 210 întreprinderi au revenit domeniului serviciilor. Cele mai multe întreprinderi inovatoare din domeniul industriei au fost respectiv din industria prelucrătoare, constituind 194 de întreprinderi sau 46,2% corespunzător. Dintre acestea, 95 întreprinderi au realizat mai multe tipuri de inovări, 69 de întreprinderi au fost inovatoare de metode de organizare și/sau marketing și 30 de întreprinderi sunt inovatoare de produse și/sau procese.

Corespunzător în domeniul serviciilor cele mai inovatoare întreprinderi s-au clasat în comerțul cu ridicata, respectiv 85 de întreprinderi sau 20,2% corespunzător, următoarea poziție i-au revenit informațiilor și telecomunicațiilor cu un număr de 48 de întreprinderi sau 11,4% din total, iar pe poziția trei stă transportul și depozitarea cu 37 de întreprinderi inovatoare sau 8,8%. Cele mai multe din aceste întreprinderi au realizat mai multe tipuri de inovări sau inovări de metode de organizare și/sau marketing. La un nivel mai scăzut atât în industrie cât și în servicii sunt inovările de produse și/sau procese, per total le-au revenit 8,1% și 7,1% din totalul de întreprinderi inovatoare în perioada analizată.

Pe de altă parte se dorește să se analizeze câte dintre aceste întreprinderi inovatoare au fost întreprinderi mici și câte mari, respectiv care a fost structura lor în perioada anilor 2021-2022.

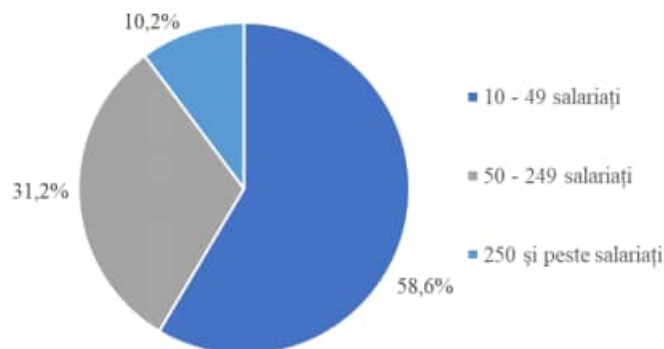


Figura 1. Structura întreprinderilor inovatoare pe clase de mărime în perioada anilor 2021-2022

Sursa: Elaborată de autor în baza datelor www.statistica.gov.md

Din numărul total de 420 de întreprinderi inovatoare în perioada anilor 2021-2022 în Republica Moldova, 58,6% au constituit întreprinderile mici care au între 10 și 49 de salariați, 31,2% au fost întreprinderile mijlocii cu numărul cuprins între 50 și 249 de salariați, și 10,2% sunt întreprinderi mari cu numărul de salariați de 250 și peste. Respectiv, ponderea întreprinderilor mici și mijlocii cu activitate de inovare a constituit 89,8% din numărul total de întreprinderi inovatoare.

În continuare, se propune spre analiză modalitatea dezvoltării inovărilor pe produse și procese, care s-a observat anterior că se află la un nivel mai scăzut comparativ cu celelalte tipuri de inovări dezvoltate de întreprinderile din Republica Moldova.

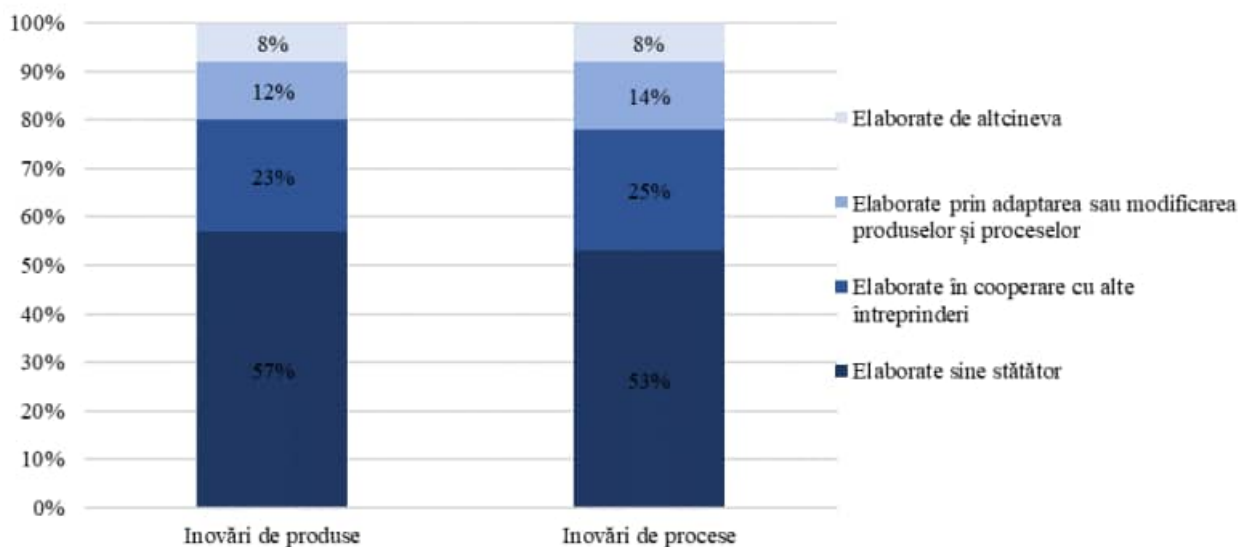


Figura 2. Inovări de produse și procese după modalitatea dezvoltării în perioada anilor 2021-2022

Sursa: Elaborată de autor în baza datelor www.statistica.gov.md

Astfel, după cum putem observa din figura de mai sus, întreprinderile au elaborat de sine stătător 57% din inovări de produse și 53% din inovări de procese, corespunzător în cooperare cu alte întreprinderi s-au elaborat 23% inovări de produse și 25% inovări de procese. Cu un procent mai mic în perioada anilor 2021-2022, inovările au fost elaborate prin adaptarea sau modificarea produselor și proceselor în proporție de 12% și respectiv 14%. La cotă egală de 8% se află inovările elaborate de altcineva și implementate de întreprinderile analizate.

În cele ce urmează, se propune spre vizualizare care a fost structura întreprinderilor inovatoare pe regiuni de dezvoltare în perioada anilor 2021-2022.

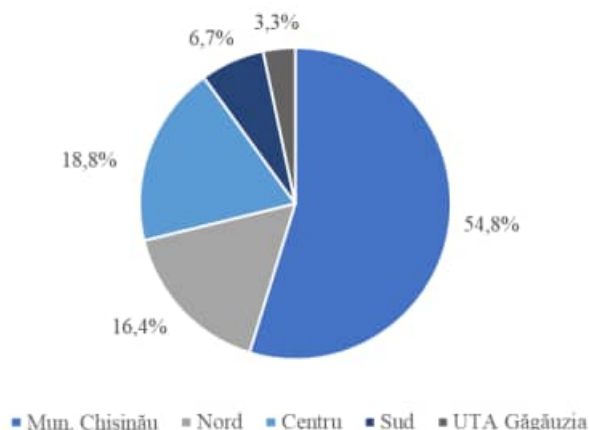


Figura 3. Structura întreprinderilor inovatoare pe regiuni de dezvoltare în perioada anilor 2021-2022

Sursa: Elaborată de autor în baza datelor www.statistica.gov.md

În perioada anilor 2021-2022, după cum putem remarca din figura de mai sus, în municipiul Chișinău au desfășurat activitate de inovare 54,8% din totalul de întreprinderi inovatoare, în regiunea de dezvoltare Centru, au realizat activitate de inovare 18,8%, în regiunea de dezvoltare Nord, respectiv 16,4%, în regiunea de dezvoltare Sud, corespunzător 6,7%, și în UTA Găgăuzia – 3,3% din întreprinderi și-au realizat activitatea inovatoare.

Totodată prezintă interes și ce inovări de metode de organizare au realizat întreprinderile din Republica Moldova în aceeași perioadă analizată al anilor 2021-2022.

Tabelul 2. Structura întreprinderilor cu inovări de metode de organizare pe genuri de activitate în perioada anilor 2021-2022

	Noi practici de afaceri	Noi metode de organizare	Noi metode de organizare a relațiilor externe
Total (%)	100,0	100,0	100,0
Industrie - total	43,0	41,2	43,8
Industrie extractivă	0,7	0,5	-
Industrie prelucrătoare	37,3	35,8	36,5
Producția și furnizarea de energie electrică și termică, gaze, apă caldă și aer condiționat	1,4	1,6	2,1
Distribuția apei; salubritate, gestionarea deșeurilor, activități de decontaminare	3,5	3,2	5,2
Servicii - total	57,0	58,8	56,2
Comerț cu ridicata	22,5	23,0	25,0
Transport și depozitare	10,6	11,2	12,5
Informații și comunicații	16,2	13,9	10,4
Activități financiare și asigurări	4,2	5,9	6,2
Activități profesionale, științifice și tehnice	3,5	4,8	2,1

Sursa: Elaborată de autor în baza datelor www.statistica.gov.md

Astfel, putem observa că cele mai multe noi practici de afaceri au fost realizate în domeniul servicii, per total acoperind 57% din totalul întreprinderilor inovatoare, dintre care 22,5% i-au revenit comerțului cu ridicata, urmată de 16,2% din informații și comunicații și 10,6% din transport și depozitare. Din domeniul industriei 37,3% din totalul de 43% noi practici de afaceri, i-au revenit industriei prelucrătoare. După cum putem sintetiza, care domenii au avut cele mai multe întreprinderi inovatoare, acelea și au implementat cele mai multe noi practici de afaceri.

Aceiași ierarhie, cu mici abateri se înregistrează și la noi metode de organizare și noi metode de organizare a relațiilor externe. Implicații în ceea ce privește cheltuielile suportate de întreprinderi aferente inovărilor pe regiuni de dezvoltare pentru anul 2022 sunt prezentate în figura de mai jos.

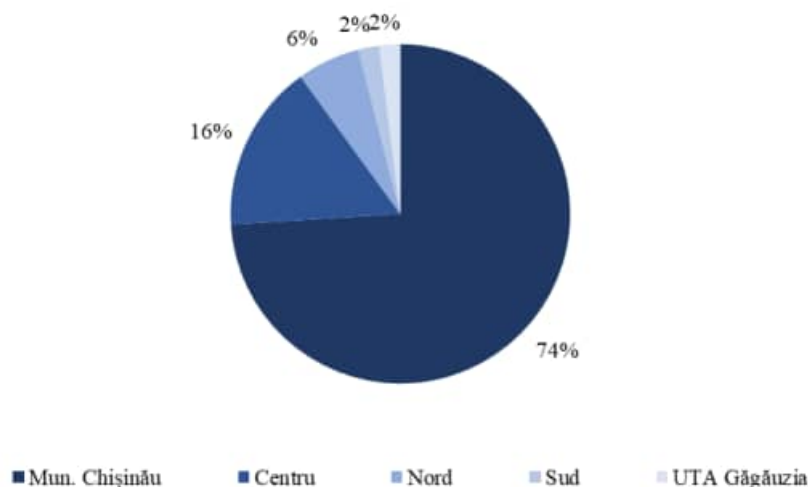


Figura 4. Structura cheltuielilor aferente inovărilor pe regiuni de dezvoltare în anul 2022

Sursa: Elaborată de autor în baza datelor www.statistica.gov.md

În ceea ce privește cheltuielile pentru inovări, cele mai mult 74% sau 565,5 milioane de lei au fost suportate de întreprinderile inovatoare din municipiul Chișinău. În regiunea de dezvoltare Centru s-au cheltuit 117,9 milioane lei sau respectiv 16% din totalul de 759 milioane lei. În regiunea de dezvoltare Nord s-au cheltuit pentru inovări 44,9 milioane lei, ceea ce constituie 6%, și respectiv câte 2% s-au investit în regiunile de dezvoltare Sud și UTA Găgăuzia de către întreprinderile inovatoare.

Sistematizând cele expuse mai sus observăm că în Republica Moldova în perioada analizată a anilor 2021-2022 numărul total de întreprinderi inovatoare a fost de 420, fiind împărțite în ponderi egale de 50% pe activități economice în domeniul industriei și al serviciilor. Ponderea întreprinderilor mici și mijlocii cu activitate de inovare a constituit 89,8% din numărul total de întreprinderi inovatoare. Întreprinderile au elaborat de sine stătător 57% din inovări de produse și 53% din inovări de procese.

De asemenea este de menționat că în municipiul Chișinău au desfășurat activitate de inovare 54,8% din totalul de întreprinderi inovatoare. Corespunzător se menționează și rolul managementului în activitatea întreprinderilor cu ajutorul căruia s-au realizat în domeniul serviciilor 57% noi practici de afaceri, 58,8% noi metode de organizare și 56,2% noi metode de organizare a relațiilor externe. Nu în ultimul rând remarcăm și cheltuielile în sumă de 565,5 milioane de lei ce au fost suportate de întreprinderile inovatoare din municipiul Chișinău pentru activitatea de inovare.

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HISTORICAL DETERMINANTS OF THE PLACE OF THE UKRAINIAN ECONOMY IN THE INTERNATIONAL DIVISION OF LABOUR

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Abstract. The article focuses on the determinants of the formation of the Ukrainian economic positions on foreign markets in the context of the previous trajectory of national economic development. The vectors of Ukraine's foreign economic cooperation with the Soviet Union have been determined. The peculiarities of the influence of the Soviet economic policy on Ukraine's international competitiveness are substantiated.

Keywords: the economic history of Ukraine, «track effect», Soviet economic heritage, national economy, foreign economic relations, foreign trade.

The Russian-Ukrainian war has become a factor of the destabilization of Ukraine's competitive position on international markets, which is a threat to its economic security. Nevertheless, Ukraine risks giving up the status of a raw material and food state, which was formed in the years of statelessness and was deepened during the thirty years of independence [1]. Today, new political challenges and economic determinants create conditions for the state's reorientation to high-tech production development and, thereby, the formation of the basis for innovative export. To understand the place of the Ukrainian economy in the modern international division of labour, and to determine the prospects of the country's future role in the world economy, it is necessary to consider the historical determinants of the formation of the system of its foreign economic relations.

With the declaration of independence, Ukraine received potential paths to form and implement its foreign economic cooperation strategy and strengthen national competitive advantages in the global economy. At the same time, this process was complicated by the impact of the "track effect" on the country's foreign economic cooperation model formation. In particular, the Soviet institutional and economic heritage became a barrier to the intensive exogenous development of the national economy.

First of all, the formation of Ukraine's strategy and directions of international trade and economic cooperation was carried out in the absence of relevant historical experience of interaction. As a Soviet Union economy part, Ukraine was deprived of autonomy regarding participation in international economic processes. The country did not have its embassies and foreign diplomatic missions inside. Ukrainian officials did not independently participate in international political events and did not have the right to sign bilateral cooperation agreements. The export and import operations were conducted only with the permission and through the Russian centre because of the state's monopoly of foreign trade. The participation of Ukraine as a whole in the system of international economic relations was limited mostly to cooperation with the countries of the Council for Mutual Economic Assistance (the CMEA countries). As part of the Soviet Union's economic complex, national interests were surrendered to the Soviet strategic priorities of building the socialist



camp [2, p. 308].

In different stages of historical evolution, Ukraine and its high natural and socio-economic potential were valuable for the Russian political centre. The situation did not change with the arrival of the Soviet government, which “continued the tradition” of the colonial-expansionist policy towards Ukraine. The determination of the country’s place in the Soviet Union’s division of labour and the vectors of foreign economic cooperation was carried out exclusively from the point of maximizing benefits for the Russian metropolis. The Soviet model of foreign economic relations was formed and implemented not so much under the influence of economic factors but ideological and political ones. In terms of the post-war aggravation of contradictions between the Soviet Union and the capitalist states, the established government saw as one of its strategic tasks the strengthening of the country’s defense capabilities, which required the development of a powerful military-industrial complex, impossible without industrialization. The general idea of building a union superpower and securing its leadership geopolitical positions determined the tactical tasks of economic development, including strengthening the industry’s material and technical base and accumulating capital; formation of raw material and energy supports for industrialization; implementing the policy of centralization and state control; development of the all-Union national economic and military-industrial complex. From this point of view, Ukraine played one of the important roles on an all-Union scale and ensuring national goals.

In the XX century, the peculiarities and nature of Ukraine’s foreign trade development were determined by the Soviet policy of export stimulation and import substitution, which, through the mechanisms of centrally-planned management, socialist industrialization, and integration, on the one hand, contributed to the growth of an industrial base and the transformation of Ukraine into a Soviet Union exporter of heavy industry products, but, on the other hand, shaped its technological and financial dependence on the allied centre. Integration within the so-called “socialist commonwealth” reduced domestic opportunities to enter world markets: a large share of Ukrainian foreign trade turnover fell on the CMEA countries, while exports exceeded imports by twice as much; Ukraine became an energy and fuel-raw material base for the development of the economies of both the Soviet Union states and the CMEA countries, while the domestic economy retained the extensive nature of development.

The development of the Soviet model of foreign economic relations was determined by the task of industrialization, which, in turn, aimed at the rapid and intensive development of the heavy industry sector (engineering, metallurgy, mining, petrochemical, chemical industries) and the creation of a technical base for export. The historically formed industrial base of the Southern and Donetsk-Dnieper regions of Ukraine had no analogs and alternatives for the raw material support for this task. The natural wealth available here, in particular, mineral reserves and water resources, were favourable for the development of heavy industry, which, on the one hand, provided the means of production for the Russian centre, thereby strengthening its development; on the other hand, they acted as the foundation of the defense capability of the Soviet Union and could become a production base for the militarization of the economy in the event of a war with Western Europe and the USA. Territorial proximity of the regions to the port infrastructure and an extensive network of railway lines facilitated logistical connections of production centers and sales markets both abroad and within the Soviet Union.

At the beginning of 1930, Ukraine has already provided 75% of all-Union coal production, 76% of iron ore, and 76% of cast iron smelting [3]. In the 1950s, Ukraine supplied the Soviet Union with 32% of coal, 50% of iron ore, 37% of steel, and 60% of iron ore. [4, p. 36]. During the 1940s and 1960s, Ukrainian industrial production showed significant growth: cast iron smelting increased by three times, steel production and iron ore mining – by four times, electricity – by six times. Due to the formation of a scale technical and raw material base within and outside the Soviet Union economic complex, Ukraine has become the major supplier of machinery and equipment, fuel and electricity, iron and manganese ores, metals, and their products. At the same time, most products were of low added value.



In statelessness terms, Ukraine did not have a self-contained foreign economic cooperation strategy but was subject to the Soviet policy. In the post-war period, almost 50% of the Soviet trade went to the so-called “new socialist countries”, most of which became a part of the CMEA in 1949. Interaction with the CMEA countries gradually goes beyond the usual exchange of goods and begins to cover various directions of international economic relations (production and scientific and technical cooperation, exchange of capital and labor resources). Until the 1970s and 1980s, the specific weight of this group of countries in the foreign trade of the Soviet Union changed slightly. For example, it amounted to 52% of the Soviet foreign trade turnover in 1975 [5, p. 39].

The basis of the Soviet Union’s exports to the CMEA countries were the products of mechanical engineering, chemical, radio, and electrical engineering, paper, food industries, and agriculture. Ukraine supplied the largest share of products. In the second half of the XX century, Soviet Ukraine continued to provide a significant share of the all-Union production of iron, steel, and coal mining and was a leader in iron ore mining and sugar-sand production, due to which it took the second position in the Union’s foreign trade after the Russian republic and almost the first in trade with the CMEA countries [6, p. 39]. Leading positions of the CMEA countries in Ukraine’s foreign trade were forced due to total political and economic dependence on the Soviet center and had ambiguous consequences for domestic economic development. Ukraine produced the lead share of industrial products and raw materials that went to the CMEA countries and were used to build the economies of the new socialist states. Instead, the development of the domestic economy was characterized by the conservation of extensive forms of management and innovative backwardness.

The Soviet Union provided colossal support to the CMEA countries for the industrial facilities, economic infrastructure, science, and technology development using Ukrainian resources, and raw and food bases. The economic, industrial, labor, scientific, and technical potentials of Ukraine were given to buy off the Soviet idea of building a powerful socialist camp, the main goal of which was ideological, political, economic, and military opposition to the leading countries of that time. The structure of export-import supplies with the CMEA countries testified to the similarity of Soviet Ukraine to third-world countries: fuel and raw materials were exported (machine-building products, mineral fertilizers, iron and manganese ores, cast iron, rolled steel, ferroalloys, electricity, gas, coal), and technical equipment and ready-made products were imported, which could be produced inside the country.

The interaction of Ukraine with the CMEA countries was not limited to the usual exchange of goods, but already from the 1950s was acquired various forms of economic, scientific, and technical cooperation (joint production and construction, R&D, exchange of production experience). During the second half of the XX century, Ukrainian trade and economic relations evolved from export-import activities to broad integration in the main directions and spheres of the socialist countries’ economies. Socialist economic integration, the bright signs of development of which began to appear already in the 1960s, “was a process of development of planned production and scientific and technical cooperation of socialist countries, greatly contributed to the general leveling of their economic and cultural development and, thus, had an important social significance” [7, p. 4].

Ukrainian industrial capacities and high export potential were used to support the political movements in third-world countries. In particular, the Soviet Union covertly massively armed Asian and African countries, often even on loan or on a subsidized basis, to support the communist parties there. Thus, the imposed nomenclature and export directions of Ukraine fixed the structural disproportions of its economic development. The established system of foreign economic relations of the Soviet Union strengthened its status as the leader of the countries of the socialist camp, while Ukrainian production remained a means of strengthening Soviet-Russian influence and dominance [8].

Since the beginning of the 1990s, an open economy has been formed in Ukraine under conditions of “endogenization” of the model of economic growth and expansion of access to foreign markets based on the country’s active integration into the system of global economic relations, participation in the work of several international trade organizations and free trade agreements, changes in domestic foreign trade vectors. At the same time, the consequences of the long-term



russian-Soviet policy of colonial expansionism became apparent. It is the preservation of agrarian and raw material specialization of national production and export, lack of a complete cycle and short production chains, lack of technologies and investments, and significant dependence on external sources.

All these factors create obstacles on the way to strengthening the competitiveness of the Ukrainian economy as a supplier of high-tech and high-value-added products. The Soviet economic heritage determined the preservation of Ukraine's foreign economic dependence on the post-Soviet countries and, accordingly, the status of a raw material and food-producing state, which became one of the factors in the deterioration of both national and economic security.

In terms of the war and the formation of a new model of foreign economic interaction, it is worth taking into account the acquired historical experience. First of all, it is valuable in the development of an appropriate state policy, the implementation of which will contribute to the eradication of factors that hurt the development of the country's international competitive position and the formation of an innovative export-oriented economy.

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POȘIBILITĂȚI DE GESTIUNE A SITUAȚIEI PANDEMICE COVID-19 DIN REPUBLICA MOLDOVA PRIN MODELE DE ESTIMARE ȘI PREVIZIUNE

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Abstract. In the context of the negative evolution of the COVID-19 pandemic, both domestically and internationally, it becomes current and necessary to develop territorial econometric



models integrated information applications, which allows the public health system a more efficient management and surveillance of the epidemiological situation.

Key words: COVID-19, territorial econometric model, regression, correlation, ANOVA.

Manifestările COVID-19 au un impact fără precedent asupra comunităților din întreaga lume. Va fi suficient să enunțăm varietatea de efecte și implicații de ordin social și economic comportate direct sau indirect de manifestarea pandemică. În ideea asigurării unei posibilități de anticipare a situațiilor privind manifestările teritoriale ale pandemiei, în faza următoare vom încerca să identificăm o serie de indicatori cu o influență majoră asupra extinderii infecției în timp și în profil teritorial. Astfel, vor fi studiate diverse aspecte privind variabilele incluse în modelele cu care se vor studia diverse interdependențe legate manifestările pandemice. În aceste împrejurări vor fi definite următoarele elemente:

- ▣ Variabila rezultativă/dependentă - Numărul total de cazuri de COVID-19, pe entități administrative UAT (y_{ij}), pentru indicele pentru timp - $i = \overline{1, n}$, și indicele pentru UAT $j = \overline{1, k}$;
- ▣ Variabile factoriale/independente, influența cărora determină numărul de cazuri de COVID-19, sistematizate pe grupe de factori:

Factori ce asigură condiția de extindere a pandemiei (expunerea)

- efectivul populației stabile pe unități teritoriale administrative la 31/12/2019;
- densitatea populației pe unități teritoriale administrative;
- efectivul populației stabile pe zone de reședință;
- efectivul populației după vârste.

Factori ce alimentează mobilitatea populației, și eventual transmiterea infecției în comunitate (mobilitatea)

- numărul mediu de salariați pe unități teritoriale administrative;
- numărul total de elevi pe unități teritoriale administrative;
- numărul total de cadre didactice pe unități teritoriale administrative.

Factori capabili să compromită extinderea infecției

- numărul total de medici pe unități teritoriale administrative;
- numărul de medici specialiști pe unități teritoriale administrative.

Astfel, pentru includerea datelor în modele vor fi utilizate o serie de simboluri, prezentate separat pentru date absolute și cele prin care se exprimă incidența la 100 mii de persoane, în tabelul 1.

Tabelul 1. Variabile și simboluri utilizate în procesul de modelare

Denumire	Simboluri pentru valori absolute	Incidența la 100 mii loc.
Name	Rn	
Cazuri Confirmate 060521	y	y1
Population_stab 01012019	P	p
Population_stab URB 01012019	Pu	Pu1
Population_stab RUR 01012019	Pr	Pr1
Pondereea populației urbane		gPu
Coeficientul îmbătrânirii populației, la începutul anului 2019		k60+
Densitatea populației 2021		D
Numărul mediu de salariați 2019	T	T1
Nr. medici total 31122019	MT	MT1
Nr. medici specialiști 31122019	MS	MS1
Elevi - total 20/21	E	E1
Cadre didactice - total 20/21	CD	CD1

Caracterizarea situației pandemice se va realiza inițial cu ajutorul datelor privind numărul de cazuri de COVID-19 înregistrate cumulativ până la data de 06/05/2021.



Tabelul 2. Datele privind variabilele incluse în model conform notațiilor, la data 06/05/2021

#	Rn	y	P	Pu	Pr	K60+	d	T	MT	MS	E	CD
1	Anenii Noi	5 810	82 998	8 783	74 215	18	91	12 946	138	98	7 328	547
2	Basarabasca	1 151	27 997	12 412	15 585	18	91	4 307	40	28	2 081	180
3	Briceni	3 753	71 447	15 093	56 354	23	89	8 434	129	91	6 031	594
4	Cahul	4 903	124 091	39 431	84 660	17	75	19 607	204	165	10 747	923
5	Calarasi	3 524	76 551	16 065	60 486	18	94	7 131	113	76	5 942	473
6	Cantemir	1 437	61 317	5 746	55 571	16	66	6 186	61	47	5 062	453
7	Causeni	2 983	89 356	24 500	64 856	18	65	11 479	122	92	8 272	661
8	Cimislia	3 017	58 604	14 197	44 407	19	60	6 820	72	46	4 023	334
9	Criuleni	3 424	73 371	8 483	64 888	16	106	7 913	137	98	7 215	562
10	Donduseni	1 667	41 719	10 098	31 621	25	63	5 271	72	50	3 183	382
11	Drochia	3 122	85 558	20 295	65 263	25	80	10 473	120	90	7 177	588
12	Dubasari	1 314	34 969	0	34 969	19	113	3 748	35	18	2 836	259
13	Edinet	5 613	79 160	25 774	53 386	24	84	11 929	168	126	6 688	624
14	Falesti	2 938	90 275	16 824	73 451	19	79	11 044	98	71	7 743	613
15	Floresti	2 445	85 643	19 596	66 047	21	73	11 180	129	94	7 513	752
16	Glodeni	2 556	58 691	11 223	47 468	21	73	6 330	90	67	4 854	465
17	Hincesti	2 947	118 619	17 258	101 361	17	76	12 659	162	132	9 806	774
18	Ialoveni	6 841	101 797	16 790	85 007	15	126	12 327	164	115	10 427	772
19	Leova	1 518	51 990	15 367	36 623	17	65	4 874	58	41	4 247	381
20	Nisporeni	2 255	64 797	14 319	50 478	16	93	6 362	84	62	5 472	479
21	Ocnita	2 196	52 948	19 089	33 859	23	87	6 041	83	55	3 652	380
22	Orhei	4 650	124 007	34 149	89 858	17	89	20 637	208	169	11 236	863
23	Rezina	2 075	49 891	12 873	37 018	18	75	6 668	68	75	4 257	387
24	Riscani	1 971	66 498	15 111	51 387	23	67	8 190	101	53	5 441	539
25	Singerei	3 067	91 412	18 646	72 766	18	80	8 497	117	88	8 409	710
26	Soldanesti	1 680	69 394	8 463	60 931	18	65	8 527	146	61	5 885	502
27	Soroca	3 011	40 942	7 440	33 502	20	64	4 465	64	50	3 776	328
28	Stefan Voda	2 755	92 052	22 175	69 877	18	120	11 298	85	105	9 052	652
29	Straseni	5 486	99 416	37 910	61 506	17	89	15 065	173	134	7 452	665
30	Taraclia	2 506	43 179	20 726	22 453	20	58	7 040	48	33	3 523	387
31	Telenesti	2 118	70 982	8 063	62 919	17	77	5 992	102	73	5 751	510
32	Ungheni	3 759	116 705	41 047	75 658	16	97	16 846	158	122	11 607	924
33	UAT Gagauzia	6 899	161 676	65 942	95 734	18	81	28 963	287	225	15 846	1 320
34	zm Balti	8 265	151 791	146 850	4 941	19	2 959	48 606	440	361	15 559	1 001
35	zm Chisinau	105 846	832 865	756 745	76 120	17	5 195	359 138	2 064	1 569	94 872	6 750

Sursa: ANSP a Republicii Moldova

O abordare inițială va presupune caracterizarea variabilelor prezentate în tabelul 2 cu ajutorul statisticilor descriptive.

Tabelul 3. Statisticile descriptive privind variabilele analizate pe UAT, inclusiv mun. Chișinău

	y	P	Pu	Pr	K60+	d	T	MT	MS	E	CD
Mean	6271.49	101220	43642.4	57577.9	18.9086	310.451	21056.9	181.143	136.571	9513.29	763.829
Standard Error	2943.21	22162.2	21392.5	3793.76	0.43597	165.518	10044.2	56.8626	43.4786	2570.94	180.373
Median	2983	76551	16790	60931	18.3	80.386	8497	117	88	6688	562
Mode	#N/A	#N/A	#N/A	#N/A	22.9	#N/A	#N/A	129	98	#N/A	387
Std Deviation	17412.3	131113	126560	22444.2	2.57926	979.217	59422.3	336.404	257.223	15209.9	1067.1
Sample Var.	3E+08	1.7E+10	1.6E+10	5E+08	6.65257	958866	3.5E+09	113167	66163.7	2.3E+08	11387
Kurtosis	34.25	30.7613	32.1063	-0.1678	0.13992	20.3266	33.492	31.1756	30.4956	31.5383	31.4838
Skewness	5.82465	5.39623	5.58518	-0.2745	0.94543	4.47583	5.73798	5.46487	5.38799	5.49478	5.48744
Range	104695	804868	756745	96420	10	5137.57	355390	2029	1551	92791	6570
Minimum	1151	27997	0	4941	15	57.5835	3748	35	18	2081	180
Maximum	105846	832865	756745	101361	25	5195.15	359138	2064	1569	94872	6750
Sum	219502	3542708	1527483	2015225	661.8	10865.8	736993	6340	4780	332965	26734
Count	35	35	35	35	35	35	35	35	35	35	35
Confid. lev. 95%	5981.33	45038.9	43474.8	7709.84	0.88601	336.373	20412.3	115.559	88.3592	5224.79	366.561
CV (%)	277.642	129.532	289.993	38.9806	13.6407	315.418	282.198	185.712	188.343	159.881	139.704

Rezultatele prezentate în tabel prezintă distorsiuni masive, determinate de valorile absolute excesive, specifice mun. Chișinău. În aceste condiții diagrama privind numărul de cazuri de COVID-19 nu este deloc sugestivă (Figura 1).

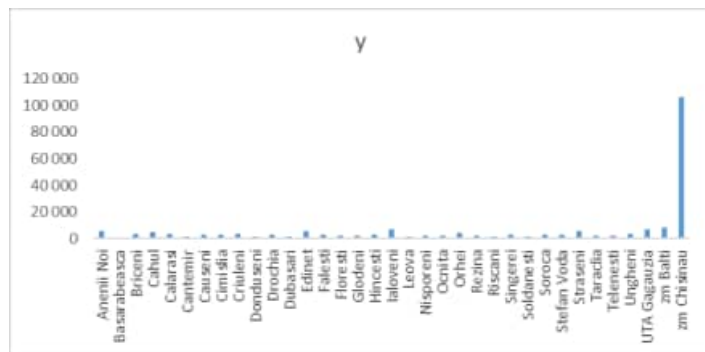


Figura 1. Numărul cumulat de cazuri COVID-19 pe UAT (31.05.2021)

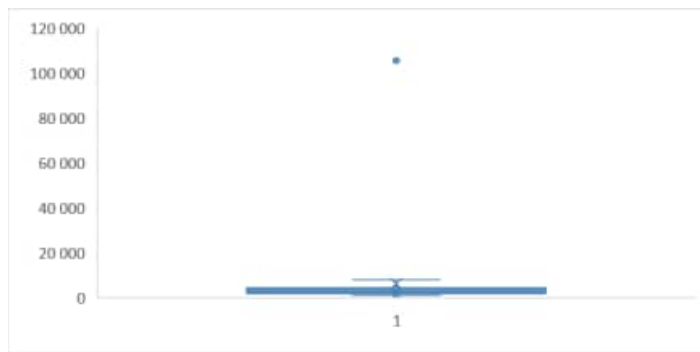


Figura 2. Diagrama box-plot privind numărul cumulat de cazuri COVID-19 pe UAT (31.05.2021)

Nici în cazul diagramei box-plot, care prezintă indicatorii tendinței centrale (media și mediana), precum și variația intercuartilică cu nivelele excesive, nu pot fi surprinse aspecte specifice manifestării fenomenului pandemic în Republica Moldova (Figura 2).

Ținând cont de valorile excesive ale numărului absolut de cazuri de infecție COVID-19 din mun. Chișinău, și a indicatorilor asociați acestui indicator, exclusiv pentru orice perioadă de manifestare a pandemiei (perioadă de referință), reprezentările grafice ale manifestărilor pandemice cu includerea Chișinăului prezintă informații distorsionate și lipsite de sens (nelizibile).

O ameliorare relativă a aspectelor privind calitatea datelor abordate, din punct de vedere al variației variabilelor cuprinse în studiu, va presupune excluderea din calcule a indicatorilor ce descriu mun. Chișinău. O astfel de operație va permite obținerea unor valori mai puțin împrăștiate în jurul mediei, și respectiv estimări mai stabile ale parametrilor de calitate, analiză a interdependențelor, și respectiv a parametrilor modelelor de dependență.

Tabelul 4. Statisticile descriptive privind variabilele analizate pe UAT, exclusiv mun. Chișinău

	y	P	P _u	P _r	K60+	d	T	MT	MS	E	CD
Mean	3342.82	79701.3	22668.8	57032.5	18.9588	166.783	11113.4	125.765	94.4412	7002.74	587.765
Standard Error	301.031	5458.75	4338.6	3866.45	0.446	84.6474	1460.65	13.2933	11.0648	570.519	40.3588
Median	2965	74961	16427.5	60708.5	18.3	80.3768	8465.5	115	82	6359.5	554.5
Mode	#N/A	#N/A	#N/A	#N/A	22.9	#N/A	#N/A	129	98	#N/A	387
Standard Deviation	1755.29	31829.7	25298.2	22545.1	2.6006	493.575	8516.97	77.5125	64.5184	3326.67	235.33
Sample Variance	3081058	1E+09	6.4E+08	5.1E+08	6.7631	243616	7.3E+07	6008.19	4162.62	1.1E+07	55380.3
Kurtosis	0.85521	0.40029	18.2043	-0.1677	0.05045	33.9137	11.2596	7.55662	8.25471	0.97928	1.55324
Skewness	1.17318	0.74337	3.92059	-0.2203	0.89953	5.8202	3.00528	2.28812	2.43683	1.01568	0.96732
Range	7114	133679	146850	96420	10	2900.94	44858	405	343	13765	1140
Minimum	1151	27997	0	4941	15	57.5835	3748	35	18	2081	180
Maximum	8265	161676	146850	101361	25	2958.53	48606	440	361	15846	1320
Sum	113656	2709843	770738	1939105	644.6	5670.62	377855	4276	3211	238093	19984
Count	34	34	34	34	34	34	34	34	34	34	34
Confid. Lev. (95%)	612.451	11105.9	8826.95	7866.35	0.90739	172.217	2971.71	27.0454	22.5115	1160.73	82.1106
CV (%)	52.5093	39.9362	111.599	39.5302	13.7171	295.939	76.6371	61.6329	68.3159	47.5052	40.0382

Astfel, prin eliminarea din calcule a datelor privind mun. Chișinău se realizează o situație în care statisticile descriptive prezintă indicatori ai tendinței centrale, precum și indicatori ai variației mult mai acceptabili (Tabelul 4), ceea ce ne va permite, posibil, specificarea unor modele de o consistență mult mai mare.

Deja datele corectate, prin excluderea mun. Chișinău, prezintă informații în care pot fi surprinse diverse aspecte privind dimensiunea manifestărilor pandemice pe UAT, precum și cele legate de nivelele centrale și variație mult mai lizibile. De fapt, în marea sa majoritate de cazuri, se poate presupune că numărul de persoane infectate este proporțional dimensiunii entităților după suprafață, efectiv al populației și alte varii criterii.

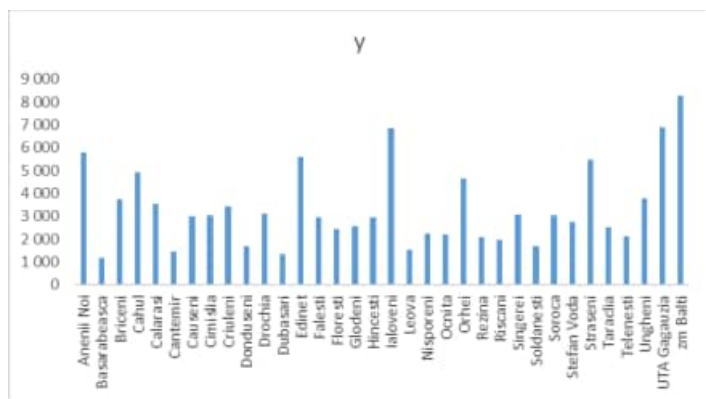


Figura 3. Numărul cumulat de cazuri COVID-19 pe UAT fără mun. Chișinău (31.05.2021)

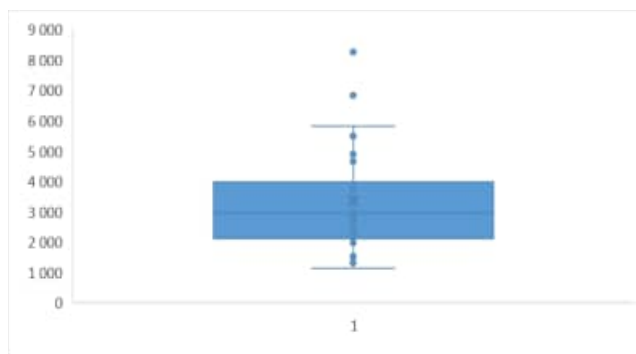


Figura 4. Diagrama box-plot privind numărul de cazuri COVID-19 pe UAT fără mun. Chișinău (31.05.2021)

În aceste împrejurări se vor genera analize separate a datelor cu și fără includerea municipiului Chișinău, iar în scopul obținerii unor modele prin care se va încerca descrierea dependenței dintre numărul total de persoane infectate și variabilele prin care se exprimă atât expunerea la riscul de infectare (populație expusă), precum și presupuse variabile prin care se exprimă mobilitatea populației, se va lucra atât cu valorile absolute cât și cu valorile relative.

Intensitatea legăturii dintre variabile nominalizate, exprimate în expresie absolută, se va realiza în cadrul tabelului de corelație.

Tabelul 5. Tabelul de corelație dintre variabilele analizate, inclusiv mun. Chișinău

	y	P	Pu	Pr	K60+	d	T	MT	MS	E	CD
y	1										
P	0.98449	1									
Pu	0.98936	0.98545	1								
Pr	0.17228	0.28494	0.11785	1							
K60+	-0.1276	-0.177	-0.1203	-0.3552	1						
d	0.88864	0.89113	0.93585	-0.0714	-0.0969	1					
T	0.99633	0.98989	0.99714	0.15996	-0.1308	0.91404	1				
MT	0.98808	0.99292	0.99468	0.19148	-0.137	0.9265	0.99491	1			
MS	0.98476	0.99279	0.99453	0.19158	-0.144	0.93129	0.99323	0.99847	1		
E	0.98844	0.99879	0.98882	0.25884	-0.176	0.89716	0.99319	0.994	0.99374	1	
CD	0.98710	0.99806	0.98531	0.27438	-0.158	0.88136	0.99081	0.99142	0.99038	0.99846	1

Coeficienții corelației simple liniare (indicatorii corelației parțiale) dintre perechile de valori ale variabilelor de referință indică o legătură aproape funcțională dintre marea majoritate a variabilelor, cu excepția variabilei Pu (numărul populației stabile din mediul rural) și K60+ (ponderea populației vârstnice, de 60 de ani și peste). Posibil aceste două variabile să nu exercite influență asupra efectivului numărului de persoane infectate.

Excluderea datelor aferente mun. Chișinău din masivul de date analizate afectează puțin indicatorii corelației parțiale, plasându-le de la nivele aproximativ funcționale la nivele de intensitate moderată.

Tabelul 6. Tabelul de corelație dintre variabilele analizate, exclusiv mun. Chișinău

	y	P	Pu	Pr	K60+	d	T	MT	MS	E	CD
y	1										
P	0.77095	1									
Pu	0.7049	0.71088	1								
Pr	0.29747	0.61414	-0.1185	1							
K60+	-0.1308	-0.2737	-0.0374	-0.3445	1						
d	0.5057	0.40692	0.86771	-0.3992	0.00645	1					
T	0.80169	0.84807	0.95445	0.12632	-0.1193	0.7808	1				
MT	0.84295	0.87099	0.89162	0.22919	-0.1098	0.72005	0.96006	1			
MS	0.83779	0.87859	0.91487	0.21383	-0.1315	0.73522	0.9729	0.97661	1		
E	0.78306	0.98224	0.74075	0.55554	-0.2963	0.46315	0.86979	0.87872	0.8924	1	
CD	0.733	0.96763	0.66177	0.62354	-0.2108	0.31607	0.79801	0.82697	0.8295	0.96715	1

Conform datelor tabelului de corelație cea mai intensă legătură dintre variabile poate fi surprinsă între numărul de cazuri COVID-19 și indicatorii ce reprezintă mobilitatea – numărul mediu

scriptic de lucrători din UAT și numărul de elevi, dar și cei ce descriu condiția în care se manifestă pandemia (numărul de total de medici și numărul de medici de specialitate).

Reducerea intensității interdependențelor dintre numărul de cazuri de COVID-19 de la cazul cu la cel fără mun. Chișinău se poate explica prin ponderea mare de cazuri din mun. Chișinău, la fel ca și ponderile mari ale indicatorilor cuprinși în analiză. Prin urmare, ne putem aștepta și la o calitate mai mare a modelelor de dependență dintre variabile în cazul cuprinderii în analize și a mun. Chișinău.

Urmărind demersurile produse anterior, inițial se va genera un model de o dependență liniară dintre numărul de cazuri COVID-19 și setul de variabile factoriale cu excepția datelor aferente municipiului Chișinău.

Tabelul 7. Specificarea modelului 1 - toate variabilele factoriale analizate, exclusiv mun. Chișinău

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.88695							
R Square	0.78668							
Adjusted R Square	0.70669							
Standard Error	950.631							
Observations	34							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significanc</i> <i>F</i>			
Regression	9	8E+07	8887347	9.8344	3.8E-06			
Residual	24	2.2E+07	903700					
Total	33	1E+08						
	<i>Coefficients</i>	<i>Std Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 99%</i>	<i>Upper 99%</i>
Intercept	1037.33	1774.33	0.58463	0.56425	-2624.7	4699.37	-3925.4	6000.03
P	-0.0376	0.0336	-1.1178	0.27474	-0.1069	0.0318	-0.1316	0.05643
gPu	765.264	2075.42	0.36873	0.71556	-3518.2	5048.71	-5039.5	6570.08
K60+	36.9078	79.712	0.46301	0.64752	-127.61	201.425	-186.04	259.857
d	-2.7523	1.08772	-2.5303	0.01837	-4.9973	-0.5074	-5.7946	0.28999
T	0.02173	0.12195	0.17817	0.86009	-0.23	0.27343	-0.3194	0.36282
MT	20.9009	11.2476	1.85825	0.07544	-2.313	44.1148	-10.558	52.3597
MS	17.0735	15.899	1.07387	0.29356	-15.74	49.8873	-27.395	61.5419
E	0.71528	0.41431	1.72644	0.09712	-0.1398	1.57037	-0.4435	1.87408
CD	-7.8799	4.42923	-1.7791	0.0879	-17.021	1.26161	-20.268	4.50842

Modelul estimat arată o influență majoră asupra numărului de cazuri de COVID-19 a variabilelor „pondere a populației urbane” și altele moderate a variabilelor pondere a populației vârstnice și a numărului de medici din UAT. Astfel, creșterea ponderii populației urbane cu 1 pp determină o creștere cu cca 765 a numărului de cazuri COVID-19, la fel ca și creșterea ponderii populației vârstnice cu 1 pp determină o creștere cu cca 37 a numărului de cazuri noi de infecții.

Cu toate acestea semnificația acestor afirmații este destul de mică și puțin probabilă pe contul estimărilor *P-value*, probabilitatea de realizare a situațiilor descrise fiind valoarea complimentară a acesteia. Valorile ajustate conform modelului specificat sunt prezentate în tabelul 8.

Tabelul 8. Valorile reale/ajustate și erorile pentru modelele specificate 1 și 2 (cu/fără m. Chișinău)

RESIDUAL OUTPUT fără mun. Chisinau				RESIDUAL OUTPUT cu mun. Chisinau			
<i>Observation</i>	<i>Real y</i>	<i>Predicted y</i>	<i>Residuals</i>	<i>Observation</i>	<i>Real y</i>	<i>Predicted y</i>	<i>Residuals</i>
1	5 810.0	4 195.6	1 614.4	1	5 810.0	5 157.3	652.7
2	1 151.0	2 231.4	-1 080.4	2	1 151.0	2 094.2	-943.2
3	3 753.0	3 181.1	571.9	3	3 753.0	2 853.2	899.8
4	4 903.0	4 962.3	-59.3	4	4 903.0	5 305.3	-402.3
5	3 524.0	3 075.7	448.3	5	3 524.0	2 427.8	1 096.2
6	1 437.0	1 466.5	-29.5	6	1 437.0	1 798.2	-361.2
7	2 983.0	3 461.1	-478.1	7	2 983.0	3 411.0	-428.0
8	3 017.0	2 234.9	782.1	8	3 017.0	2 412.5	604.5
9	3 424.0	4 105.0	-681.0	9	3 424.0	3 665.0	-241.0
10	1 667.0	2 144.3	-477.3	10	1 667.0	2 247.7	-580.7
11	3 122.0	3 460.6	-338.6	11	3 122.0	3 386.2	-264.2
12	1 314.0	1 213.8	100.2	12	1 314.0	2 143.8	-829.8
13	5 613.0	4 749.4	863.6	13	5 613.0	4 461.9	1 151.1



14	2 938.0	2 485.8	452.2	14	2 938.0	2 865.2	72.8
15	2 445.0	2 547.4	-102.4	15	2 445.0	2 597.8	-152.8
16	2 556.0	2 524.9	31.1	16	2 556.0	2 371.1	184.9
17	2 947.0	3 939.9	-992.9	17	2 947.0	3 312.7	-365.7
18	6 841.0	4 579.9	2 261.1	18	6 841.0	4 249.4	2 591.6
19	1 518.0	1 799.0	-281.0	19	1 518.0	1 440.0	78.0
20	2 255.0	2 214.7	40.3	20	2 255.0	1 840.0	415.0
21	2 196.0	2 354.1	-158.1	21	2 196.0	1 921.3	274.7
22	4 650.0	5 904.4	-1 254.4	22	4 650.0	6 619.3	-1 969.3
23	2 075.0	2 667.6	-592.6	23	2 075.0	2 657.4	-582.4
24	1 971.0	2 213.4	-242.4	24	1 971.0	2 420.4	-449.4
25	3 067.0	2 762.9	304.1	25	3 067.0	1 975.7	1 091.3
26	1 680.0	3 541.4	-1 861.4	26	1 680.0	3 799.6	-2 119.6
27	3 011.0	2 598.3	412.7	27	3 011.0	2 646.1	364.9
28	2 755.0	3 263.5	-508.5	28	2 755.0	3 138.8	-383.8
29	5 486.0	4 294.9	1 191.1	29	5 486.0	4 170.6	1 315.4
30	2 506.0	1 548.8	957.2	30	2 506.0	1 684.4	821.6
31	2 118.0	2 477.6	-359.6	31	2 118.0	1 992.2	125.8
32	3 759.0	4 032.5	-273.5	32	3 759.0	4 135.3	-376.3
33	6 899.0	7 123.9	-224.9	33	6 899.0	8 060.2	-1 161.2
34	8 265.0	8 299.3	-34.3	34	8 265.0	8 508.7	-243.7
				35	105 846.0	105 731.4	114.6

Corelograma valorilor reale, a celor ajustate, precum și corelograma erorilor prezintă o corespundere acceptabilă a valorilor ajustate față de cele reale, precum și nivele de erori admisibile, cu toate că există entități la nivelul cărora se fac observate abateri pozitive și negative mai mari de 1/5, printre care Taraclia, Ialoveni, Anenii Noi, Cimislia și Straseni, și negative Criuleni, Orhei, Rezina, Donduseni, Hincesti, Basarabeasca și Soldanesti.

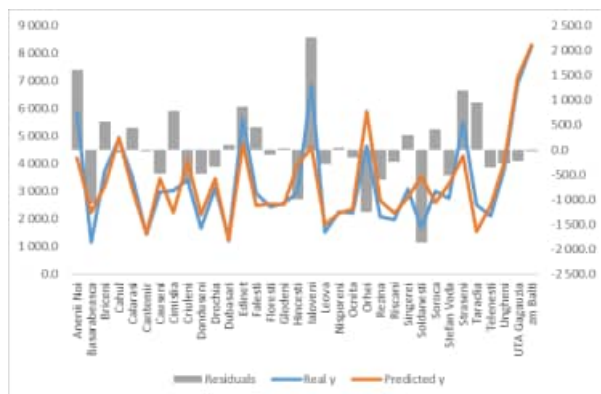


Figura 4. Corelograma valorilor reale, a celor ajustate și a erorilor (modelul fără mun. Chișinău)

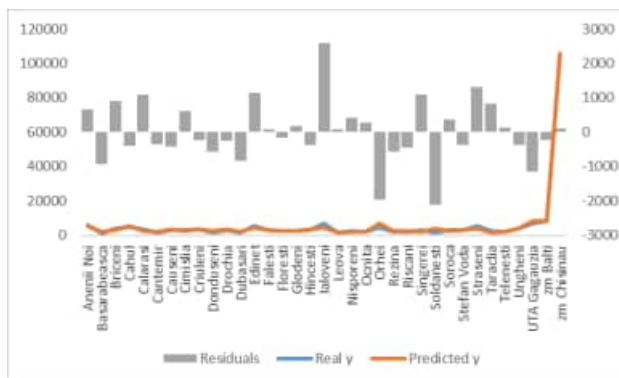


Figura 5. Corelograma valorilor reale, a celor ajustate și a erorilor (modelul cu mun. Chișinău)

Includerea datelor privind manifestarea pandemiei în Municipiul Chișinău îmbunătățește semnificativ parametri de bonitate a modelului, iar unii estimatori ai parametrilor modelului își modifică valoarea, sensul și semnificația.

Tabelul 9. Specificarea modelului 2 - toate variabilele factoriale analizate, inclusiv mun. Chișinău
SUMMARY OUTPUT

<i>Regression Statistics</i>					
Multiple R	0.99863				
R Square	0.99727				
Adjusted R Square	0.99628				
Standard Error	1061.7				
Observations	35				
<i>ANOVA</i>					
		<i>Significance F</i>			
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	



Conferința internațională științifico-practică în onoarea a 33-a aniversării a Universității de Stat Comrat

Regression	9	1E+10	1.1E+09	1013.34	9.5E-30
Residual	25	2.8E+07	1127211		
Total	34	1E+10			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 99.0%	Upper 99.0%
Intercept	2125.73	1929.04	1.10196	0.28097	-1847.2	6098.67	-3251.3	7502.82
P	-0.0612	0.03622	-1.6888	0.1037	-0.1358	0.01343	-0.1621	0.03979
gPu	-2281.5	1939.28	-1.1765	0.25049	-6275.5	1712.55	-7687.1	3124.14
K60+	41.7258	89.0027	0.46881	0.64326	-141.58	225.03	-206.36	289.815
d	-3.9629	1.10513	-3.5859	0.00142	-6.2389	-1.6868	-7.0433	-0.8824
T	0.33481	0.03912	8.5588	6.7E-09	0.25424	0.41538	0.22577	0.44385
MT	16.5251	12.4287	1.32959	0.19566	-9.0723	42.1225	-18.119	51.1693
MS	7.45893	17.2987	0.43118	0.67003	-28.168	43.0862	-40.76	55.6779
E	0.67949	0.46248	1.46924	0.15424	-0.273	1.63197	-0.6096	1.96861
CD	-8.004	4.94646	-1.6181	0.11819	-18.191	2.18345	-21.792	5.78397

Printre abaterile semnificative se înscriu aceleași entități ca și în cazul modelului tratat anterior. În acest sens se poate relata existența unor entități teritorial-administrative, care se abat în plus și în minus de la regula generală (model).

Deși modelul care include datele privind numărul de infecții COVID-19 din municipiul Chișinău, determinat de efectivul populației expuse și de variabilele prin care se exprimă mobilitatea populației din unitățile teritoriale Administrative prezintă rezultate mai satisfăcătoare, o analiză asupra valorilor ajustate ale șirului variabilei dependente ca funcție de variabilele independente prezintă o manifestare excesivă a situației la nivel de municipiul Chișinău, deși calitatea modelului caracterizată de indicatorii de bonitate ai modelului care include municipiul Chișinău este mult mai acceptabilă decât în cazul modelului specificat fără datele aferente municipiului Chișinău.

Eliminarea consecutivă din modelul generat anterior una câte una a variabilelor caracterizate de estimării ne semnificative ale parametrilor, adică pentru care statisticile student prezintă valori ne semnificative, va permite specificarea unor modele ce vor corespunde unor exigențe recomandare de validare a acestora. Printre primele variabile se va elimina coeficientul îmbătrânirii demografice, procedură care presupunem că ne va permite să îmbunătățim modelul căutat. Astfel, rezultatele specificării modelului din care se exclud variabilele ne semnificative sunt prezentate în tabelul 10. În general, rezultatele activităților de specificare a modelelor de dependență dintre numărul persoanelor infectate cu COVID-19 și setul de variabile factoriale acceptate pentru a fi incluse în model, se prezintă în mod sistematizat în tabelul 10.

Tabelul 10. Sinteza parametrilor modelelor 1-6

Indicatori/ parametri	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
A	1	2	3	4	5	6
Multiple R	0.886953	0.9986	0.8859	0.9986	0.825288	0.9982
R Square	0.786685	0.9973	0.7848	0.9972	0.6811	0.9963
Adj. R Square	0.706692	0.9963	0.7159	0.9964	0.64921	0.996
STD Error	950.6314	1061.7019	935.5755	1045.6507	1039.617	1108.106
Observ.	34	35	34	35	34	35
F	9.8344	1013.34	11.40	1175.24	21.36	2788.04
Signif. F	3.8E-06	9.5E-30	1.20E-06	2.97E-31	1.35E-07	8.93E-38
Intercept	1037.33	2125.733	1751.01	2937.78	956.014	1496.528
t Stat	0.5846	1.102	2.0244	3.5131	1.536343	2.43954
P-value	0.5643	0.281	0.0537	0.0016	0.134935	0.020624
P	-0.0376	-0.0612	-0.0381	-0.0619	0.00602	-0.02518
t Stat	-1.1178	-1.6888	-1.1538	-1.7374	0.357286	-2.39317
P-value	0.2747	0.1037	0.2595	0.0942	0.723379	0.022946
gPu	765.26	-2281.47	776.23	-2282.49		
t Stat	0.3687	-1.1765	0.3801	-1.1950		
P-value	0.7156	0.2505	0.7071	0.2429		
K60+	36.9078	41.7258				
t Stat	0.4630	0.4688				
P-value	0.6475	0.6433				
d	-2.7523	-3.9629	-2.7027	-3.9120	-0.84165	-2.66308



Indicatori/ parametri	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
t Stat	-2.5303	-3.5859	-2.5370	-3.6117	-0.9133	-5.40647
P-value	0.0184	0.0014	0.0178	0.0013	0.368366	6.69E-06
T	0.0217	0.3348	0.0241	0.3389	0.184226	0.387054
t Stat	0.1782	8.5588	0.2012	9.0248	2.001022	14.90511
P-value	0.8601	0.000	0.8421	0.0000	0.054509	1.1E-15
MT	20.9009	16.5251	20.9948	16.6121		
t Stat	1.8583	1.3296	1.8970	1.3573		
P-value	0.0754	0.1957	0.0694	0.1864		
MS	17.0735	7.4589	17.5046	7.9042		
t Stat	1.0739	0.4312	1.1206	0.4646		
P-value	0.2936	0.67	0.2731	0.6461		
E	0.7153	0.6795	0.6357	0.5893		
t Stat	1.7264	1.4692	1.7135	1.4227		
P-value	0.0971	0.1542	0.0990	0.1667		
CD	-7.8799	-8.004	-7.0318	-7.0453		
t Stat	-1.7791	-1.6181	-1.7717	-1.5883		
P-value	0.0879	0.1182	0.0886	0.1243		

Valorile ajustate conform modelului specificat prezintă erori absolute și relative semnificative, diminuând sau supraestimând situația privind manifestarea COVID-19 la nivel de UAT-uri. Astfel, la nivelul raionului Șoldănești și Basarabeasca erorile relative prezintă supraevaluări de cca +112,7% și respectiv +97,5%, în timp ce la extrema opusă se situează raioanele Taraclia și Ialoveni cu -36,4% și respectiv 32,6%. Situația constatată relatează deficiențe majore în procesul de specificare a modelului, respectiv selectarea variabilelor cu o influență semnificativă asupra numărului de cazuri COVID-19, la nivel de UAT-uri.

Includerea datelor privind manifestarea pandemiei în Municipiul Chișinău îmbunătățește semnificativ parametri de bonitate a modelului 4 față de modelul 3, iar unii estimatori ai parametrilor modelului 4 pe parcursul activităților de specificare chiar își modifică valoarea, sensul și semnificația. Cu toate acestea în șirul de P-value se fac observate valori ce indică lipsa de semnificație a estimatorilor parametrilor (Tabelul 10, col. 3).

Includerea datelor privind manifestarea pandemiei în Municipiul Chișinău îmbunătățește semnificativ parametri de bonitate a modelului 4 față de modelul 3, iar unii estimatori ai parametrilor modelului 4 pe parcursul activităților de specificare chiar își modifică valoarea, sensul și semnificația. Cu toate acestea în șirul de P-value se fac observate valori ce indică lipsa de semnificație a estimatorilor parametrilor (Tabelul 10, col. 4).

Astfel, pentru a evita procesul iterativ de eliminare consecutivă a variabilelor nesemnificative se vor prezenta cele mai plauzibile variante de model (modelele 5 și 6).

Și în cazul modelului 5, care presupune preluarea pe poziție de variabile factoriale efectivul populației, densitatea și efectivul populației ocupate, se atestă o semnificație deficitară în cazul a trei din cei patru estimatori ai parametrilor din model.

În schimb în cazul modelului 6, care presupune includerea în calcule a municipiului Chișinău s-a obținut un model valid din toate punctele de vedere.

Reducerea numărului de variabile factoriale a marcat o îmbunătățire calitativă a modelului 6 și a asigurat o corespundere a acestuia în marea sa parte tuturor exigențelor impuse procesului de specificare a modelelor, atât sub aspectul semnificației estimatorilor parametrilor, cât și sub aspectul testelor de validare a modelului în ansamblu.

Prin substituția în modelul 6 a valorilor estimatorilor parametrilor se obține forma extinsă a modelului: $\hat{y} = \hat{b}_0 + \hat{b}_1 P + \hat{b}_2 d + \hat{b}_3 T = 1496.528 - 0.02518 \cdot P - 2.66308 \cdot d + 0.387054 \cdot T$

Astfel, situația medie per UAT este exprimată de cota de cca 1500 cazuri de COVID-19, în timp ce interpretarea celorlalte elemente poate fi interpretată astfel:

- modificarea numărului de locuitori ai UAT cu o persoană determină modificarea în sens opus a numărului de cazuri de COVID-19 cu 0,03 persoane;

- creșterea densității populației cu o unitate, determină descreșterea numărului de cazuri de COVID-19 cu cca 2,7 persoane;
- Modificarea numărului de salariați cu cca o mie de persoane influențează modificarea în același sens a numărului de infecții cu cca 0,4 persoane.

Diagrama 6 oferă o imagine destul de sugestivă asupra rezultatelor obținute în baza modelului specificat, sugerând o corespundere relativ moderată a valorilor ajustate cu cele reale, cu excepția UAT cu un număr mic al populației și raionul Ialoveni.

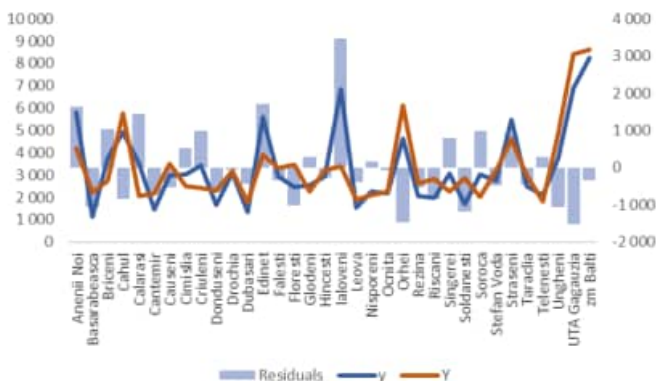


Figura 6. Valorile reale, ajustate și erorile, conform modelului 6 (inclusiv mun. Chișinău)

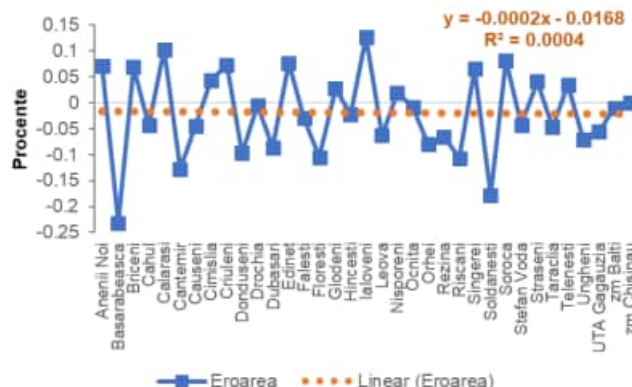


Figura 7. Erorile de ajustare, conform modelului 6 (inclusiv mun. Chișinău)

În marea sa parte erorile nu se abat de la limite rezonabile, iar distribuția lor se apropie de o distribuție normală cu media de $-0,02$ și abaterea standard de $0,08$ (Figura 7). Sistematizarea reziduurilor și redarea acestora prin intermediul structurii cumulate sugerează valori apropiate de valoarea nulă și o distribuție asimetrică la stânga (Figura 8) cu o concentrare a abaterilor în partea superioară a distribuției.

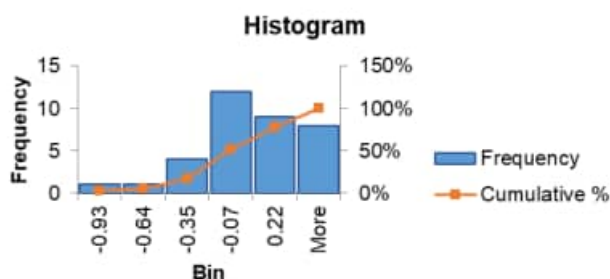


Figura 8. Distribuția erorilor de ajustare, conform modelului 6 (inclusiv mun. Chișinău)



Figura 9. Numărul de cazuri COVID-19, în Republica Moldova

Verificarea retrospectivă a modelului

O operație utilă pentru verificarea valabilității modelului selectat pentru aproximarea dependenței dintre numărul de cazuri de infectare și variabilele determinante ale numărului de cazuri pe UAT va presupune specificarea unor modele similare pentru date cronologică retrospective, în care s-au înregistrat valori minimale și maximale pentru subperioade distincte ale pandemiei (Figura 9).

Astfel, zilele selectate pentru verificare au fost plasate la distanța de 125, 276, 313 și respectiv 379 zile de la momentul inițial al pandemiei (Tabelul 12).



Tabelul 12. Numărul cumulat de cazuri COVID-19 la data de referință, pe UAT

Data:	12/07/2020	09/12/2020	16/01/2021	23/03/2021
#	A (125)	B (276)	C (313)	D (379)
Grand Total	19204	120951	152253	216073

Pentru a testa dacă valorile privind numărul de cazuri de infectare, pe UAT sunt similare la nivelul celor 4 date de reper se va recurge la testul ANOVA pentru un singur factor, care presupune compararea mediilor celor 4 selecții (numărul cumulat de cazuri la nivelul celor 4 date de referință).

Rezultatele aplicării testului ANOVA prezintă o similaritate a valorilor din cele 4 selecții de date în condiții de $F_{\text{calc}} < F_{\text{crit}}$ (Tabelul 13).

Tabelul 13. Rezultatele testul ANOVA pentru un singur factor

ANOVA: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
125	38	19204	505.3684	1066534
276	38	120951	3182.921	69048269
313	38	152253	4006.658	1.09E+08
379	38	216073	5686.132	2.36E+08

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	5.32E+08	3	1.77E+08	1.709289	0.167601	2.665729
Within Groups	1.54E+10	148	1.04E+08			
Total	1.59E+10	151				

Caracterizarea simultană a variației după linii și coloane va pune în evidență diferențele dintre entități (pe linie) combinată cu diferențele dintre valorile ce prezintă nivelul cumulat al infectării la cele 4 date de referință (Tabelul 14). În acest scop se recurge la testul ANOVA cu doi factori fără replicare sau teste post-hoc (Anova: Two-Factor Without Replication). Conform rezultatelor acestui test există suficiente dovezi că datele înregistrează diferențe de la o entitate la alta (pe linii), încât ar trebui să fim destul de atenți în faza de verificare a modelului 6, specificat anterior.

Tabelul 14. Testul ANOVA pentru doi factori fără replicare

ANOVA: Two-Factor Without Replication

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	1.14E+10	37	3.08E+08	8.643379	3.94E-19	1.518116
Columns	5.32E+08	3	1.77E+08	4.975474	0.002816	2.686384
Error	3.96E+09	111	35663045			
Total	1.59E+10	151				

În aceste condiții se va realiza specificarea unor modelele, similare celui prezentat și validat anterior, privind dependența numărului de cazuri COVID-19 cumulate până la cele patru date extreme ale platourilor (minim și maxim al numărului de infecții), de efectivului și densitatea populației precum și de efectivul de salariați, pentru cazul UAT, cu și fără municipiul Chișinău. Astfel, procedura de estimare a modelelor respective prezintă rezultate aproximativ similare cu rezultatele obținute anterior (Tabelul 15).

Tabelul 15. Sinteza parametrilor modelelor de verificare a valabilității modelului 6, pentru date retrospective

Indicatori/ parametri	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
A	1			2	3	4	5	6
Multiple R	0.8484	0.9810	0.8365	0.9981	0.8458	0.9983	0.8024	0.9980
R Square	0.7198	0.9624	0.6997	0.9962	0.7153	0.9966	0.6438	0.9960
Adj. R Square	0.6918	0.9588	0.6697	0.9959	0.6868	0.9962	0.6082	0.9957
STD Error	189.32	218.95	535.53	545.44	622.63	650.44	967.85	1037.38
Observ.	34	35	34	35	34	35	34	35
F	25.6935	264.8474	23.2985	2720.8097	25.1244	2987.0892	18.0741	2599.7798
Signif. F	1.98E-08	3.60E-22	5.53E-08	1.30E-37	2.51E-08	3.08E-38	6.89E-07	2.63E-37
Intercept	60.3729	-85.4939	521.8423	700.8585	560.8888	838.2479	832.0046	1353.8974
t Stat	0.5328	-0.7053	1.6280	2.3211	1.5050	2.3279	1.4362	2.3575
P-value	0.5981	0.4859	0.1140	0.0270	0.1428	0.0266	0.1613	0.0249
P	-0.0044	0.0041	-0.0010	-0.0114	0.0021	-0.0139	0.0053	-0.0249
t Stat	-1.4213	1.9521	-0.1184	-2.1937	0.2042	-2.2587	0.3350	-2.5249
P-value	0.1655	0.0600	0.9066	0.0359	0.8396	0.0311	0.7399	0.0169
d	-0.3029	0.1886	-0.5172	-1.1205	-0.5416	-1.4762	-0.8286	-2.5873
t Stat	-1.8050	1.9382	-1.0896	-4.6214	-0.9812	-5.1056	-0.9658	-5.6107
P-value	0.0811	0.0618	0.2846	6.34E-05	0.3343	1.59E-05	0.3419	3.73E-06
T	0.0608	0.0060	0.1165	0.1837	0.1261	0.2301	0.1613	0.3571
t Stat	3.6250	1.1769	2.4573	14.3728	2.2862	15.0981	1.8819	14.6906
P-value	0.0011	0.2482	0.0200	2.97E-15	0.0295	7.76E-16	0.0696	1.64E-15

Deși în exclusivitate toate modelele specificate sunt caracterizate de o semnificație generală superioară, tabelul în care se conțin rezultatele sistematizate, pentru cele 8 modele specificate, prezintă rezultate proprii estimatorilor mai plauzibile pentru datele mai recente cu includerea municipiului Chișinău. Astfel, modelele 1, 2, și 5 sunt afectate de semnificații reduse ale unor estimatori, iar în modelul 7 în exclusivitate toți estimatorii au semnificația mai mică de 0,05.

Cel mai reușit model este cel valabil pentru data de 23/03/2021 (ziua 379 de la declanșarea pandemiei), care include și datele mun. Chișinău:

$$\hat{y} = \hat{b}_0 + \hat{b}_1 P + \hat{b}_2 d + \hat{b}_3 T = 1353,9 - 0,025 \cdot P - 2,59 \cdot d + 0,36 \cdot T$$

Modelul relatează o situație medie per UAT de cca 1353 cazuri de COVID-19, determinate de alte variabile decât cele incluse în model, în timp ce celelalte elemente exprimă variația numărului de cazuri de COVID-19 determinate de modificarea variabilelor aferente coeficienților.

În cadrul proceselor de identificare a unor modele privind manifestările pandemice COVID-19 pot fi identificate și alte variabile specifice teritoriale, cu un caracter dinamic-operativ și cu o influență semnificativă asupra numărului de cazuri zilnice de COVID-19 în profil teritorial. Estimarea proceselor pandemice în baza unor astfel de modele operative și integrarea acestora în cadrul unor platforme geospațiale ar reprezenta instrumente fiabile de anticipare și de reacție a sistemului de sănătate publică la creșterea intensității manifestărilor pandemice.

Concluzii

Importanța sporită a abordărilor situației pandemice COVID-19 din Republica Moldova, bazate pe specificarea și utilizarea modelelor econometrice pentru analize și prognoze, este determinată de posibilitatea instituirii unui sistem de control și gestiune eficientă a măsurilor și a resurselor alocate în scopul reducerii numărului de persoane infectate. Acest deziderat se impune cu atât mai mult cu cât manifestările pandemice COVID-19 în profil teritorial au un caracter sporadic și distorsionat. În aceste condiții identificarea, la nivel teritorial, a factorilor cu o influență importantă asupra extinderii cazurilor de infecții, asociată modelelor econometrice generale (pe republică) de manifestare a pandemiei COVID-19, ar putea servi drept instrument de anticipare a unor creșteri a numărului de cazuri de COVID-19, și instituire a unor nivele sporite de alertă.

În general specificarea modelelor a presupus includerea în model a celor mai importante caracteristici teritoriale ambientale și cele privind mobilitatea care alimentează un proces mai intens



de răspândire a infecției și pentru care au fost disponibile date în profil teritorial (pe UAT-uri). Specificarea iterativă a modelelor dependenței numărului de persoane infectate sub aspect teritorial, de anumiți factori a permis identificarea unei serii de variabile, printre care: efectivul populației, densitatea populației și numărul mediu scriptic de angajați. Firesc că există și alte variabile capabile să determine creșterea/reducerea intensității manifestărilor pandemice, dar cu regret disponibilitățile informaționale insuficiente, sau lipsa totală de date nu permit acest lucru.

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THE ESSENCE OF THE CONCEPT OF “ENERGY INFRASTRUCTURE TRANSFORMATION”

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Abstract. At the current stage of global transformations, the problems of energy infrastructure transformation are extremely important. And these questions are especially relevant in the conditions of modern challenges, among which the green economy, decarbonization, climate change, digitalization, information and cybersecurity, etc. Therefore, in the article, the conceptual and categorical apparatus regarding the essence and meaning of the terms “energy infrastructure”, “transformation”, “transformation of energy infrastructure” was further developed.

Keywords: critical infrastructure, energy infrastructure, transformation, climate change, digitalization, green economy, decarbonization, energy security, global challenges, sustainable development.

In today's global world, critical infrastructure [1-2] is of great importance for the development of any country, since limiting its effectiveness or destruction can lead to a deterioration of the state



of the national economy, a decrease in the level of security (economic, social, energy, financial, informational, environmental), damage to the surrounding natural environment.

At the same time, it should be noted that energy infrastructure belongs to strategic objects of critical infrastructure [3-4]. This is due to the fact that interruptions in the functioning of the energy sector negatively affect other critical infrastructure facilities. Traditionally, the energy infrastructure is considered as a complex system consisting of many components designed for the production, distribution and supply of energy. The author of this article proposes to consider energy infrastructure as an important element of critical infrastructure.

The process of changes and transformations is defined by the concept of “transformation”, which is quite complex and multifaceted. It is believed that the concept of “transformation” became widely used in the social sciences in the second half of the 20th century to characterize the latest processes associated with radical structural changes in national economies.

According to J. Schumpeter [5], transformation is creative destruction accompanied by radical innovations.

F. Hayek [6] claims that the gradual transformation of a rigidly organized hierarchical system is its transformation into a system that gives people the opportunity to try to arrange their own lives and choose from a variety of forms of life activities that correspond to their inclinations, – such a transformation is closely related to the development of commerce.

A. Toffler [7] formulates the transformation as a transformation, multifaceted stormy events, changes, thrusts into a new system, which are not a continuation of development in the current direction, but radical changes that may negate previous experience.

P. Druker [8] emphasizes that social transformations are the most lasting; they, faster than all the violence revealed on the political surface of society, changed not only it, but also the economy, and communities, and governments in which, with which and under which we now live.

D. Bell [9] defines transformation as a given and produced degree of necessary changes, within the framework of which the selection of the most significant and promising continues, the adaptation of society to changes in the environment occurs through the formation of programs, projects, goals, technologies for overcoming contradictions, etc.

J. Stiglitz [10] understands transitional processes that inevitably cause collective actions that can take place both within the limits of state regulation and outside them, both at the national and local levels.

In the study [11], I. Markovych proposes systemic, situational and process approaches as the main ones for understanding the nature of transformation. Within the framework of the process approach, the scientist understands the transformation as a series of interconnected processes that are implemented in a certain sequence and are long-lasting in time. Moreover, proposing this approach to the specified definition, I. Markovych [11] singles out the process-radical and process-evolutionary approaches, which allow us to more fully reveal the features of the cardinality and rapidity of the course of transformational processes. However, it is quite difficult to recognize the significant novelty here, since the process-radical and process-evolutionary approaches correspond to transformation based on revolutionary and evolutionary changes; therefore, we are simply talking about different types of transformation.

According to the situational approach, transformation is a moment of radical transformations, as a result of which the structure, features, and system of interrelationships change completely. According to the systemic approach (according to I. Markovych [11]), transformation is an immanent feature of national economies (if considered at the macro level), which occurs constantly and is a phenomenon of continuous change of form. Extending the systemic approach to systems of different levels, transformation can be considered as an immanent property of the system, which contains the prerequisites for a continuous change of form. This point of view is synonymous with the interpretation of development in the works of Y. Pohorelov [12] as the ability to change (in the potential understanding of this concept).

As the literature analysis shows, the concept of "transformation" is defined as:



- 1) the process of adapting elements of economic systems at different levels to the patterns of functioning and development of the national economy;
- 2) movement from form to form through the negation of the old form and the formation of a new one;
- 3) changing the structure of any object;
- 4) the process of transformation and formation of the system;
- 5) the general form of development of economic systems associated with evolutionary and revolutionary changes;
- 6) qualitative transformations of the economic system;
- 7) quantitative and qualitative changes in system components of various scales.

Therefore, transformation means the process of changing the form, appearance, nature or character of a society or individual structure. This is the transformation of essential components of society, all aspects of spheres of economic activity and social life as a whole.

It is proposed to interpret the transformation as a qualitative transformation and formation of the energy system, which enables the transition to a fundamentally new level of its functioning and development, which is carried out consistently and continuously at all stages. That is, the transformation of energy infrastructure is understood as the process of transition of the energy system as an important element of critical infrastructure to a qualitatively new state in accordance with modern challenges: globalization, digitalization [13], customer-centricity, network approach, decarbonization, climate neutrality, green economy and logistics [14], sustainable development [15] etc.

Prospects for further research consist in the substantiation of the conceptual provisions of the formation of a digital energy ecosystem and the development of a mechanism for financial support for the transformation of the energy infrastructure using sustainable financing tools, including green investment.

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DEFINING THE POTENTIAL AND BOUNDARIES OF WINE TOURISM CLUSTER IN THE REPUBLIC OF MOLDOVA

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Annotation. The purpose of this study is to identify the potential and boundaries of wine tourism cluster in the Republic of Moldova. The development of the wine cluster in the ATU of Gagauzia will provide an opportunity to diversify the tourism product of the region, extend the wine season, form additional cores of tourist interest in the form of wine festivals, excursions to wineries, health-improving enotherapy procedures, form and launch tourist wine routes between the Center and South of the Republic of Moldova and three regions Romania (Galati, Iasi, Vaslui)

Key words: winegrowing, winemaking, wine cluster.

The Republic of Moldova is a small but very beautiful country, with a population of less than 3 million people, located between Romania and Ukraine. The capital of the Republic of Moldova is Chisinau, the local language is Romanian (according to the Constitution of the Republic of Moldova at the end of 2021 - Moldovan language), Russian is widely used. The ATU Gagauzia (Gagauz Yeri) is situated in the southern region of the country. According to the responses of tourists, the country has hospitable people and delicious traditional (national dishes) cuisine. According to the Republic of Moldova is an ideal destination for travelers of all types, and wine tourism is a strong point of the country [4]. A number of studies have been published, confirmed and substantiated by substantiated claims [3], that a country as small in territorial scale but huge in opportunities as Moldova has an undeniable tourism potential.

Certainly, it is worth mentioning that the forced pandemic situation (caused by a new kind of virus COVID-19), led to a decline in inbound tourism worldwide. However, the right measures of

state regulation of this industry development will "straighten out" the statistical indicators determining the effective development. It is important to state that the current tourism industry in the Republic of Moldova is a "Start-up" industry compared to international tourism in many other countries around the world. Thus, the practice of rational and effective management has shown (effective tourism marketing strategy and action plan written [3]) that in just 2 years (2016-2018) the Republic of Moldova has transformed from "the least visited destination in Europe" into a "must-visit country" [2]. Bloomberg.com named the country as one of the 10 fastest-growing tourist destinations in Europe [1].

After a steady decline in inbound tourism in recent decades, Moldova's undervalued tourism industry is now seeing vital signs of growth. So, in 2017, 145,000 tourists visited Moldova, an increase of 19.6% compared to 2016 and 54% compared to 2015. The growth continued in 2018. Thus, according to the National Bureau of Statistics of the Republic of Moldova, travel agencies and tour operators provided tourism services to 376,600 tourists in 2019, an increase of 16.4% (+ 61763 tourists) compared to 2018. The increase in the number of tourists was due to an increase in outbound tourism (+ 17.6%), domestic tourism (+ 14.9%), as well as host tourism (+ 3.0%).

Tourists came to the Republic of Moldova in 2019 (Figure 3.1.) from Romania (17.4%), Austria (13.2%), Germany (8.0%), Russian Federation (7, 0%), Ukraine (6.6%), Poland (5.0%), UK (4.8%), China (4.2%), Italy (2,9%), USA (2.5%), Netherlands (2.3%), Japan (2.2%), Turkey (1.8%), Sweden (1.5%), Finland (1.4%), Israel and France (1.2% each), Switzerland and Czech Republic (1.1%) and Lithuania (1.0%).

In 2020 (due to epidemiological situation COVID-19) travel agencies and tour operators provided tourism services to only 124.5 thousand tourists, which is 33.1% compared to 2019 (see Figure 1). Thus, the number of tourists in 2020 compared to 2019 decreased by 252.1 thousand visitors due to a decrease of 235.9 thousand visitors (-76.0%), 12.9 thousand visitors (-65.0%) for "outbound" tourism, and 3.3 thousand visitors for "inbound" tourism. In 2020, approximately 7 thousand foreign tourists and travelers who visited the Republic of Moldova used the services of travel agencies and tour operators.

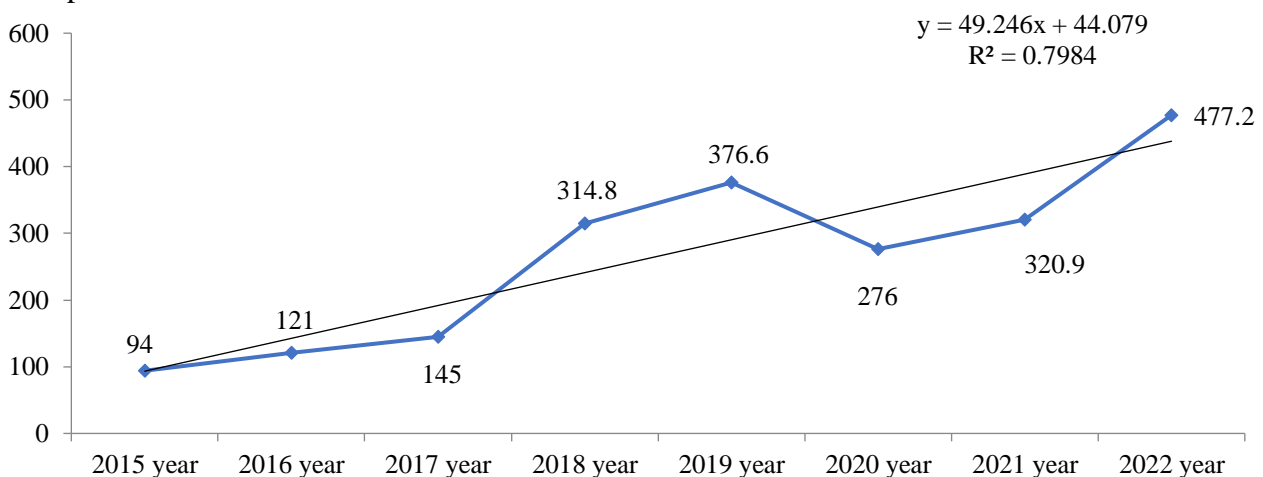


Fig. 1. The evolution of tourists and excursionists in Republic of Moldova, participants in tourism organized by travel agencies and tour operators (2015-2022), (thousands of people)

Source: National Bureau of Statistics of the Republic of Moldova

Inbound tourism in the Republic of Moldova is positioned as a "niche tourism product" with an "emphasis" on wine, gastronomy, rural tourism and "non-extreme 'soft" adventure tourism. However, the results of the survey of foreign tourists show that wine tourism prevails: 60% of foreign tourists claim to value wine and food in the Republic of Moldova the most

Winegrowing and winemaking on the territory of the Moldova originated 4000 to 5000 years ago, when the "Dacians" learned how to make wine from grapes. Winemaking developed when Greek

settlers who arrived on the Black Sea coast towards the end of the 3rd century B.C. brought with them their winemaking traditions and shared them with the local population. The first records on wine date back to 7000 B.C. Wine was used as a medium of exchange for other goods/products and as a trophy reward after hostilities. These facts elevated wine to the level of a national product of the Republic of Moldova

In 2020, despite the COVID-19 pandemic, wine exports declined by only 12% in volume and 7% in value (Figure 2):

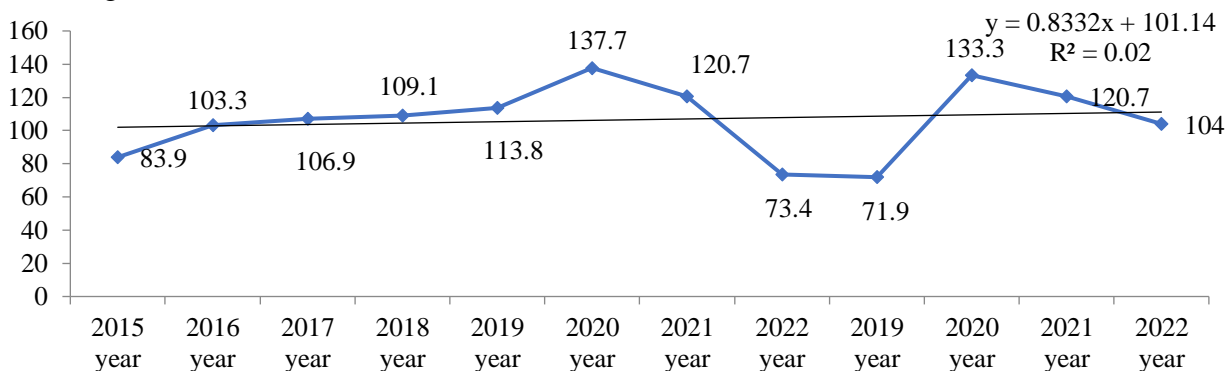


Fig. 2. Dynamics of exports of bottled wines of the Republic of Moldova for the period 2015-2022 (mln. litres) Source: National Bureau of Statistics of the Republic of Moldova

Quiet wines generated 80.2% of total revenues in the Republic of Moldova in 2020, divines and distillates 14.5%, fortified wines 3.3% and sparkling wines approximately 2%. The arsenal of planting material in the country provided the following structure of vineyard varieties composition (Figure 3):

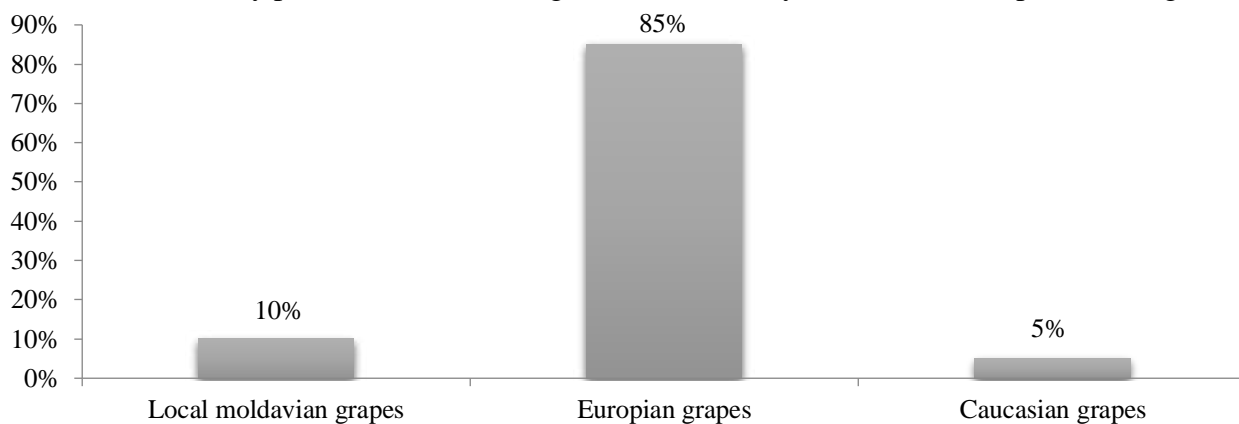


Fig. 3. Structure of grape variety origin in the Republic of Moldova. Source: [5]

The Republic of Moldova continues to actively export wine products to 63 countries (both "East" and "West") Noteworthy are the results obtained by wine companies in the Republic of Moldova in 2020 at international competitions organized by ONVV (National Office of Vine and Wine of the Republic of Moldova) and funded by FVV (Wine and Wine Foundation of the Republic of Moldova), namely registration of a record number of awards: more than 950 medals, which exceed the success of 2019.

The analysis of the structural composition presented in Figure 3.5. indicates the cultivation, almost overwhelmingly (85%), of European grape varieties, which allows the production of wine familiar in taste to European tourists, but with the "Moldova's flavor ", which makes it unique Moreover, according to the annual report of the International Organization of Vine and Wine, the Republic of Moldova ranks 19th globally in terms of wine production among wine producing countries (Table 1):



Table 1. Grape wine production (excluding juices and musts) at global level for 2019-2020 (unit: mhl)

Name of Country	Year						2020 year/2019 year Var. in volum (+;-) (mhl)	2020 year/2019 year Var. in %
	2015	2016	2017	2018	Prov.2019	Prel.2020		
Italy	50,0	50,9	42,5	54,8	47,5	47,2	-0,3	-1 %
France	47,0	45,4	36,4	49,2	42,1	43,9	+1,8	+4%
Spain	37,7	39,7	32,5	44,9	33,7	37,5	+3,8	+11 %
USA	21,7	23,7	23,3	24,8	24,3	24,7	+0,3	+ 1,0 %
Argentina	13,4	9,4	11,8	14,5	13,0	10,8	-2,2	-17%
China	13,3	13,2	11,6	9,3	8,3	N/A	N/A	N/A
Chile	12,9	10,1	9,5	12,9	11,9	10,3	-1,6	-13 %
Australia	11,9	13,1	13,7	12,7	12,0	10,6	-1,3	-11%
South Africa	11,2	10,5	10,8	9,5	9,7	10,4	+0,7	+7 %
Germany	8,8	9,0	7,5	10,3	8,2	8,9	+0,7	+ 11 %
Portugal	7,0	6,0	6,7	6,1	6,5	6,5	0,0	0%
Russia	5,6	5,2	4,5	4,3	4,6	4,7	+ 0,1	+ 2 %
Romania	3,6	3,3	4,3	5,1	3,8	3,6	-0,3	-7 %
Brazil	2,7	1,3	3,6	3,1	2,2	2,2	0,0	0 %
Hungary	2,6	2,5	2,5	3,6	2,4	2,9	+0,5	+22 %
Greece	2,5	2,5	2,6	2,2	2,0	2,0	0,0	-2 %
Austria	2,3	2,0	2,5	2,8	2,5	2,7	+0,2	+10 %
New-Zealand	2,3	3,1	2,9	3,0	3,0	3,3	+0,3	+11%
Moldova	1,6	1,5	1,8	1,9	1,5	1,2	- 0,3	-18,0 %
Bulgaria	1,4	1,2	1,2	1,1	0,9	0,9	- 0,1	-7,0 %
Georgia	1,2	0,9	1,0	1,7	1,8	1,7	- 0,1	- 3 %
Croatia	1,0	0,8	0,7	1,0	0,7	0,7	0,0	-7,0 %

Source: International Organization of Vine and Wine (Reports 2019; 2020)

In 2020, in the Republic of Moldova the grape harvest decreased by 39, 2 % and the amount of wine produced by 42, 2%. At the same time, thanks to the promoted policy, active involvement of its participants and a consistent strategy in this area, the industry retains its competitive potential for further development. Despite pessimistic forecasts, according to statistical data, in 2020 the export of wine products of the Republic of Moldova decreased by 18% in volume and by 7 % in value. In contrast, exports of bottled wines increased by 9 % overall, with growth in most exporting countries. Nevertheless, the red wines produced from the 2020 harvest are of the highest quality with a high maturity potential

The "Tourism 2030 Program" of the Republic of Moldova, is focused on investing in sustainable development of rural areas, as the country is experiencing a high level of depopulation, due to the exodus of indigenous people from rural areas to urban areas and mass migration abroad. According to experts in the field of tourism, by attracting foreign tourists, small and medium-sized family businesses are motivated to retain and open more jobs. In the framework of the project "Moldova Competitiveness", funded under the USAID fund, as well as funded by the Government of Sweden, a tourism development program "Go-Regional" was developed and implemented, which aims to stimulate the development and strengthening of activities of producers of tourist services, tourist facilities, cultural tourist events, tourist routes, as well as management capabilities of local tourist "destinations". Thus, according to the priorities of the program, it is important to increase the capacity of producers of tourist services to attract and support tourists for longer periods of time (at least up to 3 days of stay), the ability to generate and increase the growth rate of the number of jobs



Identification of the structural components of wine tourism cluster in the Republic of Moldova

The review of the business literature on wine routes, a study of the results of academic publications, creates a clear picture of the global concept of wine tourism and the presence of great potential in the implementation of wine routes in the Republic of Moldova. Below are some key facts (for 2019-2020), stating the state of viticulture and winemaking industry in the Republic of Moldova (including ATU Gagauzia):

- 1) Over 200 small and medium scale winemaking companies, registered in the National Registry of Grapes and Wines of the Republic of Moldova (including 16 companies registered in the State Registration Chamber of Gagauzia);
- 2) 15% of the active population in the Republic of Moldova is involved in wine production;
- 3) the number of wineries hosting tourists in the Republic of Moldova has increased from 9 in 2015 to 23 in 2019 (including 4 wineries in Gagauzia);
- 4) More than 80% of all wine production of the Republic of Moldova is exported, which is \$129 or 5% of the country's exports;
- 5) The Republic of Moldova has over 128,000 hectares of land under vine plantations, which is one of the highest densities of vine plantations to the surface area of the country in the world (ranking 6th among European wine-producing countries by size of vine plantations);
- 6) 3 historic wine regions with Protected Geographical Indication (PGI) status for wine recognized by the EU have been formed in the Republic of Moldova: Codru, Stefan Voda, Valullui Traian;
- 7) In 2013, the National Office for Vine and Wine (NOVW) was opened as the main body that manages the Moldova's wine sector;
- 8) Moldova's wines (at the end of 2020) are sold in 63 countries, mostly in highly developed EU markets, showing steady growth over the last 5 years;
- 9) The first wines with Protected Geographical Indication (PGI) status recognized in the EU were released as early as 2016;
- 10) 13% of Moldova's wines (of the total volume produced) are certified with the Protected Geographical Indication (PGI) status, and are recognized in EU countries;
- 11) 2014 has already seen significant progress in the international recognition of the quality of wines produced in the Republic of Moldova: more than 1000 awards at international competitions/exhibitions;
- 12) Today more than 30 varieties of technical grapes are cultivated in the Republic of Moldova: 85% European grape varieties; 10% Black Sea grape varieties; 5% local varieties;
- 13) White wines in the Republic of Moldova account for 60% of production from the following varieties: Chardonnay, Sauvignon Blanc, Muscat Ottonel, Aligote, Pinot Gris / Blanc, Feteasca White / Regala. Red wines (40% of production) are produced from Merlot, Cabernet Sauvignon / Franc, Pinot Noir, Rara Nyagre, FetskaNyagre, Saperavi;
- 14) In 2020, the bottled wine market grew by 5% in volume terms and by 0.2% in value terms (as of the first half of the year);
- 15) In 2020, the National Office for Vine and Wine (NOVW) released the first Wine Tourism Guidebook "ReVin cu drag", dedicated to wine tourism opportunities in the country;
- 16) In 2020, the Virtual Moldova Platform created the first virtual map of wineries in the Republic of Moldova



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EXCHANGE RATE AND ECONOMIC GROWTH IN DEVELOPING COUNTRIES

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Abstract. The current study explores the relationship between exchange rates and economic growth in developing countries. Exchange rates play a crucial role in shaping the economic landscape of the countries, and understanding their impact on growth is essential for policymakers. The paper employs a comprehensive analysis of the existing literature and empirical evidence to provide insights into the dynamics of exchange rates and their implications for economic development in the context of developing countries. The results show that changes in nominal exchange rate significantly influence the economic growth rates in developing countries.

Keywords: foreign exchange rate, economic growth, monetary regulation, developing countries.

Exchange rates play a crucial role in connecting the domestic and international economies by affecting trade, investment, and overall economic performance. Developing countries, with their diverse economic structures and external vulnerabilities, face unique challenges in managing exchange rates to promote sustainable economic growth. The effect of exchange rate fluctuations on economic growth is complex, impacting various aspects of a country's economic performance.

It can be challenging for developing countries to manage exchange rates due to various factors, such as limited financial market development, vulnerability to external shocks, and structural constraints. Unlike developed economies, developing countries may experience higher volatility in their currencies, which can lead to uncertainties in trade, investment, and overall economic planning.

The globalization of financial markets and the interdependence of economies can make developing countries more vulnerable to external shocks, such as currency crises and sudden capital outflows. These external pressures can worsen existing economic challenges and highlight the importance of having a nuanced understanding of the relationship between exchange rates and economic growth in such contexts.

Against this backdrop, this research seeks to delve into the intricacies of the relationship between exchange rates and economic growth in developing countries. By exploring the theoretical



foundations and examining empirical evidence, the study aims to contribute valuable insights to both academic scholarship and practical policy considerations. The diversity of economic structures, vulnerabilities, and external influences in developing countries highlights the significance of this research in fostering a comprehensive understanding of the topic.

The current research employs a mixed-methods approach that combines a systematic review of academic literature with empirical analysis. The systematic review will examine relevant academic literature to provide a comprehensive understanding of the theoretical underpinnings of the exchange rate-growth nexus in developing countries. The empirical analysis will utilize real-world case studies and statistical data to further explore the relationship between exchange rates and economic growth in these contexts. By combining these two approaches, the study aims to provide a comprehensive and robust understanding of the topic.

There have been several empirical studies that have examined the relationship between exchange rates and GDP growth in developing countries [1-4]. However, these studies have generated varied findings, highlighting the complexity of this relationship. To gain insights into the impact of exchange rate fluctuations on different sectors of the economy, researchers have used cross-country analyses and econometric models.

Many studies have focused on the short-term effects of exchange rate movements on economic output, underscoring the role of exchange rate volatility [5-9]. Some studies found that short-term fluctuations in exchange rates could lead to disruptions in investment and consumption patterns, ultimately influencing GDP growth rates.

Long-term analyses have also been conducted to understand how sustained changes in exchange rates shape overall economic trajectories [10-13]. The existing academic literature [14-17] shows that prolonged periods of currency appreciation or depreciation can have profound effects on productivity, technology adoption, and the accumulation of capital, thereby influencing the overall growth potential of developing economies.

The current study was conducted based on an econometric approach to estimate the impact of changes in nominal exchange rate (NER) on economic growth in the selected list of developing countries. The data used for estimation and the list of the selected developing countries is presented in Table 1 and Table 2.

Table 1. Nominal exchange rate in the selected countries (LCU per US dollar)

	2017	2018	2019	2020	2021	2022
Albania	119.1	108.0	109.9	108.7	103.5	113.0
Algeria	111.0	116.6	119.4	126.8	135.1	142.0
Angola	165.9	252.9	364.8	578.3	631.4	460.6
Argentina	16.6	28.1	48.1	70.5	95.0	130.6
Armenia	482.7	483.0	480.4	489.0	503.8	435.7
Bangladesh	80.4	83.5	84.5	84.9	85.1	91.7
Belarus	1.9	2.0	2.1	2.4	2.5	2.6
Benin	580.7	555.4	586.0	574.3	554.6	623.9
Bosnia and Herzegovina	1.7	1.7	1.7	1.7	1.7	1.9
Botswana	10.3	10.2	10.8	11.5	11.1	12.4
Brazil	3.2	3.7	3.9	5.2	5.4	5.2
Bulgaria	1.7	1.7	1.7	1.7	1.7	1.9
Burkina Faso	580.7	555.4	585.9	575.6	554.5	623.8
Burundi	1729.1	1782.9	1845.6	1915.0	1976.0	2034.3
Cabo Verde	97.8	93.4	98.5	96.8	93.2	105.5
Cambodia	4050.6	4051.2	4061.1	4092.8	4098.7	4102.0
Cameroon	580.7	555.4	585.9	575.6	554.5	623.8



Central African Republic	580.7	555.4	585.9	575.6	554.5	623.8
Chad	580.7	555.4	585.9	575.6	554.5	623.8
Chile	648.8	641.3	702.9	792.7	759.0	873.3
China	6.8	6.6	6.9	6.9	6.4	6.7
Colombia	2951.5	2955.7	3281.6	3693.3	3744.2	4256.2
Comoros	435.5	416.6	439.5	430.7	416.0	467.2
Costa Rica	567.5	577.0	587.3	584.9	620.8	647.1
Croatia	6.6	6.3	6.6	6.6	6.4	7.2
Cyprus	0.9	0.8	0.9	0.9	0.8	0.9
Czechia	23.4	21.7	22.9	23.2	21.7	23.4
Dominican Republic	47.5	49.5	51.3	56.5	57.2	55.1
Equatorial Guinea	580.7	555.4	585.9	575.6	554.5	623.8
Ethiopia	23.9	27.4	29.1	34.9	43.7	51.8
Fiji	2.1	2.1	2.2	2.2	2.1	2.2
Gabon	580.7	555.4	585.9	575.6	554.5	623.8
Georgia	2.5	2.5	2.8	3.1	3.2	2.9
Ghana	4.4	4.6	5.2	5.6	5.8	8.3
Guatemala	7.3	7.5	7.7	7.7	7.7	7.7
Guinea-Bissau	580.7	555.4	585.9	575.6	554.5	623.8
Haiti	64.8	68.0	88.8	93.5	89.2	115.6
Honduras	23.5	23.9	24.5	24.6	24.0	24.5
Hungary	274.4	270.2	290.7	308.0	303.1	372.6
Iceland	106.8	108.3	122.6	135.4	127.0	135.3
India	65.1	68.4	70.4	74.1	73.9	78.6
Indonesia	13380.8	14236.9	14147.7	14582.2	14308.1	14849.9
Jamaica	128.0	128.9	133.3	142.4	150.8	153.4
Kazakhstan	326.0	344.7	382.7	413.0	425.9	460.2
Kenya	103.4	101.3	102.0	106.5	109.6	117.9
Kiribati	1.3	1.3	1.4	1.5	1.3	1.4
Kuwait	0.3	0.3	0.3	0.3	0.3	0.3
Latvia	0.9	0.8	0.9	0.9	0.8	0.9
Lesotho	13.3	13.2	14.4	16.5	14.8	16.4
Liberia	112.7	144.1	186.4	191.5	166.2	152.9
Libya	1.4	1.4	1.4	1.4	4.5	4.8
Lithuania	0.9	0.8	0.9	0.9	0.8	0.9
Luxembourg	0.9	0.8	0.9	0.9	0.8	0.9
Madagascar	3116.1	3334.8	3618.3	3787.8	3830.0	4096.1
Malaysia	4.3	4.0	4.1	4.2	4.1	4.4
Maldives	15.4	15.4	15.4	15.4	15.4	15.4
Mali	580.7	555.4	585.9	575.6	554.5	623.8
Malta	0.9	0.8	0.9	0.9	0.8	0.9
Mauritius	34.5	33.9	35.5	39.3	41.7	44.2
Mexico	18.9	19.2	19.3	21.5	20.3	20.1
Moldova	18.5	16.8	17.6	17.3	17.7	18.9
Mongolia	2439.8	2472.5	2663.5	2813.3	2849.3	3140.7



Montenegro	0.9	0.8	0.9	0.9	0.8	1.0
Morocco	9.7	9.4	9.6	9.5	9.0	10.2
Mozambique	63.6	60.3	62.5	69.5	65.5	63.9

Source: World Bank database.

Table 2. Economic growth rates in the selected countries, 2017-2022, %

	2017	2018	2019	2020	2021	2022
Albania	3.80	4.02	2.09	-3.30	8.91	4.86
Algeria	1.30	1.20	1.00	-5.10	3.40	3.20
Angola	-0.15	-1.32	-0.70	-5.64	1.20	3.05
Argentina	2.82	-2.62	-2.00	-9.90	10.72	4.96
Armenia	7.50	5.20	7.60	-7.20	5.80	12.60
Bangladesh	6.59	7.32	7.88	3.45	6.94	7.10
Belarus	2.53	3.15	1.45	-0.67	2.44	-4.70
Benin	5.67	6.70	6.87	3.85	7.16	6.25
Bosnia and Herzegovina	3.24	3.83	2.89	-3.02	7.39	4.11
Botswana	4.11	4.19	3.03	-8.73	11.87	5.79
Brazil	1.32	1.78	1.22	-3.28	4.99	2.90
Bulgaria	2.75	2.69	4.04	-3.97	7.66	3.93
Burkina Faso	6.20	6.60	5.49	1.92	6.94	1.78
Burundi	0.50	1.61	1.81	0.33	3.10	1.85
Cabo Verde	4.55	3.71	6.95	-20.81	5.62	17.12
Cambodia	7.00	7.47	7.05	-3.10	3.03	5.24
Cameroon	3.54	3.96	3.48	0.26	3.34	3.58
Central African Republic	4.53	3.79	3.10	0.90	0.98	0.50
Chad	-2.99	2.37	3.25	-1.60	-1.20	2.24
Chile	1.36	3.99	0.74	-6.15	11.74	2.44
China	6.95	6.75	5.95	2.24	8.45	2.99
Colombia	1.36	2.56	3.19	-7.25	11.02	7.26
Comoros	3.82	3.64	1.76	-0.20	2.11	2.39
Costa Rica	4.16	2.62	2.42	-4.27	7.94	4.55
Croatia	3.40	2.82	3.40	-8.59	13.78	6.35
Cyprus	5.85	5.69	5.84	-3.39	9.91	5.06
Czechia	5.17	3.22	3.03	-5.50	3.55	2.35
Dominican Republic	4.67	6.98	5.05	-6.72	12.27	4.86
Equatorial Guinea	-5.67	-6.24	-5.48	-4.79	0.26	3.78
Ethiopia	9.56	6.82	8.36	6.06	5.64	5.32
Fiji	5.35	3.81	-0.58	-17.04	-4.88	20.02
Gabon	0.47	0.84	3.92	-1.84	1.53	2.91
Georgia	4.84	4.84	4.98	-6.76	10.47	10.39
Ghana	8.13	6.20	6.51	0.51	5.08	3.08
Guatemala	3.08	3.41	4.02	-1.79	8.00	4.12
Guinea-Bissau	5.92	1.28	4.50	-2.40	3.80	3.50
Haiti	2.51	1.67	-1.72	-3.31	-1.80	-1.68
Honduras	4.84	3.84	2.65	-8.96	12.53	4.00
Hungary	4.27	5.36	4.86	-4.54	7.09	4.55



Iceland	4.19	4.89	1.86	-7.22	4.51	7.24
India	6.80	6.45	3.87	-5.83	9.05	7.24
Indonesia	5.07	5.17	5.02	-2.07	3.70	5.31
Jamaica	1.00	1.89	0.89	-9.92	4.60	5.22
Kazakhstan	4.10	4.10	4.50	-2.50	4.30	3.20
Kenya	3.84	5.65	5.11	-0.27	7.59	4.85
Kiribati	0.19	5.11	-2.16	-1.66	7.87	1.56
Kuwait	-4.71	2.43	-0.55	-8.86	1.15	8.86
Latvia	3.31	3.99	0.59	-3.51	6.73	3.36
Lesotho	-3.14	-1.48	-1.42	-7.46	1.85	1.11
Liberia	2.46	1.16	-2.47	-2.98	4.99	4.81
Libya	32.49	7.94	-11.20	-29.79	31.37	-1.24
Lithuania	4.28	3.99	4.67	-0.02	6.28	2.44
Luxembourg	1.32	1.22	2.92	-0.91	7.17	1.38
Madagascar	3.93	3.19	4.41	-7.14	5.74	3.80
Malaysia	5.81	4.84	4.41	-5.46	3.30	8.65
Maldives	7.05	8.67	7.30	-32.91	37.69	13.91
Mali	5.31	4.75	4.76	-1.24	3.05	3.73
Malta	10.87	7.42	7.06	-8.08	12.30	6.92
Mauritius	3.94	4.01	2.89	-14.55	3.40	8.88
Mexico	1.87	1.97	-0.28	-8.65	5.84	3.90
Moldova	4.18	4.08	3.55	-8.28	13.93	-5.02
Mongolia	5.64	7.74	5.60	-4.56	1.64	5.03
Montenegro	4.72	5.08	4.06	-15.31	13.04	6.41
Morocco	5.06	3.07	2.89	-7.18	8.02	1.26
Mozambique	2.64	3.48	2.32	-1.22	2.38	4.36

Source: World Bank database.

The panel data regression analysis was conducted on the sample of 65 developing countries. The data sample includes the years from 2018 to 2022. The model is as follows:

$$GDP_{it} = C + \alpha NER_{it} + u_i + \varepsilon_{it}$$

Where $i = 1, \dots, N$ are the countries included in the panel data; $t = 1, \dots, T$ is the periods observed in the model; NER_{it} is a vector of time-varying explanatory variables for the changes in nominal exchange rate across 65 countries; GDP_{it} is the dependent variable (economic growth rates; ε_{it} is the error term. The panels are balanced, as we have all data on quarterly observations among the selected countries. The total number of observations is 325.

u_i is the individual residual depending on the nature of which the coefficients can be best estimated through pooled-OLS, Fixed effects or Random effects models. The ordinary coefficients covariance and least squares methods were used for estimation. Table 3 represents the estimation results for fixed effects panel data regression model.



Table 3. Estimation results for unemployment.

Regressor	Coeff.	Prob.
NER	-5.522346	0.044
C	2.854205	0.0000
R-square	0.5115	
R-square adj.	0.5038	
DW statistic	1.84	

Source: Own calculation based on data from World Bank database.

The estimated model is as follows:

$$GDP_{it} = 2.85 - 5.52NER_{it}$$

The estimation results show that the impact of nominal exchange rate on economic growth is significant at a 5% significance level. According to the results an increase in the nominal exchange rate against US dollars by 1% leads to a decrease in GDP growth by 5.52%. The adjusted R-square equals 0.5038, indicating that the regressor – nominal exchange rates, can explain 50.38% of the change in economic growth.

Based on the results we can conclude that the foreign exchange regulation has a high importance for developing countries as it significantly influences the economic growth.

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PROFESSIONS ACCOUNTANT AND FINANCE IN MODERN ECONOMIC CONDITIONS

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Abstract. In the modern economy, the professions of “accountant” and “financier” play an extremely important role. An accountant is responsible for systematically recording the financial transactions of an enterprise, processing information on income and expenses, drawing up reports and ensuring the correct payment of taxes. The financier, in turn, analyzes the financial condition of the enterprise, predicts its development, optimizes financial resources and manages investments.

Keywords: Accounting, finance, rating, economics, profession.

Many labor market experts argue that people will soon be replaced by robots and we need to master the professions of the future. And many young people make a fortune from advertising on various social networks. All these trends significantly devalue many professions in the eyes of modern youth, and often disorient their plans for the future. After graduating from lyceums, young people have a question: “Who to believe and who to study after?”

The choice of profession, first of all, depends on the interests, abilities, values of the person choosing, age, financial capabilities and family plans, and even on the place of residence. But even if young people know all this about themselves, what to do with this knowledge and where to direct it?

Every year, graduates of lyceums and colleges decide the most important question of which profession to choose. It’s good when a young man has a specific calling, and literally from childhood he knows who he will become in the future. However, such cases are very few, and the majority choose a specialty based on prestige and demand in the labor market. So how can representatives of the younger generation decide on a profession?

Due to continuous changes in the economy, the labor market is changing, and those professions that seemed in demand five years ago may turn out to be practically unnecessary in the future, experts say everywhere. However, it is very difficult even for them to accurately predict which specialties will become the most popular.

In the modern economy, the professions of “accountant” and “financier” play an extremely important role. An accountant is responsible for systematically recording the financial transactions of an enterprise, processing information on income and expenses, drawing up reports and ensuring the correct payment of taxes. The financier, in turn, analyzes the financial condition of the enterprise, predicts its development, optimizes financial resources and manages investments.



Such professions have become especially relevant in the context of the rapid development of information technology and globalization. With the advent of new accounting systems and automated programs, the accountant has become more efficient and rational. It can do more work in less time, which allows you to more accurately control financial flows and make better management decisions.

The financier, in turn, has access to a wide range of instruments and financial markets. Integration of international markets allows financiers to choose optimal investment strategies and obtain maximum profitability. They can use modern financial models and analytical tools to predict market trends and minimize risks.

Coursera is one of the largest American online projects in the field of education. Platform analysts collect and publish data based on information from leading universities in the world. Based on indicators of the demand for specialties in individual regions, the company develops educational programs in several languages. In July 2022, Coursera published another list of 12 professions for which the demand is the highest in the world. Note that these professions included such specialties as “Financial Manager” and “Banking Industry Analyst”.

The State Tax Inspectorate has published another list of 10 professions that are the highest paid in the Republic of Moldova, in which the profession “Accountant” is in sixth place.

Among the most popular professions in the Republic of Moldova, according to recruiting site delucru.md in 2023, the leaders are specialists in the field of sales, transport and logistics, while IT specialists are only in third place. The top also included data analysts, digital marketers, accountants, HR specialists and specialists in the service sector, medical and engineering specialties.

Also according to recruiting site delucru.md recorded that the highest salaries belong to IT industry specialists who earn from 15,000-100,000 lei per month. The field of transport and logistics is also considered one of the highest paid, where specialists can earn up to 50,000 lei per month.

In the financial sector, salaries range from 10,000 to 50,000 lei per month. Analysts, accountants, auditors with experience can count on a salary of no less than 14,000 - 15,000 lei per month, the salary of beginning financiers and accountants is 30% lower than that of employees with experience. The salary of specialists in management positions in this field starts from 17,000 lei.

At Comrat State University, employees of the Department of Accounting and Finance, as part of the next Erasmus+ educational project “REFINE”, conducted a survey among employers in the southern region of the country. The questionnaire asked respondents a series of questions related to the knowledge, skills and competencies that may be important for success in a career as a financier and accountant.

Table 1. Level of general knowledge, skills and competencies of graduates in the specialty “Finance and Banking” and “Accounting”.
(Maximum points - 5)

Knowledge, skills and competencies	Desired result	Graduate level of the department
Attention to detail	4.5	4.2
Ability to analyze and synthesize	4.4	4.35
Ability to work autonomously	4.3	3.95
Ethical Behavior	4.37	3.9
Learning ability	4.35	4.35
Interpersonal Skills	4.3	4.05
Information management skills	4.25	4.05

Most importantly, the surveyed employers noted the general level of knowledge, skills and competencies that a potential employee must have for a successful career, as well as the level of these components among graduates of the Department of Accounting and Finance of Comrat State University (Table 1).

Let us note that predominantly the level of knowledge and competencies of the department’s graduates meets the requirements of employers in the region, with the greatest gap in the skill “Ability to work autonomously,” which is not critical.

Next, employers' attention shifted to a range of knowledge, skills and competencies related to accounting and finance. The results of this survey are presented in Table 2.



Table 2. Level of knowledge, skills and competencies related to accounting and finance.
(Maximum number of points - 5)

Knowledge, skills and competencies	Desired result	Graduate level of the department
Budgeting and financial planning	4.37	3.84
Financial records management	4.32	3.68
Analysis of financial results	4.26	3.84
Technological adaptability and flexibility	4.26	3.74
Cash flow management	4.21	4.26
Financial analysis, business analysis	4.2	3.9

The survey data suggests that almost all knowledge is skills and competencies and there are slightly larger discrepancies between the desired level of potential employees and the actual level of graduates. The exception is the “Cash Flow Management” competency. The results obtained are quite high, but still became motivation for the creation of new educational programs that contain courses that make it possible to strengthen the level of the presented competencies among graduates.

In addition to surveying employers, at Comrat State University, employees of the Department of Accounting and Finance organized round tables with employers in the region. The discussion centered on the problem of shortage of qualified personnel in the fields of finance, banking and accounting.

The opinions expressed during the discussion were boiled down to several key points:

- there is a significant shortage of qualified personnel in the field of finance in the labor market, especially in the public sector;
- in connection with the constant formation and distribution of funds in the enterprise, there is a need for specialists in the effective distribution of resources, including financial ones, since it is finance specialists in small and medium-sized enterprises who are responsible for the effective management of resources aimed at increasing income;
- staff training should focus on corporate audit, risk management, risk assessment, bankruptcy diagnosis and financial planning.

One of the possibilities discussed was the development of international cooperation. With increased international investment, opportunities for local economic development begin to emerge, leading to an increase in the number of enterprises and economic growth. In turn, the effective operation of any enterprise greatly depends on the quality of work of financiers and accountants.

In general, employers expressed their satisfaction with the level of education of finance specialists. However, some of the participants' suggestions included strengthening practical training in the following areas:

- State and corporate audit;
- Risk management, Risk assessment, Bankruptcy diagnostics;
- International financial management and cooperation;
- Business planning, project development and management;
- Tax management and analysis;
- Budgeting and financial planning;
- Knowledge of a second language (English).

It is very important to understand that high-quality mastery of such professions as “Accountant” and “Financier” is a fairly high level of choice of directions in this particular professional field

In accordance with the Classifier of Professions of the Republic of Moldova, the program of the 1st cycle of study at the university “Accounting” is focused on professional positions presented in Table 3.



Table 3. Orientation of the specialty “Accounting” to professions, according to the Classifier of Professions in the Republic of Moldova

Profession code	Profession name
241101	Auditorfinacial
241102	Accountant-auditor
241103	Accountant
241104	Accounting Expert
241105	Accountantauditor
241106	Treasury Comptroller
241108	Trainee auditor
241301	Financial analyst
242204	Internal auditor in government bodies
242210	Controller-auditor (including chief, manager) in government bodies and their territorial divisions
242107	Specialplanning and control specialist Andeconomic activity reports
263110	Business economist
263111	Economist for accounting and analysis of economic activities
335201	Tax inspector
335202	Maintax inspector
335203	Senior tax inspector
121102	Chief Accountant
121105	Financial Director
121107	Economic Manager
121119	Head of Financial and Economic Department
121120	Head of Financial and Economic Service
121110	Manager (in economic and financial departments)
121111	Financial Manager
121112	Financial Relations Manager
121115	Head of Financial, Economic and Administrative Department
121116	Head of production accounting department

In accordance with the Classifier of Professions of the Republic of Moldova, the program of the 1st cycle of study at the university “Finance and Banking” is focused on the professional positions presented in Table 4.

Table 4. Orientation of the specialty “Finance and Banking” to professions, according to the Classifier of Professions in the Republic of Moldova

Profession code	Profession name
121105	Financial Director
241102	Accountant
241205	Analyst for a banking and leasing company
241206	Credit analyst
241207	Investment Analyst
241215	Dealer
241216	Bank economist
241217	Financial economist
241225	Appraiser
241226	Project Estimator
241227	Insurance agent
241231	Bank employee (loans, marketing, banking products and services)
241235	Damage Assessor
241236	Insurance system specialist



241237	Treasurer
241239	Card Administration Specialist
241301	Financial analyst
241302	Banking financial analyst
241303	Banking assistant
241305	Specialist, organizer-analyst
241306	Banking specialist
242210	Controller-Inspector (including the chief) in state authorities and their
242212	Inspector (including senior, chief) in state inspections and territorial
242214	Specialist (including senior, chief) in government agencies
331101	Bank agent
331102	Commercial agent
331103	Foreign exchange office employee
331104	Sales agent (financial and banking products)
331105	Broker
331106	Commodity broker
331107	Currency broker
331110	Credit expert
331111	Inspector for the organization of receipts and transport assets
331112	Intermediary in financial and commercial activities (broker)
331114	Telephone operator in the field of finance and banking
331201	Technical analyst of financial markets
331202	Finance and Banking Operations Officer
331203	Collector
331406	Planner
331501	Auction appraiser
331502	Insurance appraiser
332101	Insurance agent
332102	Insurance Broker
332301	Procurement Specialist

Of course, there has not been, and never will be, a clear answer to the question of how to make the right choice of profession. But one thing is clear: no matter what specialization a person chooses, it is important to become and remain a professional in it. Professionals are not afraid of market conditions and always find their place - work to their liking and interests, satisfying their wishes for career growth and, not least, financial wealth.

Biography:

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EDUCATION OF THE GERMAN MINORITY AND REGIONAL DEVELOPMENT

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Abstract. In recent years, there has been increasing interest in the economic consequences of ethnic heterogeneity. In Poland, there is a relatively large group of people of German origin, who primarily inhabit the areas of Opole Silesia. Up-to-date research studies have shown different characteristics of the Silesian population of German origin resulting from unique cultural and civilizational roots and a different systems of values, which causes different effects in the social and economic spheres. One of the consequences of the activity and presence of the German minority in Poland is the possibility of learning the German minority language by all children living in Poland. The main objective of the article is to demonstrate the benefits that can arise from the presence and activity of national and ethnic minorities in a region, in this case, the German minority, especially in the context of education of German national minority language in Poland. The research method used in this article is literary analysis, i.e., desk research, observation, as well as pilot studies in the form of interviews with 30 parents of children learning the German national minority language. The paper concludes with an overview of the positive features that education of German as a language of the German national minority can constitute from a regional perspective.

Keywords: Ethnic diversity, German minority, national and ethnic minorities, regional development, Education, German language, regional potential.

1. Introduction

The most ethnically diverse region of Poland is the Opole Voivodeship, where after the post-war border changes, a relatively large group of people of German origin has been preserved. These individuals not only possess ethnic dissimilarity from other Polish inhabitants but also had historically existed within a distinct cultural and civilizational sphere, characterized by differing value systems and behavioral norms. This group is also set apart by formal and legal disparities, implying that, due to their ancestry, they possess both Polish and German citizenship or the potential to obtain the latter. The political transformation in 1989 facilitated the initiation of various initiatives and activities by this group, primarily channeled through organizations representing the German minority. Simultaneously, the opening of borders as a consequence of political changes granted the freedom of travel and the opportunity to leverage the privilege of holding German citizenship – an option unavailable to those with solely Polish citizenship.

Consequently, this population began seeking employment abroad, particularly during a period when overseas work remained notably lucrative, owing to favorable wage and currency conditions in Germany. The economic migration of individuals with German roots emerged as a pivotal determinant for their region of residence, namely the Opole area. This migration substantially contributed to the varied yet elevated standard of living for its inhabitants. Additionally, this phenomenon led to relatively low unemployment rates and a considerable influx of earnings that bolstered the demand for goods and services. Undoubtedly, the successful economic migration of the German-origin population, especially in the 1990s, was contingent upon the dynamic operations of German minority organizations at the time and the opportunity to affirm German citizenship [Jończy & Łukaniszyn-Domaszewska, 2018].



Moreover, the remittance of funds earned from emigration has facilitated a conducive environment for business endeavors within the central-eastern part of the Opole Voivodeship, predominantly inhabited by the German minority. This trend culminated in the Opole region boasting the highest average disposable income nationwide during 2008-2012. These findings are supported by the "Social Diagnoses" results, which indicated the Opole region as having the most favorable living conditions in the country at that juncture [Czapiński & Panek, 2005, 2009, 2015].

It should be emphasized that the statutory activities of the German minority organization in the Opole Voivodeship, since its "renaissance" in 1990, thanks to financial support from the budget of the Federal Republic of Germany and the Polish state budget, bring benefits to the entire region in terms of broadly understood culture, education, healthcare, regional policy, international cooperation, and road infrastructure development. Among the numerous cultural and educational initiatives undertaken by the German minority organizations, which contribute significantly to the functioning of the Opole region, it is worth mentioning the rich array of cultural events promoting German and regional culture, the provision of German language instruction in schools and preschools, the organization of German language courses, the availability of scholarship systems, internships, and training opportunities [Jończy & Łukaniszyn-Domaszewska, 2018].

An important consequence of the presence of the population of German origin in the Opole Voivodeship, as well as the activities of the German minority organizations, is the opportunity for local government units in which "declarations" expressing the desire of children to learn the German language as the language of the German national minority have been submitted, to apply for funds from the Polish state budget within the framework of the so-called educational subsidy for students benefiting from activities for national or ethnic minorities.

The additional educational subsidy from the Polish state budget has constituted significant support for municipal budgets. For instance, in 2012, this amounted to over 78 million Polish złotys, and in 2013 and 2014, it exceeded 80 million Polish złotys (specifically for the Opole Voivodeship) as part of the educational subsidy related to the implementation of German language classes as the minority language. In many municipalities, these funds make up nearly a quarter of the income obtained from the general educational subsidy. As these funds are provided in the form of a subsidy, they contribute to the overall education within the respective municipality, effectively alleviating the burden on the municipality's own resources for educational expenses. This situation has resulted in less frequent closure of small schools in our voivodeship in recent years, and the number of teachers employed in schools (including German language teachers) remains at a stable level.

The author's previous research studies confirmed the positive impact of the German minority on the socio-economic development of the region, especially in terms of reducing unemployment, attracting foreign investments, and influencing areas of education and culture [Jończy & Łukaniszyn-Domaszewska, 2018]. However, it has not been investigated whether German language education can constitute a potential for the development of the region.

The primary aim of the article is to illustrate the advantages that can result from the presence and engagement of national and ethnic minorities within a region, specifically focusing on the German minority. This emphasis is particularly on educational aspects, like the education of the German language.

The research hypothesis posits that a benefit stemming from the involvement and activities of the German minority within the region is the opportunity for children to learn the German language, in addition to gaining insights into the region's culture and history. Moreover, the presence and participation of this minority group contribute to fostering increased tolerance toward diversity and a heightened awareness of shared cultural heritage.

The research method used in this article is literary analysis, i.e., desk research, observation, as well as pilot studies in the form of interviews with 30 parents of children learning the German national minority language.



2. Ethnic diversity and regional development – literature review

In recent decades, the Western part of the world has been affected by increased migration, resulting in a multitude of ethnic groups. Minorities are increasingly becoming a visible element of the democratic practice of social life. Intergroup relations and their analysis in the context of culture, cultural patterns, traditions, value systems, as well as historical consciousness present a variety of research problems. Thus, the issue of ethnic diversity and its impact on regional development and economic growth is the subject of research among many scholars. It is especially considered from the perspective of the influence of migrants on development processes.

Du Tott [2004] points out that there is a debate about the possible consequences of integrating migrants into society. For example, Alesina and Glaeser [2004] suggest that Europe would find it difficult to accommodate the increasing ethnic diversity because they were originally characterized by ethnic homogeneity. The solidarity on which a country's commitment to public welfare is based begins to wane when ethnic fractionalization occurs in the same country. The link between immigration and solidarity has also been studied in research on racism and prejudice. Available research indicates that there is a general tendency towards group preference, as people tend to grant rights and native entitlements to groups perceived to be of a different origin. The strategies of securing privileges for the members of the groups are found in most areas of life characterized by competition for the limited resources [Alesina, Baqir, Easterly, 1999; Alesina, La Ferrara, 2000, 2002, 2005].

The institutions of welfare, which are charged with the responsibility of distributing collective goods inevitable cause the conflict between the various ethnic groups in the society. Bay and Pedersen [2006] have indicated that social acceptance of the foreigners, as well as the extent to which they are given rights, are directly related to the expected ethnic threats which come about due to the existence of ethnic minorities. In response to the assumed threat, the majority in the society tend to distance themselves from those who are considered to be the minority. They also desire the restriction of civil rights as well as social rights. There are other historical issues related to ethnic diversity.

The potential conflict represented by an ethnically polarized society can affect negatively the rate of investment and induce rent-seeking behaviour that increases public consumption [Montalvo & Reynal-Querol, 2005]. Situations such as armed conflicts, reduced investment or higher government consumption have been proven to have a negative impact on economic development [Barro, 1991; Tavares & Wacziarg, 2001].

In fact, in the relation to the migration crisis, ethnic diversity can be considered in the framework of a relationship with the social capital [Laurence, 2011; Fernando & Pendakur, 2014; Meer & Tolsma, 2014; Thomas, 2014; Koopmans & Schaeffer, 2016; Carling & Schwel, 2018; Crawley & Skleparis, 2018; Fitzgerald, 2020).

The research that investigates the diversity-cohesion relationship was initially dominated by economists [Knack & Keefer 1997; Alesina & LaFerrara 2000; Costa & Kahn 2003]. On the other hand, the scholarly interest of sociologists and political scientists boomed more recently after a presentation of findings on the relationship between ethnic diversity and social cohesion by Robert Putnam at Uppsala University in Sweden in 2006 [Putnam 2007].

According to Putnam [2007] ethnic diversity in cities and neighbourhoods does not lead to an increase of trust and social capital as previously predicted by intergroup contact theory [Pettigrew, 1998]. Putnam (2007) demonstrated that the increased ethnic diversity in cities has resulted in the fact that citizens retired into their shells and that both the in-group and the out-group were no longer trusted. Therefore, the classic contact hypothesis of Allport [1954] disappeared from the stage, who still predicted that the understanding between cultures would increase if representatives of that culture would get in contact with each other.

Putnam's findings were widely interpreted as cause for concern. He argued that living in an ethnically heterogeneous environment was harmful to interpersonal trust and undermined social connections between and within ethnic groups [Putnam 2007], or in common language, to retreat from social life. This claim came to be known as the constrict proposition. If it were true, ongoing



immigration would erode social cohesion. Putnam's conclusion have become the subject of debate in many various countries [Hallberg & Lund 2005; Cheong et al. 2007].

From an economic perspective, ethnic diversity can be interpreted in two ways. On the one hand, the ethnic factor has become a driving force for achieving common political, economic, and social goals. From this point of view, ethnic diversity can influence regional development, in particular there is a notable positive impact on productivity, competitiveness, entrepreneurship, innovation [Ottaviano & Peri, 2006; Nathan, 2015; Nathan & Lee, 2013; Lee & Nathan, 2013; Lee, 2015], tolerance towards other nations and ethnic groups. On the other hand it may influence development disproportions. Ethnic diversity can be a threat to national integrity and national security maintenance, thus undermining sustainable development.

Conflict theory suggests that cognitive biases affect ethnically diverse societies. Firstly, it follows from the theory of social identity that in a group favouritism, called homophilia, results from the psychological benefits of association with those who are just like us [Bobo, 1988; Olzak, 1992]. Secondly, it claims that mating between ethnic groups can lead to perceived and real ethnic competition that helps explain why groups struggle for control of limited resources or modernization spoils [Bobo, 1988; Olzak, 1992]. Thirdly, Blalock's [1967] theory of "racial threat" is often used by conflict theorists to suggest that majority groups may use their advantages to control minorities, spreading prejudice and propagate stereotypes against them. Moreover, Horowitz [1985] argues that membership in an ethnic group satisfies an inherent need for belonging, and ethnic conflict may occur when this need is threatened by another group or by someone within the group.

Basically, the attitude of governments and societies towards minorities and ethnic groups is also an important issue, as it still happens that minorities are ignored or discredited and their rights seem to be not respected [Cashmore, 2002; Gerring *et al.*, 2018, Gibney, 2020].

Alesina and Ferrara [2005] indicate both, the positive and negative effects of ethnic diversity on economic policies and outcomes. The main focus is on the countries, regions, cities in developed countries and on villages in developing countries. The findings show that the potential benefits of heterogeneity come from variety in production.

The costs are related to the inability to agree on common public goods and public policies. However, the benefits in production from variety in skills are more likely to be relevant for more advanced societies. Research indicate that rich democracies are more capable of dealing with ethnic diversity [Alesina & Zhuravskaya, 2011].

The results also show that the negative impact of ethnic diversity is significantly mitigated by the presence of appropriate institutions promoting ethnicity. In addition, ethnic fragmentation is negatively correlated with a measure of the quality of infrastructure, illiteracy and school achievement and positively correlated with infant mortality [Alesina *et al.*, 2002].

Though, according to Akay *et al* [2017] ethnic diversity, measured by immigrants' nationalities, influences the well-being of the host country. The authors find a positive effect of ethnic diversity on the well-being of German natives. The positive effect of ethnic diversity is stronger for immigrant groups that are culturally and economically closer to Germany. Researchers highlight the welfare benefits of greater diversity and importantly, it is diversity in each region that positively correlates with well-being, but not diversity across the region.

The literature of the subject indicates that ethnic diversity can positively stimulate the education process, particularly language skills [Maestri, 2017]. What is more, diverse ethnic environment and backgrounds provide valuable experience and skills for new educational, community, and workplace settings [Nishina *et al.*, 2019]. Moreover, ethnic diversity can benefit students' mental health, intergroup attitudes, and school adaptation [Graham, 2018].

Regions inhabited by national and ethnic minorities are characterized by an outstanding knowledge of foreign language skills among their inhabitants. The study of Maestri [2017] proved that ethnic diversity positively effects the test scores of minority students, principally the language skills. Basically ethnic diversity stimulates language proficiency and increases the time students spend studying.



Ethnic diversity at the level of a school class appears to have a positive influence on the appreciation of multiculturalism in educational studies performed in lower vocational education, which still indicates support for the contact hypothesis and the intergroup contact theory [Geel & Vedder, 2011].

In addition, Mickiewicz *et al.* [2019] considered the impact of ethnic diversity and immigration on entrepreneurship, distinguishing between individual characteristics and environmental characteristics. The authors assumed that as ethnic diversity increases, the probability of engaging in initial activities decreases.

However, in this article, the impact of ethnic diversity (specifically the German minority) on regional development will be examined in the context of the influence of German language education as the language of the national minority on development processes. Language education of the German minority has been recognized by the author as a significant developmental potential for the region.

3. Education of German as a language of the German national minority from the regional perspective in the opinion of respondents

The pilot studies were conducted in 2023 in the form of interviews with parents of children learning the German national minority language. This period of study is significant, as in 2022, the Polish government announced that starting from the new school year in September 2022, the teaching of the German language as a language of the national minority would be reduced in terms of hours. Specifically, it would be one hour of German per week, whereas previously it had been three hours. In total, interviews were conducted with 30 parents of children studying in grades 1 to 6 of elementary school. It should be also emphasized that all children can benefit from this form of education, not just those belonging to the German minority. The only condition is for parents to submit a declaration expressing their children's desire to learn German as the language of the German national minority. Based on the author's many years of observation, a relatively large percentage of Polish children benefit from this form of education. In some municipalities in the Opole Voivodeship, the percentage of Polish children learning the language of the German national minority exceeds 40%.

From the interviews conducted with parents of children learning the German national minority language, it can be inferred that the majority of parents agreed with the statement that learning the German language constitutes a developmental potential for the region. More than 80% of the total respondents confirmed a positive influence of learning the German language on the socio-economic development of the Opole Voivodeship,

Subsequently, the respondents were also asked whether there is a necessity to learn the language of the German national minority in a region with a significant presence of the German minority. It turned out that 85% of the respondents acknowledged the existence of such a need.

The respondents were also asked to assess the education of the German national minority language. All respondents emphasized that they would have given a more positive assessment of learning German if they had been asked a year or two earlier. Regrettably, due to the current allocation of only one hour per week for German lessons, the scope of activities during the classes is constrained, mainly revolving around enjoyment. Respondents highlighted that reducing the number of hours from three to one per week has significantly affected the quality of German language classes.

The next question concerned the issue whether learning the German language can impact the investment attractiveness of the Opole region. More than 50% of respondents confirmed that learning the German language positively affects the investment attractiveness of the Opole region.

Additional question pertained to the areas where potential benefits resulting from learning the German language as the language of the German national minority can be observed. The responses of the participants were categorized into several areas, namely:

- studying abroad,
- investment attractiveness,
- career prospects,



- working in international corporations,
- the region's image as a tolerant region open to diversity,
- Polish-German relations,
- working abroad.

The highest number of responses pointed towards the possibility of studying abroad, but there were also indications of the positive impact of learning the German language on the investment attractiveness of the region, relatively improved career development prospects, increased opportunities for working in international corporations, as well as a positive influence on the region's image as a tolerant region open to diversity. Fewer responses were indicated, but still significantly, as more than half of them concerned the impact of learning the German language on Polish-German relations and the possibility of working across the border.

At the end the respondents pointed out the benefits of education German as a language of the German national minority, which is presented in the table 1.

Table 1. Benefits of education of German as a language of the German national minority according to respondents

Area	Description
Cultural heritage	Learning German helps preserve the cultural heritage of the German national minority. It allows individuals to connect with their roots, traditions, and history.
Enhanced communication	Proficiency in German facilitates communication within the minority community and with German-speaking populations. It enables individuals to engage in cultural exchange, collaboration, and networking opportunities.
Improved economic opportunities	Being bilingual or multilingual, with proficiency in German, can enhance employment prospects and open doors to economic opportunities, especially in regions where German is spoken widely or where there are strong economic ties with German-speaking countries.
Access to education and resources	Proficiency in German grants access to educational resources, materials, and opportunities available in the German language. It enables individuals to pursue higher education, access literature, and engage with academic and cultural institutions.
Cultural diversity and inclusion	Promoting the education of German fosters cultural diversity and inclusion within society. It acknowledges and respects the linguistic and cultural diversity of the region, contributing to a more tolerant and harmonious multicultural environment.
Promotion of multilingualism	Encouraging the education of German contributes to the promotion of multilingualism, which has cognitive, social, and cultural benefits. It enhances language skills, cognitive flexibility, and intercultural competence among individuals.
Identity affirmation	Learning German allows individuals to affirm their identity as members of the German national minority. It strengthens their sense of belonging and pride in their cultural and linguistic heritage.

Source: Own elaboration.

Overall, the education of German as a language of the German national minority enriches individuals' lives, promotes cultural diversity, and contributes to the social, economic, and cultural development of the region.

4. Conclusions

Ethnic diversity can exert a beneficial influence on the development of educational processes, particularly in terms of linguistic skills. Regions inhabited by national and ethnic minorities often exhibit a high level of proficiency in foreign languages among their residents. A thorough review of the literature has demonstrated that ethnic diversity positively shapes students' test outcomes, especially concerning language proficiency. Ethnic diversity fosters the development of linguistic fluency and enhances students' engagement in the learning process. Ethnically diverse classrooms promote a positive approach to multiculturalism, particularly evident in educational research



conducted at lower levels of schooling. It is imperative to recognize the multifaceted benefits of embracing ethnic diversity within educational settings, as it not only enriches linguistic abilities but also cultivates an inclusive learning environment conducive to academic success and social cohesion. Moreover, acknowledging diversity in the classroom fosters empathy, cultural understanding, and critical thinking skills among students, essential attributes in today's interconnected and pluralistic society. Thus, educators should proactively integrate strategies that harness the advantages of ethnic diversity to optimize learning outcomes and promote equitable access to quality education for all students [Maestri, 2017].

Ethnic diversity fosters a variety of perspectives, experiences, and skills. The blend of different cultures and traditions can lead to greater creativity, innovation, and entrepreneurship through the exchange of diverse viewpoints and approaches to problem-solving [Lee, 2015].

The research findings and in-depth interviews with parents whose children are learning the language of the German national minority highlight the significant and positive role of the ethnic factor, specifically the German minority, which holds substantial value from a regional perspective.

Thus, the conducted research and subject analysis suggest that regional authorities should formulate appropriate strategies to better manage ethnic diversity and better harness the potential arising from the presence and activity of the German minority, as well as the education of the German national minority language.

In summary, the ethnic diversity of a region can constitute its competitive advantage in the contemporary market. Regions that have embraced their ethnic diversity are positively perceived and attract both investors and human capital. Research indicates that ethnically diverse regions can be more creative and innovative than culturally homogeneous ones.

Current events in Europe and around the world regarding migration underscore the need for further research on ethnic diversity. Additionally, the strategic issue of depopulation and labor market gaps highlights the importance of effective diversity management.

It should be emphasized that the article does not exhaust the examined issues and outlines the need for further research concerning the ethnic factor, not only in the context of education but also in other areas of socio-economic life.

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ON THE QUESTION OF CALCULATING THE EFFECTIVENESS OF INNOVATIONS IN CROP FARMING

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Abstract. Innovative processes in the agricultural sector have their own characteristics, determined by the specificity of agricultural production.

Ensuring sustainable development of agricultural production is associated with increasing investment activity. The implementation of innovative processes should be carried out through investment as the primary source of strengthening the agro-industrial potential. This paper presents a methodology for calculating the profit per unit of production and per unit of area, including through reducing the cost of production, increasing crop yields, and raising sales prices. The formula for calculating marginal profit or profit increment with a one-centner increase in crop yield is provided.

Key words. Economic effect, revenue, crop yield, profitability.

The calculation of economic efficiency resulting from the implementation of new technological operations in crop production has its peculiarities. It is important to note that the same innovations, providing a yield increase by the same magnitude, lead to significantly different economic effects depending on the production conditions of the enterprises.

The aim of the article is to justify and demonstrate, through specific examples, the peculiarities of calculating the economic efficiency of innovation implementation in crop production.

The development and implementation of innovations related to increasing crop yields and gross agricultural crop harvests should be considered within the overall system of efficiency indicators. For land users, it is crucial to understand how profit changes depending on the productivity level of the land for each crop.

All of this underscores the relevance and timeliness of substantiating the priority directions of innovative development in crop production, as well as the comprehensive economic evaluation of their implementation.

To determine the marginal profit ($\Delta\Pi$), i.e., the increase in profit caused by a yield growth of 1 centner per hectare, it is suggested to use the following formula [1]:

$$\Delta\Pi = \frac{FC}{q_0^2 + q_0}, \text{ lei per centner} \quad (1)$$

Let's remind that the increase in crop yield not only has a direct economic effect, expressed in the growth of the volume of sold products but also has a significant accompanying effect associated with the reduction in the cost price per unit of production, and the impact of the latter is quite substantial.

As is known, the cost price (Z), profit per hectare (Π_{zem}), and profit per centner of product (Π_n) are determined by the formulas:

$$Z = \frac{FC}{q} + AVC, \text{ lei / centner} \quad (2)$$

$$\Pi_{zem} = q(p - AVC) - FC = q \cdot md - FC, \text{ lei per center} \quad (3)$$

$$\Pi_n = p - AVC - \frac{FC}{q}, \text{ lei per centner} \quad (4)$$



где: FC – Fixed costs per hectare, lei;

AVC – variable costs per centner of production, lei;

q – yield, centner per hectare;

md – marginal profit ($md = p - AVC$), lei per centner;

p – selling price of one unit of product, lei per centner.

As the yield increases, the profit per hectare and per centner of production will significantly increase:

$$\Delta\Pi_{\text{зсн}} = (p - AVC) \cdot (q_H - q_{\delta}), \text{ lei per hectare} \quad (5)$$

$$\Delta\Pi_n = FC \left(\frac{1}{q_{\delta}} - \frac{1}{q_H} \right), \text{ lei per center} \quad (6)$$

where:

$q_H - q_{\delta}$ – yield of the new and base variants, tons per hectare.

The economic effect (Θ) or profit for the year from innovative activities in agriculture is calculated by the formula [2]:

$$\Theta = (P_H - Z_H)q_H - (P_{\delta} - Z_{\delta})q_{\delta}, \text{ lei per hectare} \quad (7)$$

where:

p_{δ}, p_H – selling price of the product for the base and new variants, lei per centner;

z_{δ} и z_H – production cost for the base and new variants lei per centner;

q_H – yield for the new variant, centner per hectare.

When innovations are related to the improvement of product quality, reflected in the growth of realized prices, the economic effect is determined by the formula:

$$\Pi_{\text{ц}} = (p_H - p_{\delta})q_H, \text{ lei per hectare} \quad (8)$$

The calculation of the impact on profit from changes in the volume of sold products due to yield growth is conducted according to the expression:

$$\Pi_{\text{у}} = (q_H - q_{\delta}) \cdot (p_{\delta} - Z_{\delta}), \text{ lei per hectare} \quad (9)$$

The calculation of the associated annual economic effect boils down to determining the product of the output volume of production under new conditions by the reduction in the cost of a unit of production:

$$\Pi_{\text{с}} = (z_{\delta} - z_H)q_H, \text{ lei per hectare} \quad (10)$$

Thus, agricultural enterprises located in low-yield zones have real reserves for increasing the efficiency of crop production. Calculating additional expenditures per unit of currency, they can achieve a higher economic result compared to farms located in zones with average and especially high yields [2].

Unstable development of the agricultural sector, a low level of technical equipment in farms, technological backwardness of most enterprises, and several other factors currently impede the innovative development of agricultural production, undoubtedly affecting the competitiveness of domestic agricultural products. In these conditions, the primary task is to make a well-founded choice of priority directions for the innovative development of agriculture and its main branch, crop farming, one of which is the introduction of techno-technological innovations.

Techno-technological innovations in agriculture are innovations presented in the form of new, improved agricultural machinery or improved technology that contributes to the technical modernization of the industry and increases its efficiency. In the context of crop farming, such innovations include new high-productivity, energy-saving machinery and equipment, as well as new high-intensity resource-saving agrotechnologies for cultivating crops [5].

The implementation of such innovations is a lengthy process that requires significant investment. In this regard, issues related to the evaluation of the effectiveness of innovative-



investment projects in agriculture and its main branch, crop farming, gain particular relevance and practical significance.

Conducted research has shown that the effectiveness of implementing innovative developments in agriculture depends not only on the size of yield increases, cost reduction of production, and price increases but also on the initial state of production expressed in the ratio of fixed and variable costs, the established level of yield, and the profitability of production. A higher economic effect is provided by an innovative development that, under other conditions, is implemented in enterprises with higher indicators of fixed costs, lower profitability of the sold product, and initial yield indicators closer to the critical level [3].

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STATE: SMALL AND MEDIUM-SIZED BUSINESSES IN THE ECONOMY OF THE REPUBLIC OF MOLDOVA AND ATO GAGAUZIA

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Abstract. The criteria for determining SMEs in the Republic of Moldova are given. The most cost-effective enterprises have been identified depending on the sectors of the national economy. The role of the state in supporting small and medium-sized businesses. Problems have been identified that negatively affect the formation of this sector of the economy in the Republic of Moldova.

Key words: small and medium business, patent holders, Republic of Moldova, unified tax, state, ATO Gagauzia.

Small and medium-sized businesses are the basis of market relations, which largely determines the socio-economic situation of the state and is one of the ways to solve a complex of problems in various fields of activity.

In economically developed countries, small businesses are rapidly developing, especially in the field of services and the production of consumer goods. Small businesses are more flexible and respond more quickly to changes in the business situation and market needs, making a significant contribution to solving the problem of unemployment. For example, 50 percent of the working-age population in Germany and 60 percent in the United States are employed in small businesses. In the Republic of Moldova, according to sources in the BIZPRO Moldova Project, in the last two years alone, small businesses have created 40 thousand jobs, or about 68% of the total number of 59 thousand jobs created in the country's economy.

In accordance with the RM Law "On Entrepreneurship and Enterprises," the categories of enterprises of the Republic of Moldova are distributed as follows (Table 1).

As you can see from Table 1, the main criteria for determining the category of enterprises are: headcount, capital turnover for the year, the total balance sheet amount of assets. For example, a small enterprise is an enterprise whose average number of personnel does not exceed 50 people, and sales volumes for the year do not exceed 25 million lei, and the balance sheet of such an enterprise should not exceed 25 million lei.

Table 1. Criteria for determining SMEs in the Republic of Moldova

	Average headcount (people)	Turnover per year (mil. leev)	Total carrying amount of assets (mil. leev)
Average	Up to 250	Up to 50	Up to 50
Small	Up to 50	Up to 25	Up to 25
Micro	Up to 10	Up to 3	Up to 3

Source: [1]

The small and medium-sized business sector in the Republic of Moldova has the largest share in GDP than in many economically developed countries (Chart 1).

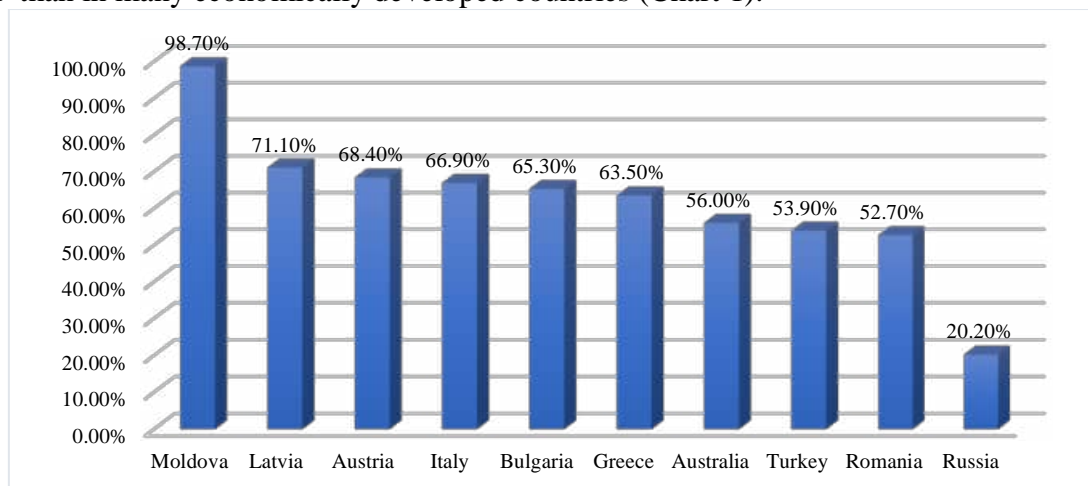


Fig. 1. The share of small and medium-sized enterprises in the GDP of the countries of the world.

Sources: Rosstat, European Commission; Australian government; US Small Business Administration; Government of Canada

It should be noted that the industry structure of small and medium-sized businesses in European countries and in our country is identical: in the first place - the sphere of trade, then - production and construction.

In Moldova (Fig. 2), in recent years 2015-2022. 22% of SMEs functioned in the food industry; 10% in light industry and mechanical engineering; about 8% in agriculture and about 60% in trade. That is, more than half of all enterprises in this sector operate in the commercial and commercial sphere since it is still the most profitable for enterprises. According to the National Bureau of Statistics (NBS) for 2015-2020, small and medium-sized businesses accounted for 97.2-98.7% of the total number of Moldovan enterprises. The number of small and medium-sized enterprises has increased over the past 6 years by 6100 enterprises, or 7.4%, reporting.

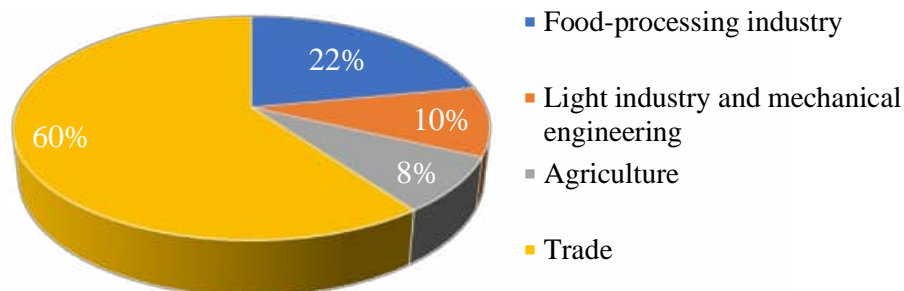


Fig. 2. The structure of the MPS industries in R. Moldova in 2015 -2022 years

Source: Statistical Data Bank Access Mode <https://statbank.statistica.md/>

The largest number of registered small and medium-sized businesses in the Republic of Moldova Fig. 3. accounts for metro Chisinau (34.8 thousand economic agents or 66%), followed by districts of the Republic -27%: Center (9.1 thousand enterprises or 15%), then the Northern region (7.2 thousand enterprises or 12%), m. Balti is about 4%, in last place ATO Gagauzia, where the share of SMEs is about 3% (1.7 thousand enterprises).

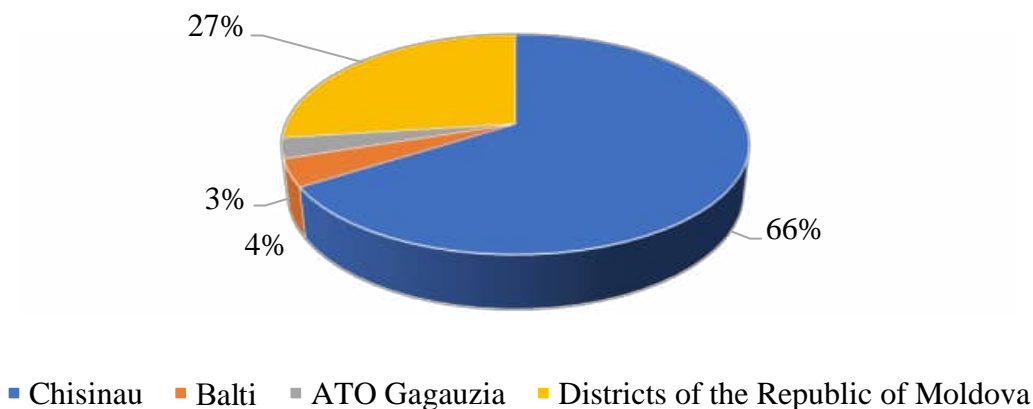


Fig. 3. Small entrepreneurship in a territorial context

Source: Statistical Data Bank Access Mode <https://statbank.statistica.md/>

It should be noted that small enterprises located in Chisinau are larger in size than all others, both in terms of the number of transactions and the number of people receiving salaries and in terms of staff maintenance costs. For example, enterprises of this type in the capital make 72% of the total sales made by small businesses in the country; about 57% of wage-earning workers in small businesses are employed here. In most developed countries, government support contributes to the successful functioning of small businesses. Small Business Prospects in

The Republic of Moldova is also associated with the creation of a favorable entrepreneurial climate. Taking into account the special importance of the sector of small and medium-sized enterprises in ensuring sustainable economic growth of the Republic of Moldova, it cannot be said that measures are not being taken in our country to support small businesses, the need to support them by creating stable legal and economic conditions that contribute to the development of entrepreneurial

activity. The Parliament of the Republic of Moldova adopted a number of regulatory acts, including Law No. 206 of 07.07. 2006 "On the support of the small and medium-sized enterprises sector." Local Public Administration Act. Local public authorities influence the activities of enterprises in this sector in different ways: direct intervention, regulation, licensing, subsidies, and sanctions.

Thus, 2022 million lei were allocated from the state budget in 140. IN 2023, approximately 15 million euros. It is unlikely that this amount can be designated as an indicator of real state. support. This can be verified by comparing the norms of investment in SMEs in the EU and in other countries.

For example, the rate of investment in fixed assets, to maintain moderate growth, in the EU - is 20%. Countries of accelerated development, invest at least 30% (South Korea. China invests 40% in general.). Moldova in 2022 received an overall investment of 31 billion lei, that is, 1.5 billion euros. If we count only according to European standards, this amount should be at least 2 times higher, and for accelerated development three times higher. Accordingly, MB should account for at least 1.5-2 billion euros of investment per year for development according to European standards. This is at a moderate pace of development, although Moldova needs an accelerated pace to meet European criteria.

Note that the republic has adopted more than five programs to support small and medium-sized enterprises. Measures to support small businesses are being implemented within the framework of state programs:

- to support young entrepreneurs when starting a business in the country;
- encouraging migrants to open a business in the Republic of Moldova;
- development of women's and social entrepreneurship;
- support SMEs with export potential;
- infrastructure expansion through the development of business incubators, industrial parks, clusters, etc.

However, since they were not sufficiently provided with finances, not all measures have yet been fully implemented, but only by 85%.

ATO Gagauzia, being an integral part of the Republic of Moldova, fully applies the legal norms of the current national legislation on its territory. But in accordance with the law of the Republic of Moldova "On the special legal status of Gagauzia (Gagauz Yeri)" No. 344 of 23.12.1994, which determines the special legal status of Gagauzia, local laws are adopted on the territory of autonomy by the People's Assembly of Gagauzia (NSG) (representative body).

In Gagauzia, as in Moldova, SMEs operate Fig.4., in trade, construction, production, logistics, hotels and catering, utilities, and information services. As in other countries, as well as in Gagauzia, 45% of the MB enterprise operates in trade.

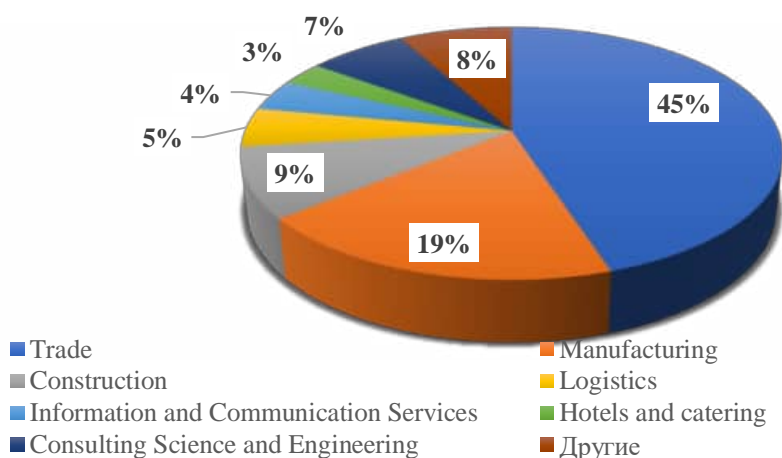


Fig. 4. Structure of SME Economic Agents by Industry ATO Gagauzia
Source: Statistics Bank Access Mode <https://statbank.statistica.md/>



The development of entrepreneurship is one of the main priorities of the activities of the Executive Committee and the People's Assembly of the ATO Gagauzia, which is achieved by implementing the laws adopted by the People's Assembly "On Tax Certificate" No. 27, 29, 2018 and "On Individual Business Patent" No. 02 of March 09, 2022, as well as the Gagauzia Entrepreneurship Support Fund, which is a specialized financial instrument for financing programs, projects, and events aimed at supporting and developing small and medium-sized businesses, as well as assisting small and medium-sized businesses in participating in national and international exhibitions and fairs.

Important! On May 29, 2023, a grant program was launched in Gagauzia, financed by the Gagauzia Entrepreneurship Support Fund to develop new businesses (startups) and support existing companies through investments in new production technologies and services. The program is implemented by the Executive Committee of Gagauzia. The amount of each grant is up to 200,000 lei. The program covers funding for the project budget in the amount of 80% - for startups and 60% - for existing entrepreneurs. The budget of the program for 2023 is 2.0 million lei. This means that potentially 10 starting or existing entrepreneurs can benefit from grant support. [7]

In order to stimulate business and increase the image of enterprises operating in various sectors of the Gagauzia economy, a competition "The best entrepreneur of the small and medium-sized enterprises sector" will be held. At the end of 2022, in 2023, economic agents of Gagauzia took honorary prizes in 6 nominations, this being in the field of production, trade, and services, as well as in the field of tourism, transportation, and the youngest entrepreneur. All these mechanisms contribute to the development of entrepreneurship in the region and increase business activity.

One of the predominant forms of functioning of small businesses in the territory of autonomy is activity based on an entrepreneurial patent. An entrepreneurial patent is a registered state certificate certifying the right to engage in the type of entrepreneurial activity indicated in it for a certain period. It is allowed to carry out entrepreneurial activity based on an entrepreneurial patent, provided that the income of the patent holder from sales does not exceed 300,000 lei for 12 consecutive months. [6]

According to the Main Directorate for Economic Development and Trade of the ATO Gagauzia, as of 01.01.2022, the total number of validly issued patents in the autonomy amounted to 819 units, including 380 patents in the field of trade and 439 patents in the field of services, and 8691 extended patents for 2021. Let us analyze in dynamics the data characterizing the activities of entrepreneurs who carried out it on the basis of an entrepreneurial patent on the territory of the ATO Gagauzia for the period 2019-2021, Table 2.

Table 2 shows that in 2021, compared to 2019, there was a significant reduction in local budget revenues from the issuance and extension of entrepreneurial patents in the settlements of each of the districts, as well as in the categories of patents that apply to the entire territory of the ATO Gagauzia. The consequence of the decrease in income from the issuance and extension of entrepreneurial patents was that from October 2021, the mayor's office of the ATO Gagauzia settlements and the Main Directorate of Economic Development and Tourism of Gagauzia stopped implementing the procedure for issuing and extending entrepreneurial patents, which naturally affected the final data for the year.

To create the legal basis for the work of entrepreneurs on the basis of the patent, a new law of the ATO Gagauzia "On Individual Entrepreneurial Patent" No. 02-I/VII of March 09, 2022, was developed and adopted., the newly adopted law of the ATO Gagauzia does not introduce any restrictive elements in terms of time. As of 01.04.2022, the process of issuing entrepreneurial patents by the authorities of the ATO Gagauzia and local public administration bodies represented by the mayor's office resumed.



Table 2. Analysis of Cash Receipts from Issued and Renewed Business Patents in the Territorial Context of the Gagauzia ATO

Name thousand lei	2019 year		2020 year		2021 year	
	thousan d lei	specific weight %	thousand lei	specific weight, %	thousand lei	specific weight, %
Komrat District *	1359.6	43.12	635.1	41,02	986.5	40.23
Chadyr-Lung district *	1258.0	39.89	606.7	39.19	1045.1	42.6
Vulcanesti District *	458.6	14.54	244.4	15.79	346.9	14.15
ATO Gagauzia **	77.1	2,45	62.0	4.0	73,8	3.0
Total for Gagauzia	3153.3	100.0	1548.2	100.0	2452.3	100.0

Note:

* The validity of the business patent applies within a specific settlement

* * The validity of the business patent is distributed throughout the entire territory of the ATO Gagauzia

Source: compiled by the author according to the data of the Main Directorate of Economic Development and Tourism of the ATO Gagauzia.

The principle of taxation on the basis of an entrepreneurial patent must be preserved and further developed, a more expanded list of activities permitted for taxation on the basis of an entrepreneurial patent.

Important! From July 1, 2023, the patent holders of Moldova, who are engaged in retail trade, switched to a new regime - independent activity (self-employment). It provides for the mandatory use of a new-generation cash register, according to which the tax inspectorate will be able to see sales online. Also, such entrepreneurs will pay a tax of 1% of the sale, in addition, the state has pledged to cover the cost of the cash register and other expenses of patent holders switching to self-employed activities.

To successfully function small and medium-sized businesses in the country, the most important role belongs to the state and local authorities. All this will give the economy additional stability.

Based on the above facts, we can safely note that the attention paid by the state in our country to the support and development of small businesses does not allow to ensure an increase in the economic efficiency of the functioning of enterprises in this sector of the economy, which are faced with many problems. The bulk of entrepreneurs of small and medium-sized enterprises consider this among the main problems that not only interfere with the development of business, but in every possible way impede its successful functioning:

Funding. There are only two forms of funding. Bank loans and government financing, in the form of direct grants or loan guarantees. However, both forms cannot resolve the issue of sufficient funding. Loans are expensive or provided subject to large pledges State financing is scanty.

The biggest business problem in RM today is foreign markets. MB has few opportunities to promote exports. The role of government agencies is great here, but this is not done enough.

The low purchasing power of the population. The basis for the development of MB is the country's domestic market. This is an extremely small market for economic development. The reason: is weak economic development, and income reduction in the country.

Monopolization of all industries by large businesses. One of the biggest problems of MB in Moldova is a very high degree of monopolization of almost all industries. Despite declarations of support for small businesses, state structures, as a rule, create preferential conditions for large businesses, especially if it has a share of foreign capital.



High and discriminatory tax policy.

It should be noted that the competitiveness and attractiveness of any system are achieved when all participants in it are aware of themselves as equal partners and have equal rights and opportunities to receive their part of the income, and only then there are incentives to carry out targeted actions to achieve positive results of their activities. If these conditions are absent, then economic agents go on a number of violations, especially in the field of tax fees and other payments to the budget, as a result, illegal, often risky tax evasion schemes are born that violate current tax laws. As a rule, the objects for reducing tax liabilities are the concealment of the real number of employees, the fund of their actual wages, and, accordingly, contributions to social and pension funds. In addition, in order to achieve the maximum reduction of obligations to pay VAT and income tax on income from entrepreneurial activity, accounting primary documents of a standard form for non-existing costs are fabricated in any way. This leads to a situation where everyone loses:

The state does not receive funds for the budget, and these are various social and educational programs, health care, and scientific projects that have not been implemented. An entrepreneur, instead of improving his business, he is forced to resort to tax evasion schemes.

For example, take a small enterprise: Sales volume - 500 thousand lei/year., Material costs 300 thousand lei, the number of employees 5 people, gross income (VD) 200 thousand lei. (500 thousand lei - 300kl). In our case, after payment from HP to employees in the form of wages - 120 thousand lei and basic taxes, fees, and payments in the amount of 87248 lei, the loss will be 7248 lei. Agree that such a taxation system forces entrepreneurs to reduce the tax burden by any means. According to our example: increases the number of material costs from 300 thousand lei to 470 thousand lei, and reduces the number of employees to 2. (in fact 5), therefore, the payment fund and all other accruals are reduced and as a result, it goes to profit 3372 lei. In total, tax liabilities are 11,970 lei. The difference between the hidden tax liabilities will be 75278lei (87248-11970). There are many such examples, this is only one small example. This indicates that a dramatic change in the principles of further tax policy is long overdue and if they are not produced, no movement forward, well-being, and prosperity of the whole society can be discussed.

This is just a small list of problems, which are actually much more, this and labor legislation of the republic, unforeseen changes in legislation, corruption, inflationary processes, political instability, weak development of market infrastructure, information support, etc.

The MB problem is a systemic problem of Moldova's economy. It cannot be solved without changing all economic policies. Without this, the chronic lag behind developed countries will be insurmountable.

Today Moldova is already lagging behind not only the EU countries. Moldova begin to overtake even the countries of Africa.

Public policy should normally focus on the following points:

- creation of equal conditions for all MB enterprises;
- creation or inflow of external investment structures and instruments;
- creation of structures supporting export and opening of markets.

From the above, we can formulate the following conclusion that any small and medium-sized business needs all-around state support both in its creation and in the process of its further functioning, that is, an improvement in the entrepreneurial climate.

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DIRECTIONS FOR IMPROVING THE MARKETING ACTIVITIES OF AN ENTERPRISE

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Abstract. The article discusses the main directions of the enterprise's marketing activities based on research by various authors. The main factors that modern competitive enterprises should focus on in the process of enterprise functioning were identified. It was concluded that the main indicators of the effectiveness of marketing activities are quantitative and qualitative indicators that should guide enterprise marketers to improve the efficiency of the company.

Keywords: marketing activities, competition, areas of marketing activities, criteria, assessments, indicators of marketing activities, efficiency of the enterprise.

Marketing activities of an enterprise are creative management activities, the task of which is to develop the market for goods, services and labor by assessing the needs of consumers, as well as implementing practical measures to satisfy these needs. Marketing is an integrated approach to organizing and managing the development, production and sale of goods (services) in order to prioritize the position of these goods (services) in the market in relation to the needs and requirements of consumers and the actions of competitors.

Through these activities, the production capabilities and distribution of goods and services are coordinated and the steps needed to be taken to sell the product or service to the final consumer are determined. The essence and content of marketing activities reflect the objective conditions of market development, which to a certain extent loses its chaotic nature and falls under the regulatory influence of pre-established economic relations, where a special role is assigned to the consumer. The consumer makes his demands on the product, its technical and economic characteristics, quantity, delivery time, and thereby creates the prerequisites for distributing the market between manufacturers. The importance of competition and the fight for consumers is increasing. This forces manufacturers to



carefully and deeply study specific potential consumers and the needs of the market, which places high demands on the quality and competitiveness of products.

The company's marketing activities are aimed at establishing, quite reasonably, based on market demands, specific current and mainly long-term (strategic) goals, ways to achieve them and real sources of resources for economic activity; determine the composition and quality of products, their priorities, the optimal structure of production and the desired profit. In other words, the manufacturer is obliged to produce products that will be sold and make a profit. And for this it is necessary to study social and individual needs, market demands as an important condition and prerequisite for production. Therefore, there is a growing understanding that production begins not with exchange, but with consumption. This concept has found its way into marketing.

The modern marketing concept ensures the competitiveness of the enterprise. At the same time, for high competitiveness it is necessary to develop a focus on the end consumer through inexpensive but effective marketing tools. To do this, it is necessary to create a marketing complex in order to successfully operate the enterprise in modern conditions.

The theoretical basis of the study is represented by the works of domestic and foreign authors in the field of marketing and the field of policy for promoting services in the service industry. Thus, in the works of Abramov V., Burtsev V., Zavyalov F., Kaplina O., Zaichenko D., Armstrong G., Kotler F., Lebedeva O., Lygina N., Bagiev G., Tarasevich V. M., Ann H., issues of organizing a service marketing system are considered.

The works of Belostecinic G., Petrovici S., Mitnitscaia L., Aricova Z., Parmacli D., Genova S., Kozhekin G., Zavyalov F., Kaplina O., Zaichenko D., reveal tools and methods for managing the system marketing at the enterprise.

The dynamics of today's business environment are forcing companies to look for new ways to enhance their competitive advantages. All enterprises, in conditions of fierce competition and a rapidly changing environment, must not only pay special attention to the internal state of affairs at the enterprise, but also determine a strategic line for long-term survival, which would allow them to quickly monitor changes occurring in the markets for goods and services. Currently, it is extremely important in the activities of enterprises to implement a set of measures that include a focus on all elements of assortment formation, thorough research of the target audience, company promotion, and organization of sales of products (provision of services). The specified list of activities represents the marketing activities of the enterprise.

There are a large number of methods for increasing the effectiveness of marketing activities, which differ from each other in their design principles, are aimed at different users and combine financial and non-financial tools and indicators. Certain areas for increasing the efficiency of marketing activities have been applied in practice. Moreover, each of the directions is characterized by different advantages, but also has certain disadvantages. Marketing activities can be carried out through various techniques, which are based on various concepts, principles and postulates.

Each method has its own characteristics and target orientation. Let's look at them in more detail: [4]

Product-oriented method of organizing marketing activities(service) Within the framework of this methodology, the main emphasis when planning and implementing marketing activities is placed directly on the product or service sold by the company through exchange market mechanisms.

Particular attention is paid to the issues of bringing the final product to the consumer, in particular we are talking about the system of sales and market promotion. The method of organizing marketing activities focused on the product presupposes the need for its constant improvement and development. Such improvement can be reflected in various forms, be it the addition of new product characteristics.

A consumer-oriented method of organizing marketing activities.

This methodology is based on the primary focus of marketing on the consumer, his needs, requirements, demands and expectations. The essence of the consumer-oriented marketing method is to search for potential buyers, identify their needs and determine those goods and services that would



be able to satisfy these needs. Having identified such a product that ideally satisfies the needs of potential consumers, the company must do everything possible to sell this product to the consumer. A fundamental role within the framework of this methodology is given to the study and comparison of selling prices for goods (services) and their acquisition by buyers, as well as consumer ideas about them.

However, it is obvious that the use of any methods and the implementation of directions related to changes in the marketing activities of companies cannot be implemented autonomously without taking into account the systemic nature of the business.

It should also be noted that existing approaches do not always take into account the dynamics of the external environment and do not provide dynamic balance with the external environment. This indicates the need to develop methods for changes in marketing activities that take into account the interrelation and interdependence of measures to improve the efficiency of marketing, the enterprise system as a whole, its internal and external environment based on the efficient use of resources. According to Yu. Egorov, in most modern enterprises marketing is not highly effective [1]. Evaluation of marketing activities should be aimed at implementing the following activities: determining the optimal solution based on calculating the effectiveness of the enterprise's marketing activities at the stage of its development; calculation of the effectiveness of an enterprise's marketing activities at the end of a given period of time, based on the actual results obtained; identification of factors that influence the main performance indicators of the enterprise's marketing activities, their interaction, the level of their influence on the main performance indicators; identifying reserves for increasing the efficiency of the enterprise.

The main indicators of the economic efficiency of marketing activities include: the volume of growth in product sales and provision of services for a given period; the ratio of the increase in sales of a product (provision of services) to the amount of costs for marketing activities; the ratio of the increase in profit received after the implementation of marketing activities to the amount of costs for their implementation; dynamics of the level of costs for marketing activities in total sales (provision of services); expenses for marketing activities per thousand clients (consumers) who were subject to marketing activities; the ratio of the increase in the acquisition of goods (provision of services), provoked by the marketing activities of the enterprise, to the total number of purchases, etc. [2]. A. Beskhodarny connects indicators for assessing the effectiveness of marketing activities with marketing costs: "The model for assessing the marketing activities of an organization should be based precisely on the categories of marketing costs. The result of assessing the marketing activities of an organization as a whole cannot be a single integral value. Each cost item must be assessed separately. As a result, an organization can carry out effective operational activities, but be strategically vulnerable" [3].

The evaluation criteria proposed by the author are presented in Table 1. After calculating these indicators, they should be analyzed for their compliance with the indicators of the organization's current strategy. The following indicators can be considered as evaluation criteria: the company's position in the market, the average industry rate of profitability, the level of competition. Calculation of the efficiency of an enterprise's functioning consists of assessments of the following areas of marketing activity: solving marketing problems in the market for goods (services) and in a specific organization (enterprise); implementation of marketing activities; the result of marketing activities, etc.

Table 1. Indicators of the effectiveness of marketing activities according to A. Beskhodarny [3]

<i>Direction of assessment</i>	<i>Indicators for assessing performance efficiency</i>
Corporate brand development	– an indicator of the increase in brand value in comparison with the costs of brand development
Internal efficiency of processes and systems	– an indicator of the effectiveness of development and transparency of marketing information flows (expert assessment) in comparison with the costs of their development



Product changes to meet market requirements	– change in sales volume of adjusted products (profitability dynamics)
Strategic Business Unit Operations: Sales and Service	– costs incurred by the organization to attract new and retain existing customers and their share in the average customer lifetime value

All of the above marketing areas are implemented in practice in marketing decisions, the quality and effectiveness of which determine how marketing functions are performed in the enterprise or, in other words, the efficiency of the system as a whole [4]. Summarized criteria for assessing the effectiveness of marketing activities are presented in Table 2 [4]. An analysis of Table 2 shows that it is most simple and expedient to assess the effectiveness of individual areas of an enterprise’s marketing activities than to assess the effectiveness of marketing as a whole.

Table 2. Directions for assessing marketing effectiveness

<i>Directions of assessment</i>	<i>Components of marketing activities</i>
1. Efficiency of the pre-planning period	<ul style="list-style-type: none"> • marketing research • segmentation • positioning • selection of target markets
2. Planning efficiency	<ul style="list-style-type: none"> • marketing plans • product policy • price policy • distribution channels • promotion
3. Efficiency of marketing organization	<ul style="list-style-type: none"> • organizational structure • distribution of tasks and responsibilities and rights in the marketing service • marketing serviceinteraction

The main directions for increasing the efficiency of marketing activities can be called a set of measures that makes it possible to influence, first of all, the internal factors of the marketing environment. The main emphasis should be on improving the organizational structure of the marketing service, introducing new technologies into the company's activities, improving the functional areas of marketing, introducing strategic planning and strategic enterprise management, as well as methods and tools for monitoring and assessing the effectiveness and efficiency of marketing activities.

The main indicators of the effectiveness of marketing activities are quantitative and qualitative indicators. Quantitative indicators include, first of all, indicators of increasing profits or reducing costs. Qualitative ones are associated with assessing customer satisfaction with the company’s products (services), increasing loyalty to the company or industry, and a qualitative change in customer values.

Thus, in the course of analyzing the theoretical foundations for increasing the efficiency of marketing activities of enterprises, the following conclusions can be drawn. Marketing activity is a set of activities carried out, as a rule, by a special unit that promotes goods and services, and, in addition, studies the attitudes and preferences of clients (consumers), as well as regularly uses this data to develop new consumer goods and services.

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THE CONCEPT AND DOMINANT TRENDS OF DIGITIZATION IN BANKING

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Abstract. Digitization in banking represents the shift to offering banking services online and in digital form, as well as the efforts within different types of activities to take the necessary steps to support this transformation. This process is part of the global trend of establishing the information society and the related economy based on the massive use of information and technologies. The promotion of digitization in the banking sector is related to the massive application of new technologies and information solutions, such as artificial intelligence, IoT, cloud computing, blockchain, and others. The implementation of banking digitalization is intended to bring a complex of benefits, such as raising the quality of data-based decisions, reducing costs, optimizing the management of bank personnel, improving the quality of customer service, transforming their experience and strengthening their loyalty, and others. But at the same time, digitalization brings new problems and risks to banks, which need to be solved. The purpose of this article is to present the conceptual approaches and basic global trends in the field of digitization in banking. The research was carried out based on the examination of open publications by experts in the field addressed. At the end of the article, the conclusions related to the study will be presented.

Keywords: bank, digitization, benefits, issues.

1. Introduction

Digitization (also known as digital enablement) is the process of 'making something digital', converting data into a digital format as technology is adopted. In other words, digitization is taking an analog process and transforming it into a digital form without any changes in nature to the process itself. The process of converting analog information into a digital format takes place during digitization. [10], [11], [26], [27]

Some experts see digitization through the prism of specific steps of digital transformation [1], [20], [27]:

- *Digitizing* is the conversion of analog data into a digital form. In the business sphere this is the conversion of paper documents into an electronic format and the design of electronic collaboration between parties involved in economic activities.
- *Digitalizing* is the moment when change takes place and the company fundamentally changes its way of doing business.
- *Digital transformation* is the process of using digital technology in all areas of business, improving the way a company operates and manages its tasks. At this stage, the application of digital technologies takes place, the organization of digital workplaces. There is also a change in the company's corporate culture and the way marketing strategies are applied.

The group of experts led by Olena Kravchenko mentions [17]: "Global trends of digitalization of the economy show that highly developed countries have the best level of digitization of their own economies because they are characterized by high-quality access to the Internet (broadband and



mobile Internet), a high level of development of scientific and technological potential and wide information access.”

The global banking system is also undergoing an important digitization process, which tends to make important qualitative changes in the functioning of this field of financial activity.

The purpose of this article is to present the conceptual approaches and basic global trends in the field of digitization in banking.

2. Conceptual approaches to digitization in banking

Digitization in the banking sector represents the process of transitioning banking institutions to offering online and digital services, as well as the complex of changes and efforts necessary to ensure this transformation [25].

Expert Sheetal Mehta states [19]: “Digital transformation in banking is a significant shift that goes beyond merely transitioning from traditional to digital operations. It encompasses how banks and financial institutions analyze, interact with, and meet the needs of their customers. The focus has shifted from a product-centric approach to a customer-centric one, intending to deliver the best customer experience.”

Certain complementary notions are linked to the notion of digitization in banking activity:

- A *digital bank* is based on a virtual process, which includes online banking, mobile banking and beyond [6].
- *Digital banking* represents the transition of all banking transactions and services to the online space [18].
- *Online banking* represents all the banking services usually accessed by customers via the Internet [18].
- *Mobile banking* can be defined as a service provided by an existing bank to its customers via their mobile devices [18].
- *Digital banking services* include all the traditional banking services that are available 24/7 on mobile phones, computers, and compatible smart devices, without the need for a customer’s presence in the bank branch [18]:
 - Obtaining bank statements;
 - Cash withdrawals;
 - Transfer money;
 - Checking/savings account management;
 - Opening a digital bank account;
 - Loan management;
 - Bill payments;
 - Cheques management;
 - Transaction records monitoring.

Important factors for promoting digitization in banks can be considered [7], [8]:

- Increasing use of smartphones, computers, Internet connectivity, IoT devices, and Artificial Intelligence (AI);
- Continue the development of applications and mobile platforms capable of increasing the number of banking transactions;
- Changing consumer expectations about the banking services they want to get. They mostly refer to the raising of the technological level and the application of information technology, as well as the safety and convenience of banking products;
- The availability of adapting conventional businesses to the digital domain due to the presence of digital banks, which can contribute to the expansion and penetration of banks into several categories of society;



- Expectations of reaping the benefits of banks' paradigm shift from traditional infrastructure to digital and automated platforms;
- The growth in cloud computing and storage.

The promotion of digital transformation in the banking field requires the use of the following elements: the development of online banking applications, data encryption software, virtual assistants, Know Your Customer (KYC) system software, and website optimization [19].

Digitization in the banking activity is related to the following areas [14], [16]:

- *Enhanced customer experience* manifested by the fact that banking has become easier and more convenient for customers;
- *Artificial intelligence driven customized services*: digitization has allowed banks to take advantage of the possibilities of data analysis and artificial intelligence to improve business decisions and offer customers personalized services;
- *Blockchain* can be beneficial to the banking sector by reducing operational costs, providing greater trust, increasing security and increasing the efficiency of banking [4];
- *Cloud computing* is used in banks for a variety of purposes, including: customer relationship management, fraud detection, data analysis [23];
- *Robotic process automation (RPA)* leverages software bots that act as digital workers, enabling financial institutions to save money, improve productivity, and mitigate risks [15].
- *Innovation boosting new-age business model operations*: digitization imposed the development of the innovative process in the banking industry, contributing to the emergence of new business models;
- *Utilizing Internet of Things (IoT) Technology to revolutionize the banking sector* due to its potential to improve operational efficiency, customer experience and enable innovative services.

The evolution of the digitization process in the global banking activity can be characterized by certain statistics:

- According to global digital transformation forecasts over \$3.4 trillion will be spent on digital transformation by 2026 [20].
- The global market for digital banking platforms is forecast to be \$13.9 billion by 2026 [19].
- It is estimated that by 2024 around 2.5 billion people will use online banking services [19].
- The estimated global net interest income in the digital banking market will reach USD 822.5 billion in 2024 [5].
- Global Digital Banking Platform Market size was valued at \$20.9 billion in 2021 and is expected to grow to \$111.95 billion by 2030 [13].
- The global market for digital transformation of banking and financial services is expected to constitute \$164.08 billion by the year 2025 [12].
- In 2022, around 65% of banks have used digital platforms with cloud-based applications to improve customer experience [12].
- Blockchain, Artificial Intelligence, Virtual & Augmented Reality, and IoT are creating \$1 trillion of change in the financial industry [12].

3. Benefits and issues of digitization in banking

Based on the analysis of the opinions of the expert community, digitization in the banking field has a complex of benefits [6], [7], [25], [26]:

- *Increasing the number of customers*. Digital banking provides services and products that can be accessed by customers anytime and anywhere because they are internet- and digital-based. The gradual spread of the fintech culture and the tightening of competition have brought more consumers into the banking sector. In recent years, the use of facilities using electronic or digital systems through



the banks' infrastructure has been popularized, with all processes being carried out independently and automatically.

- *Improving the customer experience.* Digitization in banking increases the ability of banking institutions to respond to consumer complaints and needs, personalizing the customer experience based on the collected data. Customer Relationship Management platforms can track customer history and provide quick access to email and other forms of online communication, which streamlines the execution of customer rewards programs. Thus, customer loyalty is strengthened.

- *Cost reduction.* Automation of technological processes allows banks to reduce operational costs by replacing redundant manual work. Digital platforms can amplify this advantage by offering the synergies of higher quality data and a faster response to market changes.

- *Increasing accuracy.* Digitization can reduce human error. Implementing IT solutions with business software leads to more accurate accounting and simplifying the verification process, which is crucial for banks to comply with banking regulations.

- *Increasing business efficiency.* Digitization enables better data-driven decisions. Digitization makes banking processes faster and more efficient. Digital platforms not only improve customer interaction and deliver their needs faster, but also provide methods for streamlining internal functions.

- *Increasing agility.* Increasing automation can speed up both external and internal processes, both of which can improve customer satisfaction. It is also possible for risk management software to detect and respond to market changes faster than even seasoned professionals.

- *Increasing security.* Banks are currently facing an increasing number of cyber threats. Banks may benefit from additional security functionality.

An important problem with the deepening of the digitization process in the banking sphere is the sharpening of aspects related to cyber security. Banks remain one of the biggest targets for cybercrime because of the huge amount of sensitive customer data they hold and the potential financial gain criminals can make if attacks are successful [22].

The most common forms of cyber-attacks against banking institutions include [9], [24]:

- *Phishing emails* posing email messages as legitimate communications are sent to victims. Cybercriminals use disguised emails or domains to trick people into downloading malware or providing personal information. Bank employees and their customers are the target of such cyber-attacks. Attackers can send customers emails disguised as official bank correspondence, which can prove effective in stealing financial information. Employees also need to be wary of phishing, which seeks login credentials to access customer information.

- *Malware and ransomware.* Banking malware is a type of malicious software designed to embezzle money. It can infect computers and smartphones and is specially designed to gain undue access to banking applications, crypto wallets, and trading applications by stealing credentials from unsuspecting users [2]. Ransomware is a type of malware that disables the bank's IT system and prevents access to data, usually by encrypting files. A criminal group then demands a ransom in exchange for decryption [20]. The attacker may threaten to publish or sell the victim's private information. Behavioral analytics, artificial intelligence, and machine learning are becoming common cybersecurity tools for use as the first line of defense against these prevalent threats.

- *Distributed Denial of Service (DDoS) attacks* are deployed by cybercriminals to flood and crash a target website by overwhelming it with traffic. As a result, DDoS attacks disrupt the operations of the victim company, causing it to incur large financial losses.

- *Remote Work.* Working remotely in banking requires due diligence when it comes to cyber security. Remote clients often don't have the physical cybersecurity protections of an office, and this can complicate IT's ability to keep internal software and sensitive client data secure. Cybersecurity considerations require proactively educating employees about what to look for and how to stay safe in the remote work environment, which will help prevent the possibility of a data breach.



- *Software Supply Chain Cyber Attacks* are related to targeting a software vendor and then using its distribution channels to deliver malicious code to customers. This attack propagates through the supply chain in the form of products or updates that appear to be legitimate. These attacks compromise distribution systems and allow attackers to enter supplier networks and persist in systems for a significant period of time. Combating these attacks can be done by being proactive in scanning for vulnerabilities and educating customers about how cyber attackers can gain access to their personal information through updates.

- *Social Engineering*. Customers and employees are often a vulnerability in the security system, as they can be tricked into providing sensitive details and credentials. Social engineering takes many forms, including phishing attacks or sending fake invoices that purport to be from a trusted source.

- *Cloud-based Cybersecurity Threat* stems from the fact that more software systems and data are stored and activated in the cloud, and attackers can undertake cloud-based attacks to capture sensitive information.

- *Customer Behavior* can put data at risk just as much as employee behavior. In some cases, the consequences of poor security practices on the part of digital banking customers can compromise their information in seconds. Everything from reusing passwords to opening suspicious emails can quickly lead to the loss of sensitive financial data. Using well-designed mobile apps with a simplified user experience and built-in security features, as well as modern means of identification, can help mitigate some of these risks.

- *Spoofing* is one of several types of specific cyber-attacks, all using some form of impersonation. Domain spoofing is the creation of a fraudulent version of a real domain designed to trick users into providing login credentials and personal information. This tactic relies on people being able to perceive whether a website is legitimate or not. Another form of spoofing involves fabricating a financial institution's phone number to call or text customers. The bank's correct caller ID will appear on the customer's phone, making it difficult for customers to tell if it's a legitimate message or not.

- *Unencrypted data*. Along with unsecured mobile apps, unencrypted data is a massive threat to banks. If hackers get the unencrypted data, they can use it immediately, which will create serious problems for your organization. All data must be encrypted. Even if criminals steal them, they will face the hurdle of trying to decrypt them.

Some experts have formulated certain challenges for the promotion of the digitization process in the banking sphere for the year 2024 [3]:

- The driving force of digitization will further transform various aspects of modern business, which will have a knock-on effect on banking. The challenge lies in integrating advanced technologies to improve customer experiences, streamline operations and gain competitive advantages. The application of artificial intelligence, machine learning and blockchain is expected to open up new areas of efficiency, but this requires strategic planning and consistent implementation.

- The global economic crisis manifested particularly in different countries determines economic problems for bank customers, which is an opportunity for the integration of direct financial advice of digital platforms, providing accessible guidance against the background of economic uncertainties.

- As banks advance digital-first strategies, the spectrum of cybersecurity threats is expanding. The increase in sophisticated cyber-attacks requires a proactive and multi-layered approach to cyber security. Ensuring the security of sensitive customer data, strengthening digital channels and staying abreast of emerging cyber threats are essential. Collaboration with cybersecurity experts, ongoing staff training, and investment in state-of-the-art cybersecurity tools can be beneficial in this context.



- Banking downsizing and fintech consolidations are reshaping the industry, influencing customer access to brick-and-mortar banks. To increase customer responsiveness to digital changes, banks should prioritize offering easy-to-use digital banking alternatives.

- It is remarkable that a significant part of the global population remains unbanked or underserved. Promoting financial inclusion and empowering customers with limited access to traditional banking services represent challenges and opportunities. It is advisable for banks to create inclusive financial products, develop mobile banking solutions and explore partnerships with fintech firms to expand their reach. Client financial education initiatives can also be beneficial.

4. Conclusions

Banking digitization represents the complex process of the gradual transition of banking activity from the traditional environment and infrastructure to the digital one. Digitalization is the gradual transformation of the traditional bank into a virtual bank. Digitization brings a series of benefits to banks. The main ones are increasing the efficiency of banking activity and raising the quality level of customer service.

But as banks move into the digital space, cyber security threats have also deepened, which requires the permanent updating of security systems and the implementation of advanced solutions, including artificial intelligence, monitoring, and cyber protection of banks and customers.

In the near future, other opportunities to promote the digitization process in the banking field will be: the continuation of the personalization and customization process; the development of self-service banking; looking for new digital solutions to ensure banking services for customers; and finding new business partners.

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RISK FACTORS CLASSIFICATION IN INFRASTRUCTURE CONSTRUCTION PROJECTS

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Abstract. The article deals with the risk management issues, in particular, the concept of risk, possible approaches to their identification and analysis using various classification approaches. The author's approach to the classification of risk factors in the implementation of infrastructure investment and construction project is presented. It is proposed to classify risk factors by stages of the project life cycle.

Keywords: identification and classification of risk factors, risk management, risk analysis, project management, infrastructure construction, uncertainty, construction risk

Any human activity is always aimed at achieving results in the future, i.e. there is always a time gap between the initial efforts accompanied by the expenditure of resources and the final result. It follows that the final result is reliably unpredictable due to the influence of a number of factors. This circumstance served as a source for the formation of such categories as risk and uncertainty.

Uncertainty is understood as an incomplete or inaccurate understanding of the values of various parameters in the future, generated by various reasons and, above all, incomplete or inaccurate information about the conditions for implementing solutions, including the costs and results associated with them. The main causes of uncertainty are:

- insufficient and low-quality information;
- the presence of an element of non-determinism (uncertainty) of economic processes (the occurrence of factors unknown at the time of decision-making in the future);
- random implementation of factors, the list of which is known at the time of decision-making, but it is not known how and in what form they will act;
- actions and counteractions of competitors and other counterparties, the analysis of which also requires significant efforts and costs.

The uncertainty associated with the possibility of adverse situations and consequences arising during the implementation of the solution is characterized by the concept of "risk". The concept of "risk", as a rule, means the danger of an unfavorable outcome for one expected phenomenon. This is a hypothetical possibility of damage.

There are three signs of risk: 1) the possibility of an event occurring; 2) randomness; 3) danger (undesirability) of a possible result. The concept of damage is closely related to the concept of "risk". If the risk is only a possible negative deviation from the expected result, then the damage is a valid (actual) negative deviation. Risk is defined as the product of the probability of occurrence of a dangerous event and its negative consequences, i.e. the expected amount of damage.

To determine the values of the probability of risk occurrence, a scale from 0 to 1 is used: 0 – it is known that the event will not exactly happen; 1 – it is known that the event will definitely happen; 0 and 1 are extreme values, they are not taken into account, since the risk always has a probabilistic nature.

In the conditions of transformation of the market economy, the real existence of risk factors of business entities and overlapping with the considered factors of labor, moral, temporary, material, administrative and other types of losses is an inevitable moment in the process of organizing the construction process at all stages and stages of transport investment construction design. It is



necessary to focus on the fact that "the risk of accidental damage or accidental damage to movable or immovable property should be borne by the owner of this particular property, unless other liability is prescribed in the contract or law" [1].

It should also be noted that as a result of the development of information and transport communications, the number of likely negative events will only increase and increase significantly. The maximum level of responsibility in the process of managing and implementing installation, construction and other types of work in the process of implementing an investment construction project always lies with the contractor, since it is he who bears full responsibility for the construction of an object.

Historically, research in the field of risks has been carried out in two areas of human activity – in the field of security and in the field of finance. However, the scope of assessment and analysis of economic risks is currently not sufficiently studied and poorly formalized. The concept of "risk", "risk factors", "risk indicators" in the current period of economic relations development is used in many specific social and natural sciences. Therefore, risk can be defined as an interdisciplinary object of research.

Many authors define risk as a certain potential for the occurrence of a certain adverse event, which may entail various losses, such as profitability lower than planned, loss or damage to any property, injury, etc. [4]. It is worth noting that modern economic research studies a huge list of the conceptual apparatus of risks, from "risk as the possibility of accidental occurrence of undesirable losses, measured in financial terms" [3], to "risk as the consequences of inaction or action, the result of which will be a real chance to obtain uncertain results of various kinds, both negatively and it is also possible to have a positive impact on the sustainability of the organization" [3].

Based on the considered approaches to the definition of risks, we will clarify the concept of risks in transport construction. The definition of risks in transport and infrastructure construction should include negative events and their size in monetary terms, which reflect the accompanying losses. The circumstances considered may be provoked by errors in the design process, shortcomings in the process of justifying the need for the construction of specific facilities, as well as ineffective project management at each stage of the project life cycle.

The problem of analyzing, evaluating and minimizing risks in the process of implementing the life cycle of construction projects included in government programs is being updated and due to the increasing complexity, diversity and responsibility of goals and objectives, when they arise and risks manifest, there may be not only well-known risk factors such as increased delivery times, underfunding, etc., but also others, for example, active and malicious influences of interested parties or accidental negative manifestations in the external environment, incorrect actions of developers and designers. Such risk factors may be caused by distortions of information flows and their deliberate misinterpretation by persons who are interested in distorting information flows about the project in order to obtain a certain effect.

Infrastructure transport construction, along with the general features of construction, has a number of specific features inherent in linearly extended objects. In the opinion of the authors, it is necessary to analyze and identify risks in the construction of transport infrastructure based on the positions of the life cycle of the investment project. In the UNIDO (one of the UN divisions), as well as in the World Bank, the project life cycle is divided into certain phases. The phases under consideration are shown in Table 1.

Table 1. Project's lifespan phases

Project phase	Phase content
Pre-investment phase of the project	Investment opportunities analysis
	Pre-feasibility study
	Feasibility study
	Report on investment opportunities
Investment phase of the project	Negotiation and conclusion of contracts
	Designing



The operational phase of the project	Construction
	Marketing
	Learning
	Acceptance and launch
	Equipment replacement
	Expansion
	Innovation

There are many approaches to classifying risk factors in the economic literature. Some authors propose to classify investment risks into technological, financial, investment political, legislative and legal ones. [1] Other authors supplement the listed groups of investment risks with technical, financing, socio-psychological and informational risks. [2] With regard to infrastructure investment and construction projects, scientists propose to identify systematic and non-systematic risks (Table 2).

Table 2. Risks classification

<p>Systematic (non-diversified)</p> <ul style="list-style-type: none"> • Inflationary • Macroeconomic • Risks of legislative changes • Risks of emergencies and military conflicts 	<p>Non-systematic (diversified)</p> <ul style="list-style-type: none"> • Risks of the investment direction (country, industry, regional) • Risks of investment objects • Financial • Technical • Management • Individual
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The specific construction risk can be divided into the following elements which are presented in the Table 3.

Table 3. Construction risks elements

Construction risk:	The risk of non-compliance with the requirements for the quality of construction
	The risk of non-compliance with the requirements for the construction period
	The risk of not providing high-quality building materials
	The risk of not providing reliable machinery and equipment
	The risk of not being provided with qualified labor resources
	The risk of changes in design decisions
	The risk of remoteness of the construction site and severe climatic conditions
	Technological risk
	The risk of harm to the health of personnel employed in the construction of the facility
	The risk of death or damage to the construction object before its complete delivery to the customer
	The risk of non-fulfillment of post-launch warranty obligations

According to the author of this study, in addition to systematic and non-systematic risk factors, for infrastructure investment and construction projects, specific risks inherent only in this area should be considered and classified according to the phases of the project life cycle.

1. In the pre-investment phase, the project is most affected by the following types of risk:
 - the risk of incorrect determination of traffic volumes;
 - a group of project risk factors;
 - the risk of insufficient regulatory and methodological support,
 - risk of inconsistency,
 - risks in the coordination of territories for construction.



2. In the investment phase, the most dangerous are:
 - financial risks;
 - construction risks;
 - political risks (mainly sanctions).
3. During the operational phase, the project is most affected by the following groups of risk factors:
 - the risk of a shortage of qualified labor resources;
 - environmental risks;
 - operational risks.

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THE IMPACT OF INTEGRATED REPORTING ON THE SUSTAINABILITY AND COMPETITIVENESS OF COMPANIES IN THE CONTEXT OF GROWING INTEREST IN ENVIRONMENTAL AND SOCIAL RESPONSIBILITY

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Abstract. The research is aimed at studying the impact of integrated reporting on the sustainability and competitiveness of modern companies, especially in the context of increasing attention to environmental and social responsibility issues. By analysing the integrated reports of companies, the key factors affecting their sustainability will be identified, including the consideration of environmental and social aspects. The study is aimed at identifying and analysing the relationship between the effectiveness of integrated reporting and the overall competitiveness of companies in the current business environment. The results of the study can serve as a basis for developing recommendations for improving approaches to integrated reporting and increasing the competitiveness of enterprises in the context of growing attention to environmental and social responsibility.



Keywords: integrated reporting, enterprise sustainability, competitiveness, environmental responsibility, social responsibility, business ethics, balanced reporting, stakeholders, corporate responsibility, efficiency improvement.

Modern companies are facing increasing attention from the public, investors and market participants to sustainability and social responsibility. Building up social capital and a company's active position in the area of corporate social responsibility not only positively affects its image, but also strengthens the trust of shareholders, investors, authorities and other stakeholders. An effective system for managing the environmental, social and ethical aspects of business operations allows us to make informed management decisions, focus on priority tasks for implementing our strategy, and ensure maximum effect from the programmes and projects we implement. To assess the past and current performance of a company and its sustainable development, more detailed information is required than that reflected in the financial statements of companies.

Studying the sustainability impact of integrated reporting can provide important answers to these challenges. Integrated reporting allows companies to present their activities in a more balanced way, taking into account financial, social and environmental dimensions. This becomes important in an environment where consumers, investors and legislators are demanding comprehensive information. Companies that successfully integrate environmental and social aspects into their strategy and reporting can gain a competitive advantage.

Understanding the impact of integrated reporting on competitiveness is becoming important for businesses. Increasing regulatory pressure and sustainability and reporting initiatives are forcing companies to improve their approaches and use integrated reporting to meet the requirements. A company's ability to adapt to changes in the social and environmental environment can determine its sustainability and long-term success. Sustainability is becoming a key topic for strategic management of enterprises. Taking these aspects into account, the study is relevant as it responds to modern challenges and helps to understand how integrated reporting can affect various aspects of enterprises in the current business environment.

Various aspects of the theory and methodology of integrated accounting and reporting have been the subject of research by domestic scholars, in particular, such as: T.V. Davidyuk, I.V. Zamula, I.V. Zhigley, R.O. Kostyrko, N.O. Lokhanova, N.S. Orlov, K.V. Sorokina. The development of the theory of integrated accounting and reporting was influenced by the scientific works of such foreign scholars as M. Albert, M. Brownlee, D.J. Wood, C.E. Goodpaster, K. Jones, K. Davis, R. Eccles, A. Crane, M. Cruz, A. Carroll, R. Levy, D. Leipziger, A. McWilliams, R. McKeown, M. McIntosh, M. Mescon, J. Moon, D. Metten, J.W. Matthews Jr, J. Post, J. Senne, D. Siegel, D. Tepscott, D. Tickall, W. Frederick, M. Friedman, T. Freundlich, F. Hedourie. At the same time, the criteria for identifying non-financial indicators of economic, social, and environmental management, the level of their disclosure and consistency with the indicators of the integrated accounting system remain poorly understood for domestic enterprises.

The challenge in developing and implementing integrated reporting is the difficulty in determining the disaggregated and useful information that is necessary for meaningful disclosure. The concept of "usefulness" is very diverse, depending on market conditions, the nature of the business and the specific circumstances of its operation. This diversity makes it impossible to objectively determine the contribution of certain indicators to the overall success of an enterprise.

It is sometimes difficult for managers to identify the key factors that lead to the success of an enterprise, as this information is highly subjective. It is also difficult to independently verify this data. The cost of collecting and preparing such detailed information can be high, and it can cause a negative reaction from the reporting entity itself. In addition, integrated reporting is forced to evolve due to constant changes in the business environment, information technology and user needs. Different jurisdictions impose different requirements, making it difficult to standardise reporting. Different companies may also face different approaches depending on their size, ownership and nature of their business.



We can identify a number of factors that determine the sustainability of companies, among which environmental and social aspects play a significant role. Among them, we can distinguish different groups:

Group 1 - environmental efficiency factors (management of natural resource use; reduction of emissions and waste; use of environmentally friendly technologies and processes, adaptation to climate change and minimisation of negative environmental impact, etc;)

Group 2 - factors of social responsibility (observance of human rights and social standards, creation of safe and healthy working conditions, ensuring equal opportunities for employees, etc;)

Group 3 - ethical management factors (setting high standards of business ethics; prevention of corruption and unfair practices);

Group 4 - diversity and inclusion factors (creating a diverse and inclusive working environment; ensuring equal representation of different groups of employees, gender equality, etc;)

Group 5 - factors of public relations (maintaining a positive image of the company in the public; involvement in social and environmental initiatives);

Group 6 - economic sustainability factors (financial stability and risk management; balance of financial and non-financial indicators, etc;)

Group 7 - factors of innovation (implementation of innovative solutions to improve sustainability, research and development of environmentally and socially oriented projects);

Group 8 - factors of relations with counterparties (sustainability of supply of materials and services, ensuring sustainability standards among suppliers, loyalty programmes for customers, etc.)

These aspects interact and cooperate to create a comprehensive sustainability programme that allows businesses to adapt to changes in the economic, social and environmental environment.

Integrated reporting is becoming the most innovative and holistic approach to corporate reporting globally and in Ukraine. Integrated reporting is useful for all stakeholders who need to assess the ability of a company to create value over time. Such reporting is a tool for continuous improvement of companies' activities, as it helps to focus them on increasing their sustainability. It also helps to form a unified concept and strategy for implementing corporate social responsibility programmes. There is no standard form for an integrated report. When implementing integrated reporting in domestic practice, it is advisable to be guided by the basic principles formulated by the International Integrated Reporting Committee [5].

The International Integrated Reporting Committee has proposed a general concept of integrated reporting, which is a process that leads to an organisation reporting information that is expressed in the form of a periodic integrated report on value creation over time.

Countries that have previously implemented formal regulations and completed the process of formulating rules and conditions for the preparation and disclosure of integrated reporting are now characterised by a high level of spread of this trend and have an appropriate level of satisfaction of users' information needs when publishing integrated reports. According to research, the United States is a leader in integrated reporting practices, with a large share of companies using this approach. Ukraine is currently at the initial stage of developing its accounting policies and practices to meet the requirements of integrated reporting.

In recent years, there has been a steady trend in Ukraine towards an awareness of the need for socially responsible business behaviour. The development of the UN Global Compact's national network has given impetus to non-financial reporting in Ukraine, as submitting an annual report on the implementation of the Global Compact principles is one of the obligations assumed by the Global Compact signatories. In particular, 90% of the non-financial reports that have appeared in Ukraine in recent years are reports of Global Compact members. However, informing the public about the environmental, economic and social achievements of business circles has not yet become a common practice.

The Global Reporting Initiative (GRI) has made a significant contribution to the development of corporate social and sustainability reporting, with more than 1,500 well-known companies worldwide issuing non-financial reports.



In international and domestic practice, companies prepare the following types of non-financial reports: Sustainability Report (GRI3), Sustainability Report (AA1000, UN Global Compact), Progress Report, Social Responsibility Report, Social Report, Corporate Responsibility Report, Non-Financial Report, Performance Report, Environmental Report. The lack of methodological tools is a result of the variety of types of reports and the lack of understanding of the purpose of each of them. Corporate social reports are presented in one of the following forms at the company's discretion: social, environmental, integrated, and sustainable development reports.

Researchers T.O. Mulyk and N.V. Vashchilova, summarising international experience, proposed that the process of implementing integrated reporting should be carried out in three stages: the preparatory stage - development of the conceptual framework for integrated reporting; the main stage - determination of the organisational and methodological framework for reporting; the final stage - evaluation and control of integrated reporting [3].

The advantages and disadvantages of integrated reporting should be taken into account. The advantages include: a high level of trust in relations with stakeholders; improved risk management; targeted focus of reports on investor needs; clearer definition of the company's capabilities; maximisation of competitive advantages; automation of information support, which makes it possible to obtain complete information about the company for a wider range of potential investors, etc. The disadvantages include the need to combine a large number of requirements that are mandatory in the preparation of integrated reporting and the time-consuming and costly process of transition from conventional reporting to integrated reporting.

At this stage, in order to solve the described problems that affect the effectiveness of further implementation of the integrated reporting concept in the practice of Ukrainian enterprises, it is necessary to

- at the level of state authorities, to develop recommendations for the preparation and disclosure of integrated reporting, which should be based on the relevant principles and stimulate enterprises that prepare such reports (through tax benefits, preferential lending, etc.),
- that large enterprises take the lead in implementing integrated reporting;
- that investors, especially foreign investors, actively support enterprises that prepare integrated reporting, which will contribute to business transparency and investment protection, unlike financial reporting.

The main purpose of integrated reporting is to provide complete information about the company's activities and to structure the business and management model in accordance with the organisation's strategic objectives. The integrated reporting covers the indicators reflected in the financial statements, management notes, corporate governance and remuneration report, and sustainability report. The methodological basis of the integrated report is based on the principles of strategic focus, meeting the needs of stakeholders, transparency and quality of information. To understand the business development, its results and status, the report should include, along with financial and non-financial key performance indicators relevant to the business, including environmental issues. The key factors of a company's sustainable development are the following: production and technological; scientific and technical; environmental; financial and economic; investment; innovation; market; social; and government regulation factors (factors).

The integrated report should reflect the following information: a description of the company's activities; the external environment, including risks and opportunities; strategic goals and a strategy for achieving these goals; corporate governance and remuneration; a system of performance and sustainability indicators; and a forecast for the future.

The use of unified integrated reporting standards makes it possible to: assess unforeseen risks; identify factors affecting the growth of business value; meet the information needs of stakeholders and carry out a comprehensive assessment of business value.

Thus, one of the conditions for implementing the concept of sustainable development is the preparation of integrated reporting. Integration of universal principles on human and labour rights, environmental protection and anti-corruption into the global market will contribute to the long-term



success of the business. Today, integrated reporting is one of the most promising and rapidly developing areas. An integrated report reflects the links between different components of a company's business model, external factors, different types of resources and performance indicators.

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CRAFT KNOWLEDGE – KNOWLEDGE OF CRAFTS

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Abstract. The originality of the text is related to presenting the subject of craft not only from the perspective of knowledge management but also from the aspect of knowledge economy. An analysis of the texts showed a significant disproportion between the materials devoted to the researched issues in management and economics in favor of management, as well as a substantial common space regarding crafts between these scientific disciplines. These include primarily linking craftsmanship with the enormous potential for creativity and the aspect of tacit knowledge - its specificity and the difficulty of its transmission.

Keywords: craft, craft knowledge, knowledge economy, knowledge management, cultural economy.

1. Introduction

Craftsmanship is currently a very topical issue. It was "reborn" in the 21st century both through its increasing visual presence (craft fairs, workshops run by craftsmen, the opening of handicraft

shops, etc.) and the interest of decision-makers and international organizations [1; 2], as well as through a particular way of thinking about today's production and consumption [3]. Crafts are not only going through a third wave of rebirth [4] but are actually "flourishing" in an era of enormous technological progress and rapidly changing work practices [5]. According to the team of Bell et al., crafts have been reborn due to the need to find an antidote to mechanized industrial production and mass consumerism and also due to the predictions of work (an aspect of technological development), economic conditions, and the current geopolitical climate, as well as the need to build more sustainable economies [3]. It is discussed by representatives of various fields and shown through a multitude of aspects as described, including creative activities [6], cooperation of craftsmen and designers in the field of technological innovations [7], aspects of sustainable development related to teachings derived from folk knowledge [8], etc. Crafts are described, among others, as:

- non-agricultural economic activity [9];
- artistic craftsmanship resulting in decorative or everyday objects [10];
- ambiguous construction due to the contradiction of the concepts of culture and trade [11];
- production, in which the product is single, unique, and hand-made through cooperation with the material in the process of giving form and through a process in which concepts of ideas and concepts of form are integrated [12];
- production in which knowledge about the material plays an important role, and the prototype is an artifact [12];
- the example of niche companies [13]. Craft knowledge was and still is transmitted in several ways: tacit (empirical and embodied knowledge, passed from master to apprentice, parent to child), oral (verbal instructions), and written (manuscripts, sketches, illustrations, etc.) [14].

The aim of this article is to present craftsmanship within the aspect of craftsmanship knowledge. The text refers to aspects of craft knowledge, craft knowledge management and the knowledge economy regarding the craft space. Knowledge, which is not only necessary in creative work and is an essential element of professional activity, but also includes information that brings a given craft closer to the craft and enables its (further) sustainable development.

2. Material and Methods

The study was carried out with one of the primary research techniques, desk research - an analytical technique based on existing data and serving, among others, recognizing a given topic. Its steps are shown in Diagram 1. Two research questions were formulated: RQ1 - what is the relationship between crafts and the knowledge economy? RQ2 – Does the relationship between crafts and the knowledge economy correspond to its relationship with knowledge management? This study is one of the initial stages of a scientific project under the Delta grant from the Opole University of Technology entitled "Chinese crafts in the area of cultural economy."

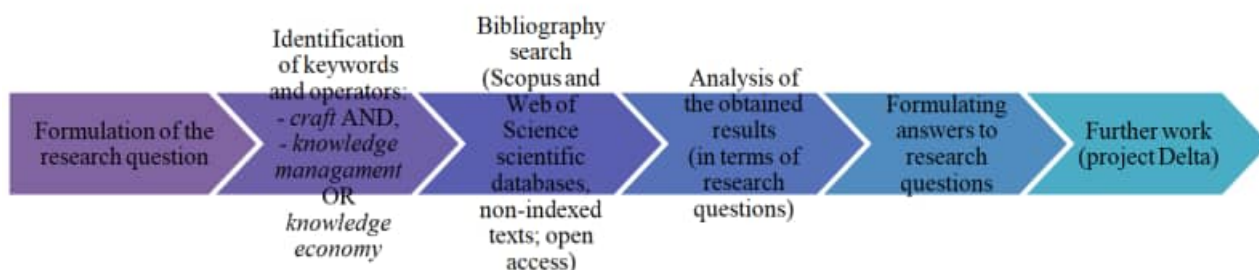


Diagram 1. Research stages in the field of craft knowledge. Source: own preparation.

3. Results

The analysis showed a significant disproportion in texts devoted to the examined issues in management and economics. Within Elsevier's Scopus database, a search within the words/phrases *craft* AND "*knowledge management*" listed 130 texts. In comparison, within the words/phrases *craft* AND "*knowledge economy*," only 27 texts were identified. In the case of the Web



of Science - WoS (Clarivate) database, a search using *craft* AND "*knowledge management*" yielded 121 documents, while a search using *craft* AND "*knowledge economy*" produced only 43 papers. A similar disproportion is visible among texts that are not indexed and are available on the Internet as open access. The characteristics of the study conducted in January 2024 within the databases of scientific texts are shown in Table 1.

Table 1. The main characteristics of the research results. Source: own preparation.

Database	Scopus		WoS	
Phrases: <i>craft</i> AND...	<i>knowledge management</i>	<i>knowledge economy</i>	<i>knowledge management</i>	<i>knowledge economy</i>
Number of texts	130	27	121	43
Years of publication	2001-2023	2004-2024	1998-2003	1998-2003
Open acces	29	6	31	10
Document types	Article: 40 Conference paper: 80 Book chapter: 4 Review: 6	Article: 16 Conference paper: 3 Book chapter: 4 Review: 4	Article: 57 Conference Paper: 63 Book chapter: 3 Review: 2	Article: 34 Conference Paper: 4 Review: 2
The most frequently appearing category	Computer Science: 41 Engineering: 41 Business, Management and Accounting: 30 Decision science: 21 Social Sciences: 16 Mathematics: 13	Social Science: 18 Business, Management and Accounting: 7	Management: 41 Computer Sciences Information System: 31 Information Science Library Sciences: 21 Computer Science Theory Methods: 23 Business: 21 Computer Science Artificial Intelligence: 11	Economics: 10 Education Educational research: 9 Management: 5
Language	English: 127 Chinese: 1 French: 1 German: 1	English: 27	English: 120 French: 1	English: 43
The most frequently appearing country/region	USA: 32 UK: 16 Australia: 11 PRC: 10	USA: 7 UK: 5	USA: 28 PRC: 19 Australia: 13 Italy: 11	USA: 8 South Korea: 7 Australia: 5
Reference to the sustainable development goal (numbers in order of popularity)	No data	No data	No: 09, 03, 04, 15, 12, 13	No.: 09, 04, 03, 02, 06, 10, 01, 11

3.1. Crafts knowledge in the context of knowledge management

Encouraging the implementation of knowledge management within the creative industries appears in many studies [15; 16], and craft skills are used in many sectors of the economy, not only those related to creativity [17]. Nowadays, the skills of craftsmen are concerned with more than just their strict specialization. Among the "new craftsmen," social skills and competencies have also



become more important [18], including communication through various channels with their environment. As part of the research conducted so far on crafts and knowledge management, the following observations can be mentioned:

- the recognition of knowledge management and knowledge transfer in craft organizations has existed since 2011, and over the years, the emphasis on knowledge in craft organizations and knowledge transfer has become more and more detailed and precise [19];
- a large part of the knowledge within craft enterprises still needs to be codified. Therefore, it is difficult to transmit it [20]; this knowledge is "simply" transferred to other craftsmen and collaborators - there are no procedures for sharing knowledge [21];
- craftsmen can use tacit knowledge very well (being difficult to formalize and transfer), which is the result of professional experience and is not transferred or transferable within structured communication flows [19; 21];
- tacit craft knowledge is a barrier to the sustainable development of crafts of intangible cultural heritage, and among the studies on the conversion of this knowledge and management, there are those relating to the cooperation between craft and design, in which partial knowledge of both parties will be explicit [22];
- knowledge sharing has great potential in maintaining and transferring craft knowledge (for example that of Japanese metal casting) [23]; however, in the craft space, this does not always translate into business results within SMEs, mainly due to the danger of its use by competitors (the example of silver craft in Indonesia) [24];
- there is no standard process of knowledge transfer to various organizations. This is due to a different organizational structure, management style, the level of awareness of leaders regarding the importance of knowledge transfer, social context and the location of the organization, and the target market and customer niche [21].

3.2. Craft knowledge in the context of the knowledge economy

The knowledge-based economy is related to crafts in two ways. On the one hand, it is mentioned as one of the reasons for the earlier marginalization of crafts in the economy [25], which is even opposed [26]. The second face of this issue is presented as if in opposition to the first, showing craft knowledge as an essential factor related to creativity and driving innovation. Texts devoted to crafts and the knowledge economy present crafts from several perspectives, including:

- historical, presented from the perspective of the perception of the work performed by craftsmen. For example, medieval and early modern craftsmen are compared to the 19th-century factory worker or are described as making innovative contributions and having "real knowledge" by being knowledge workers and inventors [27];
- motivational, related to the reasons for undertaking craft activity. As Julia Benett notes, craftsmanship is driven by innovation and creativity and the possibility of creating careers within creative industries. In this aspect, the issues of paying attention to the needs of micro-entrepreneurs, strengthening the place of crafts in the curriculum, and providing opportunities to learn crafts are raised [5];
- compared with neoclassical economics. Both approaches can lead to different values of craft work. For example, this value may be defined as higher by people who are immersed in the culture of crafts and who are associated with its production and consumption [4];
- cross-sector cooperation, combining craft and technological skills and knowledge with a solid economic impact. They can lead to significant spillover effects regarding the gross value which is accruing to downstream companies. They can also drive innovation and increase productivity, product range, and access to new markets [5]. The above may be related to both micro, meso, and macroeconomics;
- evaluative, by emphasizing the lack of definition and implementation of new criteria for assessing the results related to the tacit knowledge of craftsmen who play a significant role in the knowledge-based economy [19].



4. Conclusion

The issues of craft knowledge are significantly related to knowledge management and the knowledge economy. However, there is a significant disproportion in research conducted in management and economics that is in favor of management. Although they analyze craft from slightly different perspectives, both of these disciplines raise the issue of the importance of hidden craft knowledge and the specificity and problems with its transmission. Both also recognize the enormous economic potential of crafts, resulting from, among others, the resources of skills and craft knowledge related to creativity and the possibility of translating it into innovation. One may get the impression that craft knowledge is analyzed mainly from the perspective of the knowledge management process model, but in the texts devoted to the examined issues; there are also elements/references to the Japanese and resource models.

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DETERMINAREA MODELULUI NAȚIONAL DE ECONOMIE CIRCULARĂ ÎN SECTORUL TURISM

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Abstract. The transition to a circular economic model is still in its infancy, although Moldova has made significant economic progress over the past decade. Economic growth has not completely separated itself from the production of waste, and its approach remains problematic, with storage predominating, including illegal ones, at the expense of sustainable methods. Because of this, the performance in circular indicators, such as resource efficiency, ecological innovation, the ratio between waste generation and gross domestic product, waste management and recycling, is below the average of the member states of the European Union, including neighboring countries of the Republic of Moldova. The low involvement of citizens in circular economy practices in the tourism sector, such as reusing, repairing products, avoiding plastic and single-use packaging, preference for local products or those with low environmental impact, also reflects a low level of involvement in these directions. Thus, it is obvious that Moldova needs improvements on multiple levels of the circular economy, from greater efficiency in the use of resources and the integration of recycled materials in production processes to the prevention of waste generation and a more efficient management of it.

Keywords: circular economy, tourism, national model of circular economy.

Introducere. O economie circulară reprezintă un sistem economic, care elimină ideea de "sfârșit de viață" a produselor, axându-se în schimb pe reducerea, reutilizarea, reciclarea și recuperarea materialelor în procesele de producție, distribuție și consum. Acest model funcționează la nivel individual (produse, companii, consumatori), la nivel comunitar (parcuri eco-industriale) și la nivel global (orașe, regiuni, țări și dincolo de ele), având ca obiectiv realizarea unei dezvoltări durabile. Scopul este să creeze un mediu înfloritor, să asigure prosperitate economică și să promoveze echitatea socială, în beneficiul atât al generațiilor prezente, cât și al celor viitoare¹ (conform Kirchherr et al, 2017).

Promovând utilizarea comună, închirierea, reutilizarea, repararea, renovarea și reciclarea materialelor și produselor existente pentru a prelungi cât mai mult posibil ciclul lor de viață, economia circulară reprezintă un model de producție și consum. Această abordare are ca obiectiv minimizarea deșeurilor, astfel încât atunci când un produs ajunge la sfârșitul ciclului său de viață, materialele din care este constituit sunt reintroduse în economie prin reciclare, menținându-le în circulație și generând o valoare adăugată suplimentară.

Modelul tradițional al economiei circulare se bazează pe cantități semnificative de materiale și energie ieftine și ușor accesibile, contrastând puternic cu modelul economic tradițional, liniar, bazat pe principiul "folosim-producem-consumăm-aruncăm". În cadrul acestui model tradițional este încorporată uzura programată, prin care produsele sunt proiectate să aibă o durată de viață limitată, încurajând astfel consumatorii să achiziționeze din nou.

1



Fiind aplicată în sectorul turismului, economia circulară poate aduce schimbări semnificative și inovații promițătoare în structurile de afaceri existente. Această abordare deține un potențial considerabil pentru operatorii din industria turismului, oferindu-le oportunități de a obține sustenabilitate și rentabilitate crescută, dar și de a crea strategii inovatoare de marketing. Prin urmare, este crucial să se conștientizeze și să se sprijine companiile în dezvoltarea și implementarea practicilor circulare.

Determinarea unui model național de economie circulară în sectorul turismului este un proces complex și necesită o abordare integrată, care poate implica mai multe etape și elemente esențiale: analiza și evaluarea actuală a sectorului, identificarea oportunităților și provocărilor specifice, crearea unui cadru legal și politic, promovarea inovației și colaborarea între părți interesate, educație și conștientizare, monitorizare și evaluare.

În continuare vom analiza **elementele de monitorizare în economia circulară în sectorul turism** (Tab.1).

Determinarea unui model național de economie circulară în sectorul turismului presupune, în esență, o abordare cuprinzătoare și colaborativă, care să implice guvernul, sectorul privat, organizațiile non-guvernamentale și alte părți interesate pentru a dezvolta și implementa strategii și politici eficiente și sustenabile.

Dezvoltarea și implementarea unui cadru pentru monitorizarea economiei circulare (precum cel dezvoltat în UE) reprezintă un instrument esențial pentru evaluarea progresului înregistrat în direcția unei economii circulare în Republica Moldova. Acesta poate fi aplicat și la nivel sectorial, dezvoltând indicatori specifici în turism. Acest cadru are în vedere contribuția sistemului economic circular la obiectivele de neutralitate climatică, reziliență și sustenabilitate la nivel global. O abordare-cheie în această tranziție, pentru Moldova, constă în reducerea consumului de materii prime și a generării de deșeuri.

Tabel 1. Indicatori de monitorizare a sectorului turismului prin prisma economiei circulare în Republica Moldova

Indicator	Importanța
<i>Producția și consumul</i>	
Consumul de materii prime ✓ Amprenta materiilor prime (tone pe cap de locuitor) ✓ Productivitatea resurselor (EUR/kg)	Scăderea consumului de materii prime indică decuplarea creșterii economice de utilizarea resurselor.
Achizițiile publice verzi	Achizițiile publice reprezintă o mare parte a consumului și pot stimula economia circulară.
Generarea deșeurilor ✓ Generarea totală de deșeuri pe cap de locuitor (kg pe cap de locuitor) ✓ Generarea totală de deșeuri (cu excepția deșeurilor minerale majore) per PIB (kg per EUR) ✓ Generarea de deșeuri municipale pe cap de locuitor ✓ Deșeuri alimentare (kg pe cap de locuitor) ✓ Generarea de deșeuri de ambalaje pe cap de locuitor ✓ Generarea de deșeuri de ambalaje din plastic pe cap de locuitor (kg pe cap de locuitor)	Într-o economie circulară, generarea de deșeuri este redusă la minimum.
<i>Gestionarea deșeurilor</i>	
Ratele de reciclare totale ✓ Rata de reciclare a deșeurilor municipale (%) ✓ Rata de reciclare pentru toate deșeurile, cu excepția deșeurilor minerale majore (%)	Creșterea ratelor de reciclare face parte din tranziția către o economie circulară.



Ratele de reciclare a fluxurilor specifice de deșeuri ✓ Rata de reciclare a tuturor tipurilor de deșeuri de ambalaje (%) ✓ Rata de reciclare a deșeurilor de ambalaje din plastic (%) ✓ Rata de reciclare a deșeurilor de echipamente electrice și electronice care sunt colectate separat (%)	Progresele înregistrate în ceea ce privește reciclarea fluxurilor de deșeuri principale sunt esențiale pentru sustenabilitate și reziliență.
<i>Materii prime secundare</i>	
Contribuția materialelor reciclate la cererea de materii prime ✓ Rata de utilizare circulară a materialelor (%) ✓ Ratele de reciclare a materialelor la sfârșitul ciclului de viață (%)	Într-o economie circulară, materiile prime secundare sunt utilizate în mod obișnuit pentru a fabrica noi produse.
Comerțul cu materii prime reciclabile ✓ Importuri din afara UE (tone) ✓ Exporturi în afara UE (tone) ✓ Comerț intra-UE (tone)	Comerțul cu materiale reciclabile reflectă importanța pieței interne și a participării la nivel mondial la economia circulară.
<i>Competitivitate și inovare</i>	
Investițiile private, locurile de muncă și valoarea adăugată brută legate de sectoarele economiei circulare ✓ Investiții private (% din PIB) ✓ Ocuparea forței de muncă (% de ocupare a forței de muncă) ✓ Valoarea adăugată brută (% din PIB)	Economia circulară poate contribui la crearea de locuri de muncă și la creșterea economică.
Ecoinovarea ✓ Brevete legate de gestionarea și reciclarea deșeurilor (număr și număr la milion de locuitori)	Tehnologiile inovatoare legate de economia circulară stimulează competitivitatea la nivel mondial a UE.
<i>Durabilitatea globală și reziliența</i>	
Durabilitatea globală ✓ Amprenta consumului (indice 2010 = 100 și numărul cazurilor de depășire a limitelor planetei) ✓ Emisii de GES generate de activitățile de producție (kg pe cap de locuitor)	Amprenta consumului indică măsura în care sistemele de producție și consum se încadrează în limitele planetei. Economia circulară contribuie la neutralitatea climatică.
Reziliența ✓ Dependența de importurile de materii prime (%) ✓ Autonomia UE în domeniul materiilor prime (%)	Economia circulară contribuie la securitatea aprovizionării cu materii prime și la abordarea riscurilor legate de aprovizionare, în special în ceea ce privește materiile prime critice.

Sursa: adaptat în baza *Comunicare a Comisiei către Parlamentul European, Consiliu, Comitetul Economic și Social European și Comitetul Regiunilor privind un cadru revizuit de monitorizare pentru economia circulară*

Elementele de monitorizare în economia circulară din sectorul turismului - acest proces necesită o abordare comprehensivă și colaborativă, implicând guvernul, sectorul privat, organizațiile non-guvernamentale și alte părți interesate pentru dezvoltarea și implementarea unor strategii și politici eficiente și durabile.

Concluzii. Dezvoltarea și implementarea unui cadru de monitorizare pentru economia circulară reprezintă un instrument esențial în evaluarea progresului către o economie circulară în



Republica Moldova. Acest cadru poate fi aplicat la nivel sectorial, dezvoltând indicatori specifici pentru industria turismului. Acest sistem de monitorizare are în vedere contribuția modelului economic circular la obiectivele de neutralitate climatică, reziliență și sustenabilitate globală. Un aspect crucial al acestei tranziții în Republica Moldova constă în reducerea consumului de materii prime și generarea de deșeuri.

Cadrul de monitorizare include care va include potentiali noi indicatori, precum amprenta materială și productivitatea resurselor vor permite monitorizarea eficienței materiale a sistemului de producție și consum din Republica Moldova. Evaluarea progresului în direcția obiectivelor de prevenire a deșeurilor este esențială într-o economie circulară cu un impact minim asupra mediului înconjurător. Mai mult decât atât, acest cadru oferă posibilitatea de a monitoriza contribuția modelului de economie circulară la durabilitate, neutralitate climatică și reziliență economică. Acest proces de monitorizare are în vedere amprenta consumului, emisiile de gaze cu efect de seră din activitățile de producție, dependența de importuri de materiale și nivelul de autosuficiență al țării în ceea ce privește materiile prime critice.

Prin completarea acestui cadru extins de monitorizare a economiei circulare, acesta va furniza date și perspective esențiale pentru evaluarea și îmbunătățirea tranziției către un model economic circular și sustenabil în sectorul turismului din Republica Moldova.

În acest context, adoptarea principiilor economiei circulare poate reprezenta un pas semnificativ pentru promovarea unui turism durabil și ecologic. Integrând conceptele economiei circulare în toate aspectele turismului - de la mijloacele de transport, cazare, activități recreative, până la gestionarea alimentației și reducerea/deprevenirea deșeurilor - se poate contura un cadru sustenabil și eficient.

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TOURISM INDUSTRY IN THE REPUBLIC OF MOLDOVA AMID COVID-19 PANDEMIC

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Abstract. Being a highly vulnerable industry, tourism was one of the most affected sectors, suffering the greatest crisis on record. The article reveals the impact of the Covid-19 pandemic on the tourism industry in the Republic of Moldova. There were explored the effects of the pandemic on tourism in the country and analysed the current situation in hospitality and tourism industry compared to the pre-pandemic period. The analysis showed that while the world saw an unprecedented fall in



international tourism, domestic tourism has shown positive signs in the market. Also, it was highlighted that the tourism industry is undergoing changes, being mainly affected by economic factors, geopolitical situation and technological advancements. Main trends and challenges for tourism development in the Republic of Moldova were identified.

Keywords: tourism, domestic tourism, travel, arrivals, overnights, pandemic.

Introduction

In recent years, the importance of tourism for economic development has significantly increased. Tourism affects economy and GDP level through the creation of new jobs and increase of demand for goods and services. Being a highly vulnerable industry to various environmental, political, economic and social risks, tourism became resilient from crises and outbreaks [7, p.312]. Global tourism represented a unique sector of economic activity that had seen almost uninterrupted growth over time. However, the COVID-19 pandemic has led to global lockdown, national quarantines and travel restrictions and has created a significant economic shock, surpassing that of the global financial crisis in 2007–2008. As a result, tourism was one of the most affected sectors, suffering the greatest crisis on record.

In the Republic of Moldova, tourism represents a significant tool for promoting rich heritage and national culture. Actions towards tourism development should be implemented taking into account numerous factors that affect the sector, global trends that shape the future of the tourism and local conditions and peculiarities that determine the current and potential state of the development [3, p. 520]. Growth in tourism industry can contribute to the development of a region and whole country.

Nevertheless, there are a number of studies on the impact of the Covid-19 pandemic on tourism in the world [1; 2; 4; etc.], including in the Republic of Moldova, some of the issues are yet not fully studied and deserve further attention. In this context, it is important to comprehensively analyse the impact of Covid-19 pandemic on the tourism industry and determine directions for tourism development in the country.

The paper aims at exploring the impact of the Covid-19 pandemic on tourism industry and determine the directions for tourism recovery and development in the Republic of Moldova.

In order to achieve the purpose of the paper, the following scientific methods were used: quantitative analysis of data, analysis of statistical data, synthesis, induction and deduction. The information base of the article includes the works of foreign and local researchers in the field, analytical reporting data and data collected from the National Bureau of Statistics.

The value of the paper consists in analysing the effects of the crisis generated by the Covid-19 pandemic on the tourism industry in the Republic of Moldova and determining main opportunities to facilitate tourism recovery. The findings of this study may be helpful for upcoming research in the area of regional tourism development.

Tourism industry in the Republic of Moldova

Tourism represents an effective tool for promoting national culture and heritage. The Republic of Moldova has a rich heritage of tourist interest. There are over 15 thousand anthropic tourist attractions, over 300 important natural areas, over 1000 protected architectural monuments, about 50 Orthodox monasteries, massive forest areas in the centre of the country, medieval places, fortresses, wineries, etc.

In recent years, tourism has evolved in the Republic of Moldova, main indicators being on the rise. But, despite government measures to support the industry and whole economy, the Covid-19 pandemic caused unprecedented damage to the tourism sector. Partial closure of borders and travel restriction imposed by most countries in the world as a measure to prevent the accelerated spread of the Covid-19 pandemic were some of the main factors that dramatically affected tourism. In 2020 fewer tourists and excursionists benefited from the services provided by travel agencies and tour operators amounting to 124506 persons, which is 3 times less than in the previous year, representing the biggest decrease. Nevertheless, the tourism sector started to recover in 2021, the number of

tourists and excursionists remains lower by 14.8% comparing to the pre-pandemic period and constituted 320880 persons.

The Republic of Moldova does not represent a popular tourist destination, the main form of tourism in the country being the *outbound tourism* with a share of 67.8% in the total number of tourists and excursionists. The outbound tourism was growing steadily with high rates, but in 2020 the sector was strongly affected by the Covid-19 pandemic, when the number of departures of Moldovan visitors abroad declined 4.2 times comparing to the prior year, registering only 74708 departures abroad (Figure 1). In 2021, the number of departures of Moldovan visitors abroad slightly increased, reaching 217678 persons, which at the same time is by 29.9% less than in 2019.

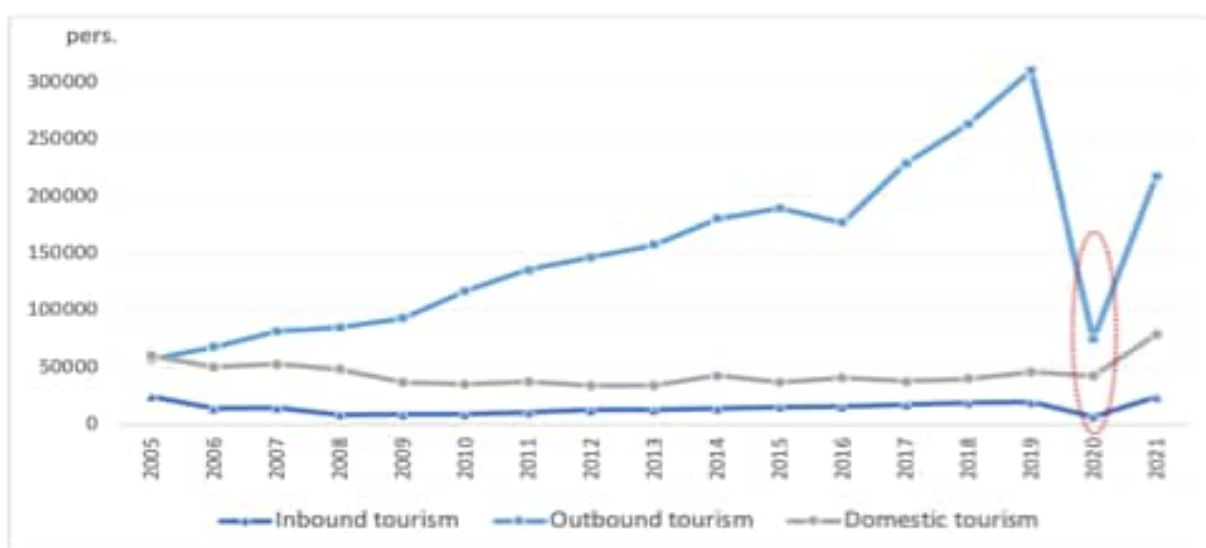


Fig. 1. Dynamics of organised inbound, outbound and domestic tourism in the Republic of Moldova, 2005-2021

Source: developed by the author based on NBS data

The data reveals that fewer people decided to travel abroad for different reasons, mainly caused by the ongoing pandemic and maintained restrictions in some countries of destination. In these conditions, some people chose domestic tourism, which is still underdeveloped in the country.

Due to the reduction of travels of Moldovan tourists abroad, the share of *domestic tourism* in the country rose by 22.2 p.p. from 12.2% in 2019 to 34.4% in 2020. Despite the fact that domestic tourism decreased by 7.1% in 2020 due to the pandemic crisis, in 2021 it registered a positive trend, accounting totally 79196 tourists and excursionists, or by 71.7% more than in pre-pandemic year. Today domestic tourism accounts for ¼ of the touristic services offered by travel agencies and tour operators.

Additionally, visitor arrivals into the country through travel agencies or tour operators also significantly fell by 65.0%, registering less than 7000 arrivals of foreign visitors in 2020 compared to almost 20000 persons before the pandemic. Comparing to outbound, the *inbound tourism* is faster recovering after the pandemic, the total number of arrivals of foreign tourists reached 24006 persons or by 20.9% more than in 2019. At the same time, to these over 20000 tourists who came organised, using the services provided by travel agencies, should be added other tourists, who planed vacation themselves, also staying in hotels and visiting restaurants, thus contributing to the sector. It is estimated that about 85% of tourists who come to Moldova come unorganized and only about 15% of tourists come organized [6].

In 2020, the *revenues of travel agencies and tour operators* from the tourist activity fell sharply from 2509.1 mil. lei to 782.8 mil. lei or 3.2 times (Figure 2), which caused financial problems for travel agencies.

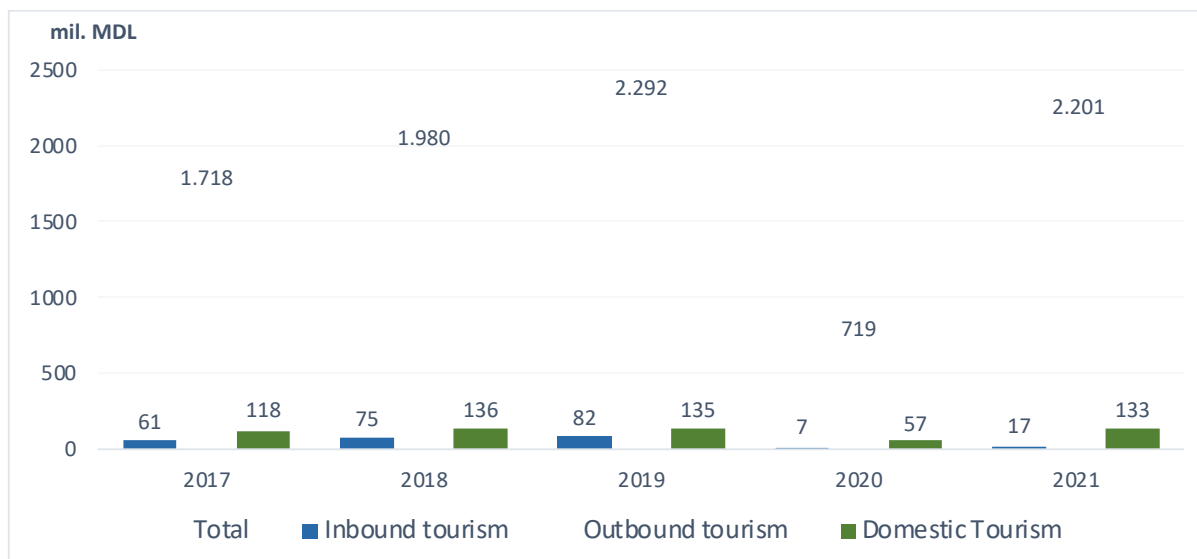


Fig. 2. Dynamics of the receipts of travel agencies and tour operators from the tourist activity for 2017-2021

Source: developed by the author based on NBS data

Main revenue of travel agencies and tour operators is generated by the outbound tourism (over 90%), which reduced by 68.6% and inbound tourism lost 91.1% of revenue. Due to elimination of some travel restrictions, the tourism sector started to recover and tourism receipts increased 3 times in 2021 compared to the previous year, but remains by 6.3% lower compared to the income obtained in 2019.

According to the data provided by National Bureau of Statistics, due to the crisis situation, employees working in hotels and similar establishments were affected as well. Thus, only in hotels and similar establishments the number of employees decreased by almost 40% in one year, constituting 1.1 thou. in 2020, which led to an increase of unemployment in the sector.

Main *motives* for citizens departures abroad include holidays, recreation and leisure (99.5%). At the same time, if earlier most foreign tourists were visiting the Republic of Moldova for business purposes (65.3% in 2005), after the financial crisis of 2007-2008 the share of tourist arriving for business purposes was mainly decreasing. Today most foreigners come for holiday (93.5%), while business tourists constitute only 6.1%.

The data on organised inbound tourism shows that in terms of individual countries, the number of tourists arriving to the Republic of Moldova is very unstable. In 2020, out of the total number of 6950 arriving tourists, most of them were coming from Romania (73.4%), Ukraine (14.9%) and Russia (3.1%). As stated above, the number of arriving tourists in 2021 increased 3.5 times reaching 24006 persons. Inbound tourism by country of origin is represented in Figure 3.

In 2021, tourists were mainly coming from Romania (8421 persons), Polonia (4147), Russian Federation (3711), Ukraine (2735) and Italy (2430), totally amounting to 89.3% out of the total number of incoming tourists. Over the last years, most of tourists visiting the country are from Romania (35.1% in 2021). Generally, it should be mentioned that during the last 2 years, the number of tourists from Romania increased by 2.4 times, reaching 5102 persons in 2020 (forming almost $\frac{3}{4}$ out of the total number of visitors) and 8421 persons in 2021.

The pandemic has influenced the decision of Moldovan citizens regarding their holiday destination. Most of Moldovan citizens chose to travel to Turkey (57.4% in 2020). It should be mentioned that Egypt became more and more popular for Moldovan tourists, the number of tourists doubled in 2021 comparing to 2019 and constituted 49149 persons.

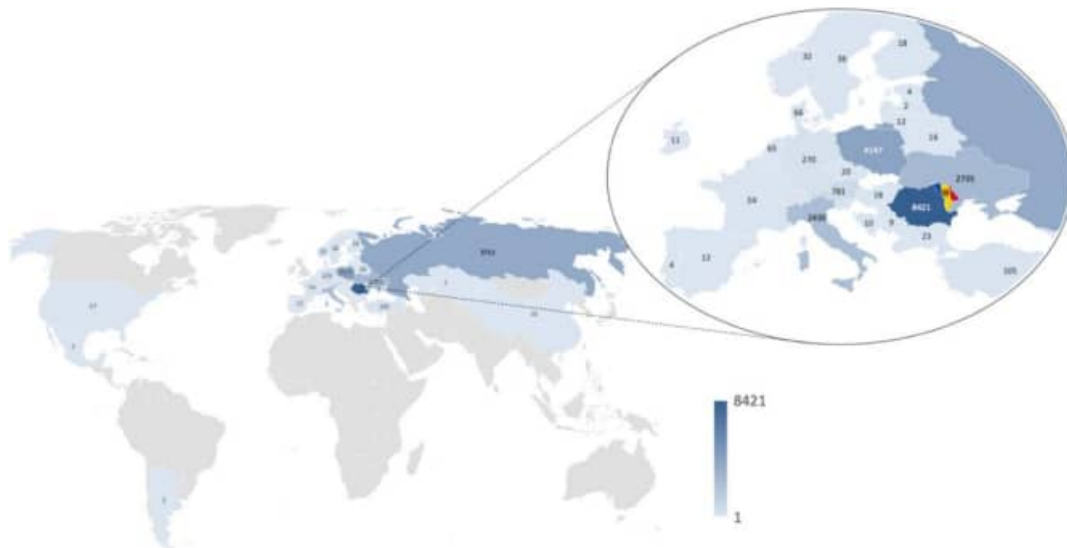


Fig. 3. Arriving tourists by country of origin in 2021
 Source: developed by the author based on NBS data

At the same time, other destinations like Greece (due to travel restrictions), Bulgaria and Romania became less popular for organised travel (by 67.0%, 57.2% and 88.7% correspondingly) than in the pre-pandemic year. Nevertheless, these 5 destinations are traditionally chosen by about 90% of Moldovan tourists. Additionally, could be mentioned Ukraine and Montenegro as popular destinations. Moreover, it should be mentioned that the picture in non-organised travel may be different, since with the development of informational technologies more and more people organise the vacation themselves.

The number of tourists placed in hotels and other establishments (motels, tourist pensions, hostels, health-care structures, recreation camps and children summer camps) drastically decreased by 97.4% in the second quarter of 2020 compared to the corresponding period of prior year (Figure 4).

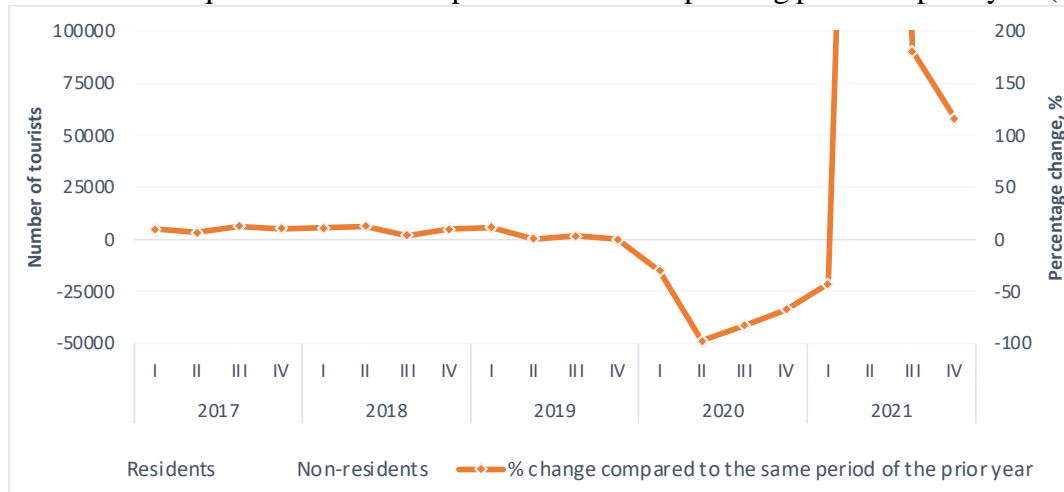


Fig. 4. Tourists placed in establishments of collective touristic reception with functions of accommodation for 2017-2021 years
 Source: developed by the author based on NBS data

Totally, in 2020 the number of accommodated tourists constituted only 90338 persons or by 75.9% less compared to 2019, out of which the number of non-residents was 28732 persons, or by 83.5% less. Nevertheless, the number of tourists doubled in 2021, it did not reach even half of the number of tourists in pre-pandemic period, constituting 47.5% of the level registered in 2019. Out of



the total number of tourists accommodated in hotels and other establishments, 61.4% are residents and 38.6% are non-resident tourists.

The most popular type of accommodation in the country are hotels and motels, chosen by over half of the total number of accommodated resident and non-resident tourists and by 86.8% of non-residents. After 4.2 times decline in 2020 (50581 accommodated tourists), the number of stays in hotels remains quite low – 99970, which is only half of the pre-pandemic level.

Before the pandemic, tourist and agritourism pensions were serving about 17000-18000 tourists annually. Nevertheless, there was a significant drop by 98.3% in the second quarter of 2020, totally this type of accommodation registered the lowest level of decline in 2020 – by 15.1%, number of accommodated tourists reaching 14576 persons. This could be explained by the fact that due to travel restrictions more residents chose to spend their vacation in the country. The same trend continued in 2021, when 18210 Moldovans (85.0% of all tourists) stayed in tourist and agritourism pensions, which is by 37.0% and 65.0% more than in 2020 and 2019 correspondingly. Nevertheless, still underdeveloped, pensions have become an attraction known and appreciated by residents. The total number of resident and non-resident tourists who chose to stay in this type of accommodation reached 21411 persons, or by 24.7% more than in the pre-pandemic year. Thus, the Covid-19 pandemic had a positive impact on the development of rural tourism.

Correspondingly, the pandemic led to 4.2 times decline in *overnight stays* in hotels and other establishments in 2020 (375968 overnights) with a positive tendency seen in 2021.

Before the pandemic the value of indices of net use of touristic accommodation capacity in function ranged between 33% and 34%. The situation drastically changed in 2020, when this index dropped by 20.3 p.p. compared to the previous year and amounted to only 13.0%. In 2021, the index reached 20.3%. The average duration of the tourists stays in establishments slightly exceeds 4 days, constituting 4.3 days in 2021.

Conclusions

The paper analyses the implications of the Covid-19 pandemic on tourism. The analysis of tourism industry in the Republic of Moldova showed that fewer tourists and excursionists benefited from the services provided by travel agencies and tour operators amounting to 124506 persons in 2020, which is 3 times less than in the previous year, representing the biggest decrease. Thus, outbound tourism declined by 76% and inbound tourism fell by 65% comparing to the prior year. The number of foreign visitors arrived into the country through travel agencies or tour operators amounted to almost 7000 arrivals in 2020 compared to almost 20000 persons before the pandemic. At the same time, according to experts' opinion, it is estimated that about 85% of tourists who visit Moldova come unorganized and only about 15% of tourists come organized [6]. Nevertheless, the tourism sector started to recover in 2021, the outbound tourism is lower by 30% comparing to the pre-pandemic period. Moreover, despite the fact that the number of tourists accommodated in hotels and other establishments doubled in 2021, it did not reach even half of the number of tourists in 2019.

While the world saw an unprecedented fall in international tourism, domestic tourism has shown positive signs in the market, accounting totally 79196 tourists and excursionists in 2021, or by 71.7% more than in pre-pandemic year. Domestic tourism continues to drive recovery of the sector. Other determined biggest trends imply the development of nature and rural tourism, responsible and sustainable tourism, new concerns related to health and safety, growing desire of tourists to visit new destinations and get the experiences they missed out during the pandemic.

Based on conducted analysis of the effects of Covid-19 pandemic on tourism, identified challenges and trends in the sector, there were determined main directions for tourism development in the country: rural and agrotourism, enotourism, gastronomic tourism, cultural tourism, religious, balneary tourism, event tourism, etc. Republic of Moldova has magnificent nature, which represents a good premise for the development of hiking trails, birdwatching routes, etc. Taking into account existing challenges in the sector, related to economic environment, political situation, technological



advancements, demographic factors, lifestyle changes, etc., a set of measures should be taken to foster tourism growth, specifically to ensure the development of infrastructure, accommodation facilities and routes, training of employees, accessibility of information, strengthening of marketing activities to promote inbound and domestic tourism, advancement of innovation and digitalisation of services, etc. Determined measures coupled with positive external factors could contribute to tourism development in the country.

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THE RELEVANCE OF NATIONAL SUPPORT PROGRAMMES: AN IMPACT ASSESSMENT OF THE HUNGARIAN VILLAGE PROGRAMME

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Abstract. A number of principles and development methods are intended to help reduce territorial disparities and the negative effects of peripheral specificities, of which the principles and specific rules defining the extent, distribution and use of development resources are particularly important, as their coordinated and optimised operation creates the chance for catching up disadvantaged regions. Hungary's particular development path, the peripheral position of many of its regions and its exclusion from the economic boom of the past decade focus attention on the efficient use of both EU and national funds. For this reason, this study will focus on a particularly popular national funding programme.

Keywords: Hungary, regionalism, national funds, Hungarian Village Programme

Social and economic processes can always be imagined in a specific space, increasingly linked to one (or more) designated location(s) or region(s). The territory under analysis has specific

characteristics that result from the diversity of its landscape, its natural features, the people who live there, the economies that people operate, its traditions and cultures [1]. In the middle of the 20th century, the social sciences recognised the importance of a new discipline: regional study and regional policy [2]. Regionalism, the concept, is defined in various ways by Isard [3]: a system of living, functional organisations, people, which are grouped in a territorial unit and whose operating conditions are strongly influenced by local conditions. Regional science is spatial and territorial, which is why it has become a dominant and multidisciplinary area. The importance of regional science for economic policy in Hungary has become extremely valuable with the changes in economic structures and spatial structure, as well as during accession to the European Union and adaptation [4, 5]. The changes have generated new needs and other demands, which have required the development of new financial procedures and techniques. The main aim of financial support schemes is to even out territorial disparities and reduce differences in development [6].

The most used measure of economic development is GDP, the regional disaggregation of which shows that there are large disparities not only within the Union but also within individual countries. Support programmes can help rural regions in particular to catch up and increase their competitiveness at both regional and macro-regional level [7]. In the planning and design of development and support policy initiatives, the choice of instruments and methods that can contribute to the achievement of development objectives is not indifferent. This is particularly true in rural areas, which are even more vulnerable to the differentiation of interventions, as they are characterised by deficiencies in many areas (human capacity linked to governance, the activity and capacity for initiative of local society, lack of internal financial and external development resources, etc.) which cannot be addressed by any development method.

It is therefore particularly important for the development of rural areas that the instrument used should be able to respond to local needs, help to strengthen local governance capacity and contribute to a more efficient use of development resources. The paper presents the support programme and the application practice based on domestic resources, which is of particular importance for the development of rural areas, and the impact of the first applications and the amounts allocated.

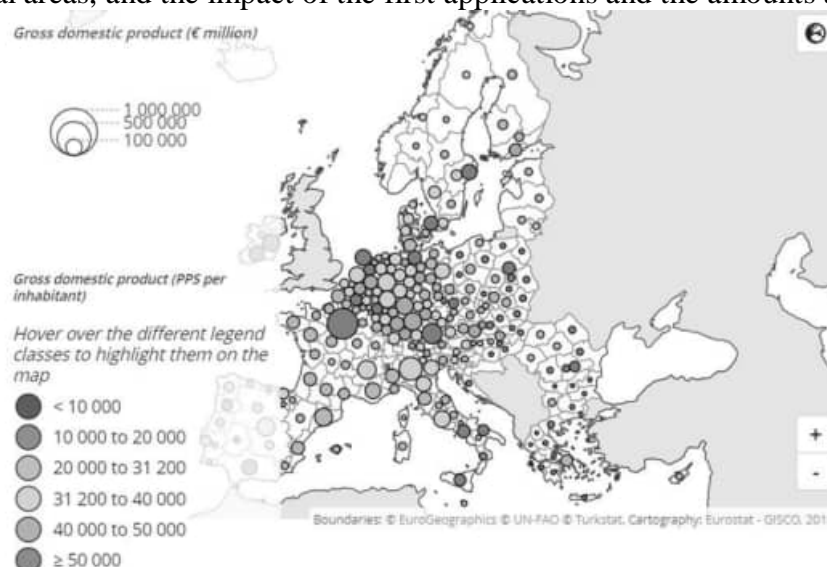


Figure 1. The regional GDP of the European Union's countries in 2020

Source: [8]

From the rural area perspective, there have been four major territorially scaled application schemes in Hungary in recent years: the LEADER programme, which includes all settlements with a population density of less than 10,000 inhabitants and less than 120 inhabitants per km² [9]; the programme focusing on the most disadvantaged small regions [10]; the Programme for Catching-up Settlements [11] and the Hungarian Village Programme [12], which is based on domestic funds. The Hungarian Villages Programme was announced in 2018 and launched in 2019, with a narrower focus



on settlements with a population of less than 5,000 inhabitants. The draft "László Nagy" Modern Village and Rural Settlement Development Programme, which includes a quote from the Prime Minister in its foreword, can be seen as a summary of the programme [13]: "In 2018, the modern village programme must also be announced, because the village way of life must be protected and is beneficial, and we do not want everyone in Hungary to move to the big cities..."

To do this, we must strengthen the village way of life and significantly improve the quality of life there, so there will be a modern village programme, which will naturally focus on improving housing conditions." The set of proposals prepared by the National Association of Local Governments (TÖOSZ) builds on the well-known advantages of the LEADER programme: the principle of partnership to ensure missing information, expertise, and cooperation within and between municipalities; to take local needs and specificities into account as much as possible; to achieve participation and involvement; to increase transparency; to strengthen trust and local motivation [14]. The use of an integrated approach is of particular importance, which calls for the development of complex methods for solving problems, the simultaneous development and implementation of different types of sectoral objectives that are closely linked to each other in a logical way, and the development and implementation of interdependent objectives [15]. In the Hungarian Village Programme, this means concentrating on rural settlements and developing application opportunities based on the same problem-solving methods.

The objectives and financial resources of the EU-funded LEADER programme and the Hungarian Village programme complement each other. This statement (based mostly on the opinion of local mayors) may be correct at the level of objectives, but the funding based on domestic sources (100% grant intensity and pre-financing), as opposed to the ex-post funding based and often over-bureaucratized and slow EU funding procedures, certainly makes the Hungarian Village Programme more attractive. Geographically, the Hungarian Village Programme focuses on settlements with a population of less than 5,000. Out of 3155 settlements in Hungary, 2887 have less than 5,000 inhabitants. Ninety percent of these settlements are smaller than 5,000 inhabitants, with 101 towns and 2,786 villages [16]. Almost one third of the Hungarian population, more than 3 million people, live in these settlements.

The programme's coverage has remained unchanged in recent years, with 21 target areas in 2019, 15 in 2020 and 14 in 2022. The average amount available per municipality and target area varies between HUF 1.5 and 5.5 million. In addition to the target areas indicated below (economic development, spatial planning and cultural heritage, social cohesion, smart technologies), the Hungarian Village Programme also includes the Village Family Home Building Allowance, the Village Road Fund, the Village Civil Fund, the Business Restart and the Small Groceries Support sub-programmes [12]. According to the overall objective of the call [13], the "Government aims to increase the population retention of small settlements, to encourage young people to stay in their areas and to reduce emigration." So, the main objective, to improve local quality of life, was to make everyday life in villages easier. Statistical data show that the decline in the population is most marked in villages with a small population and in peripheral areas, as opposed to those which are better placed (around larger towns) and have good employment potential (with prosperous businesses), and which are able to increase their population through self-development [14].

It may therefore be concluded that the municipalities most deserving of support are those where the population is declining significantly and where they are unable to invest in infrastructure to maintain their population on their own. The question is to what extent the call for proposals has served these objectives. The results of the analysis show that municipalities with more than 1 500 inhabitants were much more numerous than those with the smallest population. And the data on population change showed that 111 municipalities where the population had increased rather than decreased also benefited from aid. Therefore, if the sole criterion for eligibility was a decrease in population, almost half of the beneficiaries would not have been eligible.

Of course, even with a population increase, a municipality can still be in a disadvantaged socio-economic situation. It is therefore worth considering the local tax capacity, which is to some extent



responsive to the economic situation [15]. If the data in Table 1 are examined in terms of whether and to what extent municipalities that could probably have achieved local development from their own resources received aid, it appears that there are approximately 98 municipalities that received aid that they could have generated themselves, using almost 20% of the resources.

Table 1. Number and proportion of municipalities receiving funding by beneficiary category of district in 2016

	Number of supported municipalities (number)	Support amount (HUF million)
Non-beneficiary municipalities (1097)*	181	2133
Municipalities in beneficiary districts (894)*	142	2027
Municipalities of the district to be developed (223)*	45	574
Municipalities in a district to be developed with a complex programme (658)*	93	1265

Source: own editing based on the published decision list. * In brackets, the number of municipalities in the beneficiary categories with less than 5000 inhabitants

In 2023, in the light of the data from the three closed application periods since the start of the scheme and the empirical studies, it will be possible to assess the changes or standard elements that characterise this support scheme. A positive change is the increase in the number of beneficiaries, especially in settlements with municipal (in Hungarian “Község”) status. Almost all municipalities with a population of less than 5 000, including 93 small towns (in 2019), have received support. Only 8 small villages, a few (13) municipalities around the 5 000 threshold and 4 other municipalities have not received support.

There were exceptionally some municipalities with a population of more than 5,000 inhabitants based on the 2021 data which did receive a grant (Balatonlelle, Délegyháza, Mikepércs, Nagymaros, Nagytarcsa, Rajka); this was probably allowed by the application, as it always calculated the population of the municipalities based on the previous year. Compared to 2019, a remarkable number of more than 500 new municipalities applied in the next two years, and a significant part of them (344) were small villages. The experience of the first years has shown that broadening the range of applicants has strengthened social cohesion, as the opening of the Village Civic Fund has boosted a number of local initiatives that have strengthened local ownership. The housing subsidy has boosted the housing market, especially in small towns of less than 5,000 inhabitants, with some municipalities now able to fill up their squatter boards. The sub-programme for small stores has created opportunities to reopen or open new shops in municipalities of less than 1000 inhabitants, helping the ageing population to buy everyday groceries.

Funding policy has now taken a turn in which it has become an important aspect that every single municipality should receive some kind of support. This change, which is positive in itself, is, however, overshadowed by the conditions of the calls for proposals. Not only did the change in the application process allow municipalities to apply for more than one grant at a time - which is not an exception - but they could do so with 100% state support and pre-financing. The consequence of this was that municipalities were applying for things they did not need or did not primarily need. There was nothing to lose, but the mayor and the representatives were able to present the winning bid to the local population as a result. However, unnecessary investment, even today, is not only wasteful, but also diverts resources away from the needs that are most needed locally.

By 2022, preliminary results show a positive demographic impact for 1200 municipalities in Hungary. Several unforeseen factors have contributed to the implementation of the Hungarian Village Programme. During the Covid period, the role of the countryside was reassessed, with rural settlements emerging as a safe haven [17]. The strength of local communities has worked well in previous crises, in this situation they provided assistance in the areas of local food supply, health care support systems, and the transition to digital education. Thanks to the Hungarian Village Program, local markets have been strengthened, local producers, local food stalls have been established.



Transport constraints have adversely affected rural areas, and labour-intensive sectors that relied on seasonal and guest labour have been hit hard. To overcome these difficulties, many entrepreneurs took advantage of the opportunities offered by the Business Start-up Programme, which was complemented by EU funding.

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MARKETING STRATEGIES TO SUPPORT THE INNOVATIVE DEVELOPMENT OF ENTERPRISES

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Abstract. In the context of a sharp change in the business environment surrounding enterprises, the only possibility of survival is their innovative development. An important component of the activity of each enterprise is the choice of the right strategy, which will ensure successful functioning in the market and allow it to be competitive.

The innovation sector, as a key factor in the future development of enterprises in Ukraine, is now going through difficult times, which is due to insufficient funding, an outflow of qualified personnel, a high degree of risk, insufficient public attention to this area and other factors, the most serious of which is Russian military aggression against Ukraine.

Keywords: competitive advantages, enterprises, market environment, marketing strategies, business structures.

At the present stage of development of the Ukrainian economy, the marketing component plays a key role in the formation of competitive advantages of domestic enterprises. To implement an effective marketing strategy for the formation of competitive advantages, an enterprise requires an appropriate level of development of a management system capable of ensuring integration processes in all areas of its activity aimed at meeting the needs of representatives of the target market.

In conditions of martial law, a difficult market situation and fierce competition, modern enterprises must not only pay attention to their internal state, but also study the external environment in which they operate. In the process of studying the external environment, they will be able to assess not only the situation in the state and the market, but also more clearly determine the circle of their consumers and, in order to strengthen their competitive positions, will have information about the state of competing enterprises.

Constant changes in the environment, increased competition, the emergence of new opportunities for enterprises, the formation of new consumer demands, the wide availability of modern technologies and a number of other reasons have led to a sharp increase and increased attention of the enterprise to competitive positioning in the process of strategic management.

A modern enterprise operates in an external environment that is constantly changing under the influence of external and internal factors and is forced to adapt to a changing market environment.

External factors include increased competition in the industry, the development of information technology, the difficulty of adapting to changing political and macroeconomic conditions, the results of scientific and technological progress, the emergence of new forms of business organization, and others.

Internal factors include increasing consumer demands for product quality, shortening the product life cycle, the emergence of new competitors in the area, the difficulty of occupying a niche



in the market, and the emergence of new strategic associations. The influence of these factors at different stages of the enterprise life cycle is manifested in different ways, which requires the construction of an effective marketing strategy for the innovative development of each enterprise.

Today, enterprises need significant assistance from the state. Analyzing the government policies of most foreign countries on the development of enterprises, it shows that the government has the most tangible and important influence on the creation of national advantages through the activation of the investment factor using such levers as budgetary investments, subsidies, and temporary protectionist measures. The government should also take a leading role in encouraging savings, obtaining external financial resources, improving the education system, infrastructure, and technological base of production.

The main objectives of the state management system to support the development policy of domestic enterprises are:

- 1) preservation, development and modernization of scientific and technical potential;
- 2) optimization and stimulation of the production of competitive products using innovative resource-saving technologies in accordance with international quality standards;
- 3) support and development of small and medium-sized businesses, creation of new jobs;
- 4) stimulating the placement of government orders at enterprises;
- 5) modernization of the production and personnel potential of companies on the basis of a highly efficient technological base;
- 6) creation of favorable conditions for attracting investments [1; 2].

The combination of processes for managing competitive advantages with the resource capabilities of an enterprise through the coordination and concentration of its marketing activities will allow for the effective implementation of marketing tools, which will allow achieving and strengthening strategically established competitive advantages, as well as acquiring a number of differences:

- establishing long-term relationships between the elements and tools of the chosen strategy;
- increasing the effectiveness of forecasting the consequences of introducing nonlinear innovations characteristic of modern markets;
- formation of long-term relationships with consumers and market participants;
- translation of the chosen strategy into quantitatively ordered operational processes, clear definition of performance criteria;
- monitoring and adjusting strategic measures when identifying inconsistencies with the potential capabilities of enterprises;
- involvement of enterprise employees in the implementation of strategic tasks with the subsequent distribution of responsibilities, the formation of the necessary competencies and appropriate motivation;
- formation of a feedback mechanism between changes in the external environment and adjustments to strategic and tactical measures within the framework of the chosen strategy [3].

In order for an enterprise to operate successfully in accordance with the current situation in the country, on the market and the real capabilities of the enterprise, a marketing strategy must be formed. The marketing strategy must pinpoint the market segments on which the business should focus the majority of its efforts. Once the marketing strategy has been successfully developed, the firm can begin to develop a detailed program of activities for the production and sale of goods.

At this stage, it is necessary to identify responsible executors, set deadlines and determine the level of costs. Through this program, a company can draw up a budget for the current year. After choosing an appropriate development strategy, including four target areas (increased market penetration, development of new markets, development and production of new products, diversified development), the enterprise can determine its goals to achieve the final desired results. To systematize the results obtained, a structure of goals is built.

Thus, it can be argued that one of the main levers for ensuring the efficiency of operation and survival of enterprises in market conditions is rational marketing activities. Marketing flexibility, the



ability to quickly respond to market changes, not to lose new opportunities for innovative development - all these qualities become the main levers of an enterprise in competition [4].

The structure of goals is built from top to bottom from the main goal-requirement for a specific activity. The main goal of the strategy (goal-requirement) consists of two parts: external and internal. The external goal is determined in accordance with the basis of the mission, the internal goal is determined in accordance with the organizational and legal form of the enterprise. In such models, development goals dominate over stabilization goals, and strategic goals over tactical goals. Marketing strategies answer the questions: what, when and how will be done for the most effective achievement of the company's goals, and how much it will cost and consists of basic decisions that determine a set of marketing tools, including tools for forming and adapting (updating) the assortment of goods and services, pricing, communications and distribution (marketing, sales). The choice of marketing strategy is influenced by the position, potential and traditions of the enterprise in the market, the specifics of the product, and market conditions.

The structure and methods of managing the institution, the personality of the manager and other persons involved in management are of great importance. The marketing strategy of an enterprise can be developed either by the enterprise itself or by an outside qualified specialist. The process of developing a marketing strategy involves identifying target market segments and developing a positioning strategy. You should also develop a strategy for maintaining and strengthening customer relationships and a strategy for planning updated products. Developing a marketing program involves determining a product strategy and a product promotion strategy. The effectiveness of a marketing strategy also depends on information support: quality and quantity largely determine the quality of the marketing itself. Therefore, the main directions of marketing activities are the development of marketing strategies, which will clearly ensure the achievement of marketing goals by enterprises [5].

An effective marketing strategy for the innovative development of enterprises makes it possible to establish the necessary level of communication between producers and consumers even at the stage of creating an innovation, in accordance with the current needs of consumers, which contributes to the successful entry into the market of the appropriate level of quality and service, for which there is or may be a demand. The development and evaluation of the marketing strategy involves the expansion of the analysis of the socio-economic environment in which enterprises operate, the determination of social and socio-economic aspects, external and internal factors that influence the formation of innovative markets [6;7].

Consequently, ensuring the competitive advantages of enterprises is a process that predetermines certain counteractions and requires a clear management system. The main aspect of achieving the competitiveness of enterprises is the implementation of marketing strategies taking into account all risks and threats.

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INNOVATIVE IMPACT OF DIGITALIZATION ON TOURISM DEVELOPMENT IN UKRAINE

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Abstract. The purpose of the study is to summarize the theoretical and practical foundations of the digital transformation of tourism and to substantiate the prospects for using digital innovations to optimize the development of the tourism sector of Ukraine in the face of modern challenges. The study used dialectical and abstract logical methods, methods of systematic approach, comparison, observation, analysis, synthesis, induction, deduction, etc.

It is substantiated that the country's existing tourism potential and the State's policy aimed at supporting this industry and improving the efficiency of tourism industry entities create prerequisites for its growth and contribute to strengthening the country's position in the global tourism market.

It is proved that modern challenges caused by the trends of innovative development, the COVID-19 pandemic and Russian aggression against Ukraine have a significant impact on the development of tourism and its digitalization. The further development of Ukraine's tourism sector depends on the consolidated efforts of government agencies, the public, and businesses; it necessitates the development of comprehensive and systematic measures and algorithms for their implementation. Continued digital transformation of the tourism sector and active use of innovative resources is a promising area of economic development.

Keywords. Tourism, digitization, digital technologies, innovation, social networks, internet marketing.

Introduction. Tourism is an important factor of socio-economic development and one of the priority areas of economic and cultural development in many countries. Under the influence of globalization and integration processes that determine the patterns of development of the modern world, tourism is one of the fastest growing sectors of the economy. At the same time, this type of economic activity is extremely vulnerable to any shocks (economic and political crises, wars, military unrest, terrorist attacks, natural disasters, etc.) Digitalization is becoming a tool to minimize such a security threat as a decrease in the competitiveness of tourism services due to their low innovation [1].



Tourism in Ukraine is developing as an important attribute of the modern lifestyle and culture, as well as a form of international relations. This sector of the country's economy has been recognized as one of the priorities and prospects. Ukraine's existing tourism potential is conducive to the country's entry into the global tourism market. Ukraine has a rich cultural heritage, historical monuments, and natural resources that attract tourists from all over the world. Favorable climatic conditions, therapeutic mineral waters and mud create ample opportunities for the development of health tourism. The existence of state nature reserves and national parks contributes to the development of natural, ecological and exotic tourism.

At the same time, despite having the prerequisites for proper tourism development, the country is losing out in the competition to other countries. According to the Global Tourism Competitiveness Index, which is calculated based on fourteen aggregate indicators, Ukraine ranked 88th among 136 countries in 2017 [2]. In 2019, the country's position improved – 78th place (the highest growth rate in the subregion) among 117 countries [3]. In the 2021 report, Ukraine's data is not included in the ranking due to Russia's full-scale invasion of the country. Ukraine and the Russian Federation have been removed from the ranking, given that the data from these countries no longer reflect current or long-term trends and conditions in tourism development.

Various aspects of tourism development are reflected in the scientific works of well-known scientists. The issue of the impact of digital technologies on tourism development is one of the most discussed in the scientific community today, which is covered in the scientific works of scientists T. Marusei, V. Makhovka, H. Apelt, I. Khatri. Scientists prove that under the influence of transitive transformational factors, the tourism system changes, acquires new features, qualities, modifies the mechanisms of its functioning and identifies new opportunities for further transformation [4]. Scientists analyze the challenges and opportunities of digitalization in tourism, how these challenges and opportunities affect different stakeholder groups, and to discuss how they might be addressed [5]. However, the outlined issues are relevant and require further study.

Setting objectives The aim of the study is to summarize the theoretical and practical foundations of the digital transformation of tourism, as well as to substantiate the prospects for using digital innovations to optimize the development of the tourism sector of Ukraine in the face of modern challenges.

The study used dialectical and abstract-logical methods, methods of systematic approach, comparison, observation, analysis, synthesis, induction, deduction, etc.

Results. The development of tourism is primarily facilitated by an effective government policy aimed at supporting the industry. As a result of the implementation of the strategy of socio-economic policy in the tourism sector, a number of successful reforms have been carried out, which helped to bring the industry out of recession, attract investments to promote the country's tourism potential, develop tourism infrastructure, improve services, etc. The Law «On Tourism» adopted on September 15, 1995, created a legal framework and helped determine the main directions of development of the tourism industry in the country. On October 20, 1997, the country became an equal member of the World Tourism Organization.

An important step towards uniting the tourism industry around a common goal was the creation of such public associations as the Ukrainian Hotel and Resort Association (UHRA), Hospitality Industry Association of Ukraine (HIAU), Ukrainian Tourist Guides Association, Ukrainian Association of Travel Agencies, Tourist Association of Ukraine and others. This helps to solve problems that these tourism market players face in the course of their activities, protect their interests, participate in local and international events, etc.

One of the multi-vector paths that ensures the development of domestic and foreign tourism is ratification of the Agreement between Ukraine and the European Union on Visa Facilitation in 2008, and the EU-Ukraine Association Agreement in 2014; adoption of the Strategy for Tourism and Resorts Development until 2026 in 2017, and the Roadmap for Competitive Development of the Travel and Tourism Industry in Ukraine in 2019.



The adoption of the revised law «On Tourism» (effective January 1, 2004) has significantly expanded opportunities for further mobilization of innovation potential and modernization of business models in the tourism sector.

The development of tourism in Ukraine and the world is largely determined by the impact of the COVID-19 pandemic. The so-called «economic quarantine» has caused an unprecedented drop in GDP and led to a global decline in tourism activity. According to the World Travel & Tourism Council, the total contribution of travel and tourism to the country's GDP in 2020 almost halved compared to 2019: from UAH 257.5 billion to UAH 143.6 billion, and the share of the industry in the GDP structure decreased from 6.3% to 3.4%, respectively. Revenues from international tourism in 2020 amounted to USD 687 million, which is 73.6% less than the previous year, and the share of tourism in total exports decreased to 1.1% compared to 4.1% in 2019 [6]. There is a negative trend in the overall contribution of tourism to employment. In particular, the number of jobs in the industry decreased by 11.9%: from 1.15 million people in 2019 to almost 1.02 million people in 2020, and the share of the total contribution of tourism to employment decreased from 6.9% to 6.3%, respectively. Overall, the losses of the tourism industry in Ukraine are estimated at more than USD 1.5 billion [7].

Strict quarantine measures, border closures, travel restrictions, and declining incomes have all had a negative impact on tourism. The next challenge for the Ukrainian people was the outbreak of the Russian-Ukrainian war in 2014 and the start of full-scale hostilities in February 2022. The targeted, unprovoked, unjustified aggressive war against Ukraine has caused enormous suffering to Ukrainians and catastrophic damage to the environment, which is also reflected in tourism. The attack on the sovereignty and territorial integrity of Ukraine is a gross violation of the UN Charter and the fundamental norms and principles of international law.

Given that the economy will remain under the influence of this new reality for some time, the key direction of modernization of the tourism sector at the present stage is the digital transformation of the tourism industry. Overcoming the current trends in tourism, which have been formed under the influence of threats to its development, necessitates the active use of innovations, among which special attention should be paid to digital technologies and the information positioning of the tourism sector in the virtual space.

Digital transformations of the tourism system are being implemented through the creation of online platforms that act as information brokers and intermediaries (Expedia, Trip Advisor, Booking, etc.); the use of blockchain technology, mobile applications; the development of social media and the distribution of tourism content through them; the spread of corporate management systems for tourism business entities; and the introduction of virtual and augmented reality technologies [4].

The radical change in technology, primarily in the field of the Internet, digital, mobile and social platforms, is leading to significant changes in customer requirements, behavioral patterns and decision-making. This is being driven by a significant increase in the number of global Internet users and the growth of the Internet services market. In 2022, 66% of the world's population, or 5.3 billion people, will be Internet users [8].

The rapid development of innovative information technologies has significantly changed the behavior of consumers of travel services. Today, the vast majority of tourists are technically sophisticated, able to experiment and use an individual approach to shaping their travel. The promotion of their services on the Internet by producers facilitates the search for the necessary information aimed at developing tourist impressions and meeting consumer needs. The strategic activities of tourism industry entities should be aimed at instantly meeting the requirements of service consumers, forming and selling competitive services by diversifying and expanding their sales areas. Rapid adaptation to innovative changes with the use of modern information technologies and digitalization elements, improvement of the overall communication model contribute to attracting customers, improving the quality of service, and increasing the competitiveness of services. Information support of the tourism business and the use of digital technologies allow optimizing and improving service production processes, changing the forms and methods of offering and providing services, and developing new opportunities for creating competitive services.



The use of digital technologies ensures individuality, flexibility, and accessibility of tourism products and services, rapid communication between consumers and producers, and improves the quality and speed of services, taking into account the individual needs of tourists. The introduction of digital technologies at the stages of formation, promotion, and consumption of tourism products and services creates conditions for increasing the level of tourism revenue, significantly improves services, and expands opportunities for all tourism market participants.

The use of new digital technologies and websites has greatly accelerated forms of human interaction through instant messaging, online forums, social networks, etc.

Social media tools are the most effective means of multilateral communication due to the provision of all possible means of interaction - videos, chats, images, blogs, etc. The use of social media contributes to the promotion of tourism services through proximity to the consumer, the ability to receive feedback, ease of use of networks, friendly interface, high efficiency, etc.

Consumers of travel services are constantly using social media to gather information about facilities, services and events, identify sellers, analyze and evaluate services, search for reviews and compare prices. Social networks help to shape the image of business entities and destinations, ensure prompt communication and exchange of information between them and service consumers, and facilitate the rapid satisfaction of customers' personal requirements.

For consumers of travel services, social media containing user-generated content is an important source of information that significantly influences their decision to purchase a service. Social networks allow users to join thematic communities and blog platforms. In this way, tourists can find like-minded people, get to know each other, discuss all issues related to the topic of travel, share their impressions, submit and view photo reports, and help each other when choosing a service.

The development of social networks has completely changed the media landscape and advertising models, as the target audience has shifted from being recipients of content to its creators, distributors and commentators [9]. The growing popularity of social networks is creating prerequisites for the emergence of new channels for the dissemination of advertising messages about goods and services in the tourism and hospitality industry and leveling communication barriers.

One of the ways to optimize the marketing activities of tourism companies is to use Internet marketing, in particular social media marketing. Its main advantage is interactivity, targeting accuracy, and the possibility of detailed analysis, which can significantly increase website conversion.

Implementation of Internet marketing tools: search engine optimization (SEO); contextual advertising; media advertising; SMO and SMM; viral marketing; direct marketing using e-mails and RSS feed and their adaptation to the components of marketing policy allows the tourism industry to increase the number of orders, increase staff productivity, improve the service system, reduce certain categories of costs, and increase competitiveness by improving the efficiency of product, pricing, sales, and communication policies.

It should be noted that the introduction of digital technologies largely depends on success in solving problems that impede digital trends in the national economy as a whole.

Among the factors that hinder the development of digital technologies in the tourism sector of Ukraine are:

- regulatory and legal;
- financial and economic;
- geopolitical
- security;
- economic instability and low living standards of the population;
- low level of digital literacy of the population.

Eliminating all of the above factors will contribute to the sustainable development of digital technologies in the tourism sector of Ukraine.

The development of the tourism market based on digital economy paradigms can only be realized if legislative, institutional, and fiscal barriers are removed; and if instruments to encourage innovation are widely used, including government support through tax and financial instruments, etc.



Conclusions. The study suggests that the development of the tourism industry is largely dependent on the impact of external and internal destructive factors that create relevant risks and threats. The tourism industry must constantly adapt to new challenges, find and improve appropriate mechanisms that will help ensure its integrity and sustainability. Further development of the national tourism sector and ensuring its security largely depend on the consolidated efforts of government agencies, the public and business. Overcoming the existing negative trends requires the development of comprehensive and systemic measures, as well as algorithms for their implementation using legal, financial and innovative tools to influence the tourism sector. Active use of innovative digital resources will minimize security threats and increase the competitiveness of tourism services.

Continued digital transformation of the tourism sector and active use of innovative digital resources is a promising direction for the development of Ukraine's economy in the near future. The digitalization of business processes in tourism will become an effective lever that can meet the interests and needs of all participants in tourism relations and contribute to the achievement of sustainable development goals.

The effectiveness of the introduction of digital technologies in the tourism sector is largely determined by the success of solving institutional, infrastructure, governmental and other problems that impede the digitalization of Ukraine's economy in general and require a radical solution.

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EDUCATIONAL INFRASTRUCTURE GRADING INDEX AS AN EVALUATION TOOL OF HIGHER-EDUCATIONAL INSTITUTIONS IN THE REPUBLIC OF MOLDOVA

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Abstract. This paper proposes an index of grading for evaluation of educational infrastructure. It is based on the results from a survey regarding the assessment of the accessibility of the population of the Republic of Moldova to the educational infrastructure of higher-educational institutions from the viewpoint of the students. The aspects covered by the survey include: assesment of quality of the sanitary and hygienic conditions in the educational institution, the technical and material base of the institution, the professional-pedagogical qualities of the staff, the quality of food products in the institution (if it offers them, e.g. in the canteen), the living conditions in the dormitory (in the case of accommodation in the institution's dormitory).

Keywords: higher-educational institutions, evaluation, student, educational infrastructure grading index, Moldova.

The state of education is a crucial factor in society development. Adequate educational infrastructure is pivotal in maintaining the state of education field at high level. Even though in scientific literature there are many studies evaluating some aspects of education infrastructure [1-4] an integral approach to evaluation of educational infrastructure is missing. We substantiated the theoretical considerations for such a tool and elaborated the methodology for it. To calculate it we used the data of a survey which we elaborated and spread between students from higher-educational institutions. The aspects covered by the survey included: assesment of quality of the sanitary and hygienic conditions in the educational institution, the technical and material base of the institution, the professional-pedagogical qualities of the staff, the quality of food products in the institution (if it offers them, e.g. in the canteen), the living conditions in the dormitory (in the case of accommodation in the institution's dormitory). We propose a composite index of grading for evaluation of educational infrastructure on the basis of survey data regarding the evaluation of the accessibility of the population of the Republic of Moldova to the educational infrastructure of higher-educational institutions from the viewpoint of the students.

Limits of the research. Data used for calculating the composite index of the second degree represents only a sample of all population of beneficiaries and is limited to Republic of Moldova beneficiary and institutions. Only five general aspects were taken into consideration in calculating the index from a multitude of other general aspects and of a more particular nature. The data don't come from objective sources and are obtained from respondents' answers of and may suffer from



subjectivity bias. Overall, composite indices, also termed composite indicators or aggregates, represent consolidated measures that amalgamate various indicators or variables into a singular index.

Composite indices themselves have those shortcomings:

1) **Subjectivity in Weighting:** Determining the weights assigned to each component in a composite index can be subjective and may vary based on the preferences or biases of the index creation. The choice of weights can significantly influence the final index value and may not accurately reflect the importance of each indicator to the overall assessment.

2) **Data Limitations:** Composite indices depend on the availability and reliability of data for their constituent indicators. Inconsistencies, inaccuracies, or gaps in data can compromise the accuracy and comparability of the index. Some components may be easier to quantify than others, leading to a potential bias in favor of indicators that are more readily measurable.

3) **Dynamic Nature of Indicators:** Over time, the relevance and significance of certain indicators may change. Composite indices may struggle to adapt quickly to evolving social, economic, or environmental trends. The fixed nature of composite indices may not capture sudden changes or emerging issues that become important after the index is created.

4) **Normalization Issues:** The process of normalizing indicators to a common scale can introduce challenges. Different normalization methods may yield different results, impacting the comparability of indices across regions or time periods. Normalization may not always capture the non-linear relationships between indicators, potentially distorting the final assessment.

5) **Aggregation Challenges:** Aggregating diverse indicators into a single value involves assumptions about the relationships between them. These assumptions may oversimplify complex interactions and overlook synergies or trade-offs between indicators. Aggregation methods may not account for interactions where improvements in one area compensate for deficiencies in another.

6) **Inherent Value Judgments:** Composite indices reflect the values and priorities of the index creators, incorporating their judgments about what constitutes progress or success. This subjectivity may not align with the perspectives of all stakeholders.

7) **Lack of Transparency:** Some composite indices may lack transparency in terms of their methodologies, making it challenging for users to understand how the index values are calculated. This can undermine the credibility and usefulness of the index.

8) **Regional and Cultural Variations:** Indices developed in one cultural or regional context may not be universally applicable. Differences in social, economic, or environmental priorities may not be adequately captured in a one-size-fits-all composite index.

Despite these shortcomings, composite indices remain valuable tools for summarizing complex information and providing a quick overview of multi-dimensional phenomena. Users should interpret them with caution, considering the context, methodology, and limitations associated with each index.

These indices find widespread application across diverse fields, presenting numerous benefits:

1) **Simplicity and Communication:** Composite indices simplify intricate information by condensing multiple indicators into a solitary value which aids policymakers, researchers, and the general public in comprehending and conveying trends and performance more easily.

2) **Holistic Perspective:** Through the amalgamation of multiple indicators, composite indices furnish a more thorough and holistic understanding of a phenomenon, system, or entity. This comprehensive view captures the multifaceted nature of intricate concepts like development, sustainability, or quality of life.

3) **Comparisons and Ranking:** Composite indices facilitate the comparison and ranking of various entities (countries, regions, organizations) based on specific criteria. This proves valuable for decision-makers in discerning strengths, weaknesses, and areas necessitating improvement.

4) **Policy and Decision-Making:** As decision-making tools, policymakers can utilize composite indices to guide resource allocation, policy formulation, and strategic planning by pinpointing areas requiring attention or intervention.



5) Risk Assessment: In diverse fields, composite indices find utility in assessing risks by combining indicators associated with different aspects of a system. This proves particularly beneficial in areas such as finance, environmental monitoring, and public health.

6) Efficiency in Data Handling: Rather than scrutinizing a plethora of individual indicators, composite indices streamline the data analysis process. This efficiency is especially crucial when grappling with extensive datasets, potentially saving time and resources.

7) Long-Term Trends: Composite indices furnish insights into long-term trends and alterations by monitoring the performance of multiple indicators over time. This aids in comprehending the dynamics of a system and evaluating the impact of policies or interventions.

8) Weighting Flexibility: Composite indices permit the assignment of varying weights to individual indicators based on their relative importance. This flexibility allows for customization according to specific goals or contexts.

9) Addressing Data Gaps: In instances where data for certain indicators is incomplete or unavailable, composite indices can still offer a meaningful summary. They help bridge data gaps by relying on available information to construct a more comprehensive picture.

10) Public Awareness and Advocacy: Composite indices are frequently employed in advocacy endeavors to enhance public awareness about specific issues. They serve as potent tools for conveying the significance of particular goals or drawing attention to areas in need of improvement.

While composite indices provide these advantages, it's crucial to acknowledge their limitations, including potential oversimplification, subjectivity in weighting, and sensitivity to changes in data sources. Diligent consideration and transparency in methodology are imperative when developing and interpreting composite indices.

Theoretico-methodological considerations: general aspects. Compositeness degree (C) of a composite index represents the number of nested iterations of successive arithmetic operations between indicators from the primary indicators to composite index itself. Its value is equal to degree of the subindex of highest degree (n), thus a composite index is composed of n types of subindices of degrees from 1 to n . A nested iteration of successive arithmetic operations between indicators is an iteration that includes in itself the previous one adding subindices of its corresponding degree.

By convention, a composite index of zero degree ($C=0$) is the primary indicator which is not composite by definition, that is why composite indices will be considered from $C=1$ and higher. A composite index of the first degree represents 1 iteration of arithmetic operations between indicators. It has one type of subindices – the primary indicators, and its compositeness degree is 1 ($C=1$). A composite index of the second degree represents 2 successive iterations of arithmetic operations between indicators. It has 2 types of subindices – the primary indicators with $C=1$ and the subindices of second degree ($C=2$) (which they are composed themselves from the iteration of subindices of first degree). In general case, a composite index of the n -th degree represents n nested iterations of arithmetic operations between indicators. It has n types of subindices – the primary indicators with $C=1$ and the subindices from second degree until the n -th degree ($C=n$) (which they are composed themselves from the iteration of subindices of degree $n-1$).

A subindex of n -th degree will be noted as $S^{\{n\}}$ (warning: to not be confused with the fractional part of a number also noted with curly brackets “{ }”). The primary indicator will be written as $S^{\{1\}}$.

Since average weighted mean is the usually used type of nested iterations of successive arithmetic operations between indicators, we will focus the methodology on this type of iterations.

The formulas for subindex of first degree is indicated in (1) and for the one of second degree in (2), for general case in (3) (**Figure 1**).

$$S^{(1)} = \frac{1}{k_1} + \sum_{i=1}^{k_1} S_i^{(1)} \cdot w_{S_i^{(1)}}, \quad (1)$$

$$S^{(2)} = \frac{1}{k_2} + \sum_{i=1}^{k_2} S_i^{(2)} \cdot w_{S_i^{(2)}}, \quad (2)$$

$$S^{(n)} = \frac{1}{k_n} + \sum_{i=1}^{k_n} S_i^{(n)} \cdot w_{S_i^{(n)}}, \quad (3),$$

where w - the respective weight of subindex component, k - the number of components of a subindex ($k_i = \overline{1, n}$, $1 \leq i \leq n$).

Figure 1. Formulas of the composite indices

Source: elaborated by the author

Theoretico-methodological considerations: particular aspects. For the purpose of this paper we used the formula (2), because we used 2 nested iterations. First iteration contains the average weighted mean of subindices of the first degree (i.e. the primary indicators), which in our case is the appreciation grade of an aspect of educational institution weighted by the coefficient of the share of the respondents that chose the corresponding appreciation grade. Second iteration represents the average weighted mean of the subindices of second degree, weighted equally with coefficient 1, which represent the composite indices of each researched aspect of the educational institution. Because the weight is 1 the average weighted mean becomes a simple arithmetic mean.

Our final index - the composite index of second degree includes five subindex components of second degree: quality of the hygienic and sanitary conditions within the educational institution; technical and material base of the institution; professional-pedagogical qualities of the staff; quality of the food products in the institution (if it offers them, e.g. in the canteen); living conditions in the dormitory (in the case of accommodation in the institution's dormitory).

Each subindex component is evaluated on the basis of a scale of 11 grades (the subindices of first degree): from Grade -5 the most negative appreciation to Grade +5 the most positive appreciation, in the middle of them is Grade 0 – neutral appreciation (**Table 1**). Each Grade weight coefficient is equal to its corresponding share size of respondent answers in percents divided by 100. Each subindex is calculated as weighted arithmetic mean.

The data of the composite index we elaborated are obtained from the survey in which 560 people aged 18-25 years old participated, of which 55.9% were women and 44.1% were men. Of all respondents, 30.7% used private educational services, 69.3% - public.

Table 1. Survey data on the aspects of educational infrastructure, percent of total respondents

What grade do you give to the educational infrastructure where you study (from -5 the lowest to 5 – the highest)?	How do you rate the quality of the hygienic and sanitary conditions within the educational institution?	How do you rate the technical and material base of the institution?	How do you rate the professional-pedagogical qualities of the staff?	How do you rate the quality of the food products in the institution (if it offers them, e.g. in the canteen)?	How do you rate the living conditions in the dormitory (in the case of accommodation in the institution's dormitory)?
Grade -5	5.0	5.7	6.4	8.3	8.7
Grade -4	16.4	15.7	16.4	16.7	17.3
Grade -3	9.3	6.4	5.0	6.7	12.5
Grade -2	4.3	2.9	0.7	3.3	4.8
Grade -1	6.4	0.7	0.0	1.7	1.9
Grade 0	7.1	9.3	4.3	14.2	22.1
Grade 1	3.6	5.7	2.9	4.2	3.8

Grade 2	9.3	7.1	2.9	6.7	3.8
Grade 3	16.4	21.4	15.0	13.3	9.6
Grade 4	12.1	12.1	22.1	11.7	4.8
Grade 5	10.0	12.9	24.3	13.3	10.6

Source: elaborated by the author on the basis of survey results

The *Table 1* shows that in regard to negative appreciation 1 student from 6 appreciated very negatively the quality of the hygienic and sanitary conditions within the educational institution, the technical and material base of the institution, the professional-pedagogical qualities of the staff, the quality of the food products in the institution (if it offers them, e.g. in the canteen), the living conditions in the dormitory (in the case of accommodation in the institution's dormitory). 1 in 5 students appreciated neutrally the living conditions in the dormitory (in case of accommodation in the institution's dormitory), while 1 from 7 students appreciated neutrally the food products in the institution (if it offers them, e.g. in the canteen).

From positive appreciations, 1 in 6 students appreciated positively on average the quality of the hygienic and sanitary conditions in the educational institution, 1 in 5 - positively on average the technical and material base of the institution, circa 1 in 2 positively highly and very highly - the professional-pedagogical qualities of the staff, 1 in 7-8 students positively on average - the quality of food products in the institution (if it offers them, e.g. in the canteen), 1 in 10 students positively very highly - the living conditions in the dormitory (in case of accommodation in the institution's dormitory).

EDUCATIONAL INFRASTRUCTURE GRADING INDEX (EIGI) and its components

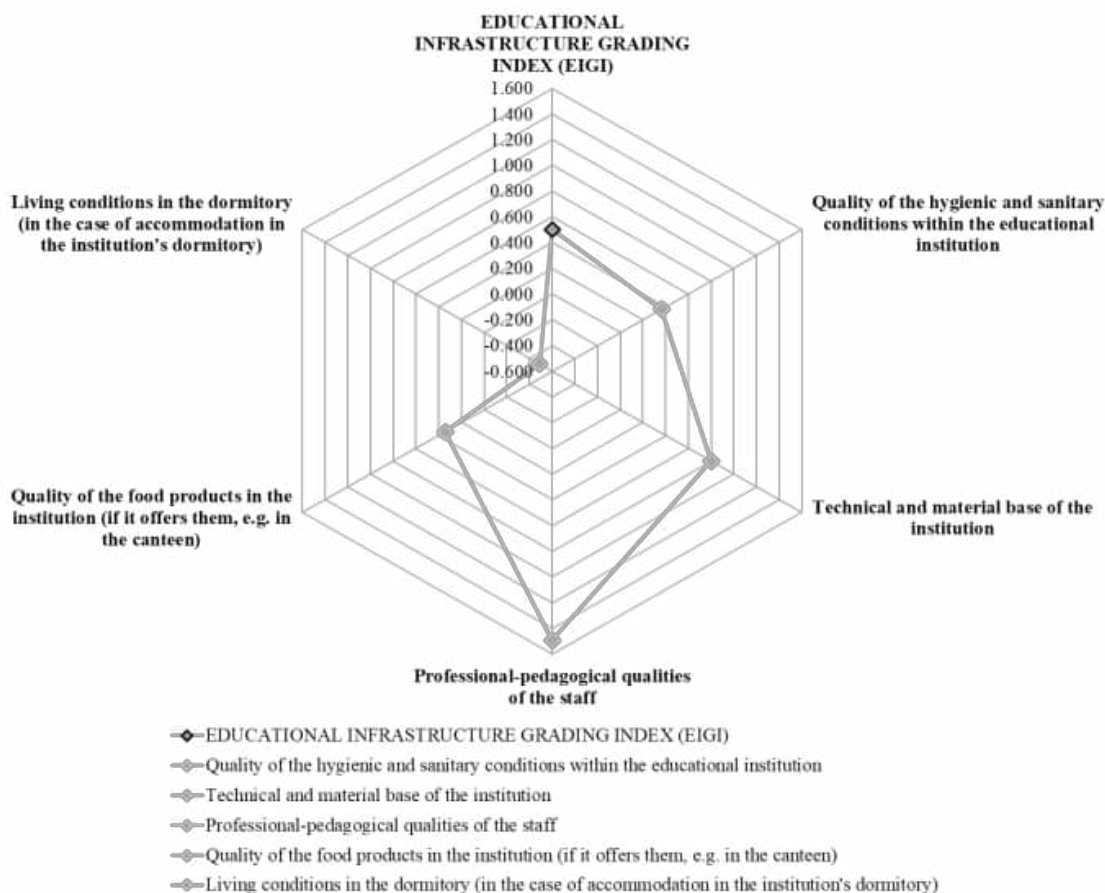


Figure 2. Educational Infrastructure Grading Index and it's components

Source: elaborated by the author on the basis of survey results



In the *Figure 2* is shown the Educational Infrastructure Grading Index and its components. As we see in the figure most highly were evaluated the professional-pedagogical qualities of the staff (1.493), followed by: technical and material base of the institution (0.800), quality of the hygienic and sanitary conditions within the educational institution (0.364), quality of the food products in the institution (if it offers them, e.g. in the canteen) (0.342), while living conditions in the dormitory (in the case of accommodation in the institution's dormitory) were evaluated more negatively (-0.490). Overall, the Educational Infrastructure Grading Index (EIGI) is positive (0.502). The EIGI index has the maximum positive value +5 and the minimum negative value -5, thus $-5 \leq \text{EIGI} \leq +5$. Maximum positive value is attained in case if all respondents appreciate with +5 (maximally possible) the respective aspect of educational infrastructure and minimum negative value is obtained in case if all respondents appreciate with -5 (minimally possible) the respective aspect of educational infrastructure.

We consider the following scale of evaluation of EIGI index: [-5; -4) - maximally negatively satisfied; [-4; -3) - medium-to-high negatively satisfied; [-3; -2) - average negatively satisfied; [-2; -1) - low-to-medium negatively satisfied; [-1; 0) - minimally negatively satisfied; 0 – neutral; (0; +1] - minimally positively satisfied; (+1; +2] - low-to-medium positively satisfied; (+2; +3] - average positively satisfied; (+3; +4] - medium-to-high positively satisfied; (+4; +5] - maximally positively satisfied. Based in this scale professional-pedagogical qualities of the staff are evaluated as low-to-medium positively satisfied; minimally positively satisfied - technical and material base of the institution, quality of the hygienic and sanitary conditions within the educational institution, quality of the food products in the institution (if it offers them, e.g. in the canteen) and minimally negatively satisfied - conditions in the dormitory (in the case of accommodation in the institution's dormitory) which were evaluated more negatively.

Conclusions

In conclusion, this study introduces the Educational Infrastructure Grading Index (EIGI) as a comprehensive tool for evaluating the educational infrastructure of higher-educational institutions in the Republic of Moldova. The index, derived from data of a survey of students, encompasses crucial aspects such as sanitary conditions, technical and material resources, pedagogical qualities of staff, food quality, and dormitory living conditions of the higher-educational institutions.

The research highlights importance of educational infrastructure in societal development and acknowledges absence of an integrated approach in existing literature. The proposed EIGI aims to fill this gap, offering a multidimensional perspective on the accessibility of educational infrastructure.

However, certain limitations need consideration. The data used for the composite index represent a sample rather than the entire population of beneficiaries in the Republic of Moldova. The reliance on subjective responses introduces potential biases. Additionally, composite indices, while valuable, are not without shortcomings, such as subjectivity in weighting, data limitations, and challenges in normalization and aggregation.

Despite these limitations, composite indices like EIGI provide a simplified means of summarizing complex information. The study demonstrates that such indices can be instrumental in policy-making, resource allocation, and decision-making processes. They offer a holistic view, aiding in comparisons, ranking, risk assessment, and long-term trend analysis.

The EIGI results indicate generally positive evaluations, with professional-pedagogical qualities of the staff receiving the highest rating. The scale used for interpretation categorizes aspects as minimally to maximally negatively or positively satisfied. The findings suggest that while certain areas are positively assessed, improvements could be made in dormitory living conditions.

In conclusion, EIGI proves to be a valuable instrument for evaluating higher-educational institutions in the Republic of Moldova, providing insights that can inform policy decisions and institutional improvements. Further research and refinement of the index may enhance its applicability and contribute to the ongoing discourse on educational quality and infrastructure.



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MODERN ASPECTS OF BANKING ETHICS

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Abstract. Banking ethics constitute a complex of moral norms and rules that banking professionals must observe in their activities in accordance with general principles of morality, such as integrity and respect for customers. It can take several conceptual forms: general ethics, regulated ethics, and ethical banking. The importance of studying banking ethics is determined by the fact that the ethical behavior of the bank and bank employees promotes banking. Regulation of internal and external relations between banks and bank workers is carried out by codes of ethics. The promotion of the concept of an ethical bank, i.e., a banking institution concerned with the social and environmental impact of its investments and loans, has become of great importance. Also important are the mutations in the field of banking ethics and the influence of the evolution of the general morality of society. The purpose of this article is to present a complex picture of the modern aspects of banking ethics. The study was carried out based on the examination of the views on the topic addressed by the representatives of the academic environment and the expert community in order to perform the synthesis of the material and the formulation of the related conclusions.

Keywords: bank, ethics, moral, behavior, code of ethics

1. Introduction

Banking ethics is a complex of moral principles and norms of behavior developed and approved for banking institutions and their employees.



In other words, banking ethics is a particular form of economic ethics expressed as a set of moral norms aimed at the behavior of bankers in their activities, both individually and collectively [18].

Banking ethics can be examined at two levels [9]:

- *Corporate banking ethics* - represents the totality of ethical standards regarding the behavior of the banking institution as a legal entity;
- *Bank etiquette* - the complex of rules of conduct for every bank employee.

Likewise, banking ethics can be divided into internal and external. [8]

Internal banking ethics refers to the rules of conduct between bank managers, shareholders, and employees. It aims to create a favorable psychological climate and cultivate the spirit of cooperation in banks, avoiding and resolving internal conflicts and preventing internal banking fraud.

External banking ethics is about regulating the behavior of bank managers and employees with the bank's business representatives. It aims to create a positive image of banking institutions by encouraging collaboration and avoiding and resolving external conflicts among banks. Following the analysis of the views on banking ethics in the academic and expert environment, we can highlight the following directions of the evolution of conceptual approaches:

- Improving professional banking ethics;
- The transformations of the concept of the ethical bank;
- The transformations of general ethics.

Following this logic, global trends in the evolution of modern aspects of banking ethics will be examined below.

2. Improving professional banking ethics.

Professional banking ethics constitute a particular form of professional ethics in the field of finance, being set forth in the form of a specialized set of moral norms and rules that should guide financial workers in their activities. Likewise, it is about certain moral commitments regarding the professional, competent, and conscientious conduct of banking activities, taking into account the interests of the bank's customers and its partners. Apart from this, modern professional banking ethics have become, to a certain extent, part of the financial legislation, so that in certain situations, the immoral behavior of the banking institution can also be treated as illegal.

A modern bank cannot function normally if its employees do not possess, in addition to a set of necessary skills and abilities, the necessary set of rules of conduct and do not choose a certain attitude towards their work, towards the bank where they work, customers, and colleagues. Together, these skills, norms of behavior, and institutional rules create the bank's *corporate culture*.

Expert Manjit Kour mentions that promoting an ethical culture in banking is of vital importance to the bank, regulators, employees and customers. [17]

It can bring certain benefits [17]:

- Ethical banking activities contribute to protecting customers' interests, strengthening the bank's reputation and maintaining the stability of the banking system;
- Compliance with ethical standards by the bank's staff can lead to the avoidance of violations of the law and fraudulent practices, which can ultimately protect the interests of the parties involved and strengthen the bank's brand image and competitiveness;
- Cultivating strong moral values among employees can motivate them to formulate appropriate solutions when faced with ethical dilemmas;
- Ethical business practices are an important element of professionalism as well as a condition for effective personnel management. Therefore, a bank manager must make every effort to ensure that his staff conduct their work in accordance with established ethical standards.

Professional banking ethics take two forms [1]:



- *Collective ethics* provides for the observance of ethical principles in management decision-making, which refer both to external entities and the environment, as well as to ethical relations within the bank.

- *Individual ethics* refers to adherence to traditional rules of morality and serves as the cornerstone of collective ethics.

Professional banking ethics are based on certain principles [17]:

- *Honesty*: bank management must be honest in its relations and interactions with employees, shareholders, customers, competitors and other representatives of the business environment with whom it has to interact.

- *Trustworthiness*: Banks must conduct all their activities accurately, responsibly and notify their customers in a timely manner.

- *Impartiality*: Banks must act in an impartial manner and must not discriminate between customers or between employees or between any of the interested parties.

- *Compatibility*: Bank activities must be carried out in accordance with banking regulations.

- *Transparency*: Bank transactions and operations must be conducted in a transparent and fair manner, ensuring that customers are clearly informed about their services, products, risks and benefits.

Also, the author Božović Jelena mentions the following principles [9]:

- *The principle of mutual trust* is based on the presumption that each of the business parties is willing to fulfill their obligations and will act in good faith;

- *The principle of mutual benefit and interest* means that each side of the business will benefit and should not feel cheated;

- *The principle of good intentions* means that there is no intention to regard the business partner as immoral, initially suspecting him of fraud, theft or other unwanted manipulation of the business partner;

- *The principle of compromise and tolerance in business* refers to the need to reconcile the conflicting interests of participants in the business process;

- *The principle of ethical improvement in business behavior* is the readiness of a business partner to recognize the wrong committed by his actions and to respond accordingly;

- *The principle of demonopolization* of one's own position emerges from the fact that the behavior of a market monopoly contains no ethical value;

- *The principle of the conflict of business interests* of the participants refers to the need to overcome the inability to match common and personal interests that share the same ethical values.

Professional banking ethical standards are usually stipulated by the Code of Ethics, which is an internal document of the bank. This can be a formal statement or an ethical guide for how bank employees should act and make decisions.

The implementation of ethical codes brought beneficial effects favorable to raising the quality level of banking activity.

At the same time, international practice points to certain behavioral problems of banks, including the manifestation of corporate selfishness [9]:

- Prioritizing banks' corporate interests over those of customers;

- Taking advantage of the client's weaknesses by the bank, as well as presenting errors and failure of moral behavior as a by-product in achieving the ultimate goal;

- The tendency to take advantage of the imperfections of the legislation, that is, the promotion of the idea that what is not contrary to the law is entirely ethical;

- Refusal to assume responsibility for the behavior of bank representatives that violates the trust of customers and ignores moral factors;

- Ignoring unethical behavior as an insignificant violation unless it results in obvious harm;



- The transfer of responsibility to the customer, who often does not have the necessary qualifications to understand the essence and consume complex banking products.

The existence of the Code of Ethics within the banking institution is prescribed by modern banking legislation through the regulation of the administration framework and operational risk management.

Typically, the regulatory framework stipulates that bank must have a robust operational risk management framework, a strong risk management culture and ethical business practices. The bank's board must approve and implement a code of conduct or ethics policy, which forms clear expectations for integrity and ethical values at the highest standard, identifies acceptable business practices and does not admit conflicts of interest [3].

3. The transformations of the concept of the ethical bank.

The concept of an *ethical bank* (also known as a social, alternative, civic, or sustainable bank) is related to the activity of the banking institution, which has established as a priority in its activity the social and environmental impact of its investments and loans [8].

The concept of ethical banking includes ethical investing, impact investing, socially responsible investing, corporate social responsibility, and is also related to the promotion of fair trade, ethical consumerism, and social enterprise.

Ethical banks tend to position themselves differently from their competitors by emphasizing their social and environmental responsibility, their investment in local communities, and their consumer-focused policies [23].

Expert Margaret Wack highlighted the specific aspects of ethical banks [23]:

- *Social and ecological awareness.* Many ethical banks are concerned with social or environmental missions and do not finance environmentally harmful industries.
- *Investments in local communities.* Ethical banks tend to invest in local communities, especially economically disadvantaged areas.
- *Promotion of consumer-friendly policy.* Consumer-friendly policies, such as no or few fees, minimum balance requirements, or minimum deposit amounts can help save consumers money.
- *Promoting transparency and accountability.* Many ethical banks emphasize their transparency and accountability compared to other banks.
- *Avoiding serious ethical violations.* While avoiding serious ethical violations may seem commonplace for any bank, many consumers are interested in serving at banks that do not have a history of documented scandals or unethical practices.

According to expert Clare Carlile, the best ethical policies could include: no funding of fossil fuels; no funding of animal testing; zero tolerance of human rights abuses [2].

Also, this author in March 2023 stated [2]: “Banks around the world are pumping money into fossil fuels, making them a key culprit of climate breakdown. Since the Paris Agreement, the world’s 60 largest banks have provided USD \$4.6 trillion in financing to the fossil fuel industry. Ethical banks are reversing this trend by refusing to fund fossil fuels, or at their best, funding our transition to clean energy through solar, electric vehicles and other shifts.”

In the context addressed, it is appropriate to mention the notion of *corporate social responsibility* in the banking sector. It implies both the responsibility of the private banking institutions for the security of the funds entrusted to them as well as the responsibility of the entire banking sector for the stability of the financial system and the economy. Therefore, the business objectives of banks should not be reduced to maximizing the benefits of their owners but also include the needs of other stakeholders and society as a whole. It is advisable for modern banks to include social responsibility in their business decisions and to disclose information about the extent and actual results of the actions undertaken. Engaging in socially responsible activities provides banks with additional opportunities to differentiate themselves from competitors and improve the public's perception of the quality of their services [4].



Author Spencer Tierney proposes the notion of *socially responsible banking*, considering the banking institution oriented to create social or environmental benefits without focusing only on profit or financing activities, which may harm people or the planet [21].

With the spread of the sustainable economy model in the world, which aims to harmoniously combine the interests of business, society, and the environment, the concept of a *sustainable bank* is being promoted. This constitutes a strategy, which refers to banking and investment practices that pursue profit at the expense of environmental sustainability, social responsibility, or sound corporate governance [14].

The authors Eremia Alexandra and Stancu Ion stated that the promotion of support for sustainable development by the banking community has two main directions [7]:

- Integrating social and environmental responsibility into environmental banking initiatives (e.g. supporting recycling or energy efficiency programs) or social responsibility initiatives (e.g. supporting cultural events, improving humanitarian donations).
- Integrating sustainable development into the bank's activities by integrating environmental and social considerations into product design, policies and strategies.

The particular promotion of the implementation of the concept of sustainability in the economic field is the *green economy*, which aims to reduce environmental risks and ecological deficits and which aims at sustainable development without environmental degradation [12].

As a result, the concept of the *green bank* was developed, with a mission-driven banking institution that uses innovative financing to accelerate the transition to clean energy and fight climate change [24].

In connection with this, the expert Nikky Engelen states [6]: “Green banking is a new financing trend where banks shift their investment strategies to focus on sustainable technologies and environmentally-friendly initiatives. These financial institutions are dedicated to sustainable banking initiatives that promote clean energy and combat climate change. ... But green banks aren’t just about making investments in climate resilience projects; banks can also become green at a more local level by instituting eco-friendly lending policies. These mission-driven policies could be in the form of loans for electric vehicles and home solar electric systems or company-wide policies banning investments in harmful industries such as fossil fuels.”

4. The transformations of general ethics.

The concept of *general banking ethics* is related to the promotion of the basic idea that banks cannot accept other moral standards than those generally accepted by society.

The conducted research enables the following trends to transform general banking ethics:

- Protection of consumer rights on the banking market;
- Implementation of digital ethics in the banking sphere;
- Combating the phenomenon of moral hazard;
- Combating money laundering.

During the last decades, in a large number of countries, regulations regarding the protection of consumer rights in the banking market have been approved.

Thus, the OECD approved The Recommendation on the G20/OECD High-Level Principles on Financial Consumer Protection, which reflects global best practices and is forward-looking.

In particular, it is mentioned [22]: “Financial consumer protection refers to laws, regulations and other measures generally designed to ensure fair and responsible treatment of financial consumers in their purchase and use of financial products and services and their dealings with financial services providers.”

Experts in the banking sphere recommend the correct behavior of the bank administration when examining customer complaints. In particular, Ruxandra-Diana Dobran states that the bank's management must take into account the fact that a correctly resolved complaint can contribute to



maintaining and deepening customer relations, preserving the bank's image, and continuously improving services [5].

The new information age came with a new concept of banking development, which is mainly related to the practice of banking in the virtual environment expressed by the digitization of banking activities, where regular personal contact with the client in the classic bank actually becomes an exceptional personal service for the elite. This leads to the emergence of new ethical problems, which are to be solved by digital ethics.

Digital ethics is the set of moral rules and guidelines that govern interpersonal behavior between individuals and/or companies that is mediated by information technology [11].

Digital ethics are becoming increasingly critical in the banking sector as the use of advanced technologies such as artificial intelligence (AI) deepens. In the banking sector, artificial intelligence is used for various purposes, including fraud detection, improving customer service, and personalized financial recommendations. Customers need to trust that their data is managed responsibly, that decisions made by AI algorithms are fair and impartial, and that their privacy is protected [19].

At the same time, the application of AI in banking should be based on the principles of transparency, accountability and fairness. Also, banks in promoting digitization must prioritize data security and privacy. Implementing appropriate cybersecurity procedures and being transparent about data processing practices ensures customers that their sensitive information is safe [19].

In some countries, traditionally, banking is influenced by the dominant religion.

As an example, the concept of Islamic banking can be presented, which states that the bank's activity must be in accordance with the principles of Sharia and insist on their practical application through the development of the Islamic economy [16].

Following the global financial crisis of 2007-2009, many experts raised the issue of *moral hazard* as the premise of financial problems in banking institutions [10].

According Investopedia, “moral hazard exists when a person or entity engages in risk-taking behavior based on a set of expected outcomes where another person or entity bears the costs in the event of an unfavorable outcome.” [15].

Moral hazard usually comes from a person or institution not assuming (or not understanding) the complex of consequences and responsibilities for their actions, which leads to reckless behavior, leaving another party to take responsibility for the caused harm [13].

Continuous improvement of the regulations regarding the organization of the management framework of banking institutions, including specifying and strengthening the responsibility of the administrators for the quality of the bank's management, contributed to the essential mitigation of the problem of moral hazard.

To this day, money laundering remains an important problem.

According to estimates by The United Nations Office on Drugs and Crime, the amount of money laundered annually constitutes 2-5% of the global GDP, which is EUR 715 billion - 1.87 trillion [20].

The international and national regulations of many countries consider the banking system as the main barrier in the fight against money laundering, which is reflected in the ethical foundations of banks' activity.

5. Conclusions

Ethical aspects have become an important element of the management system of a modern bank. Banking ethics is a complex of moral visions and rules of conduct applied to the activities of a banking institution. Compliance with ethical norms is an important factor in the existence, survival, and success of the banking industry. The evolution of current conceptual approaches follows three basic directions: compliance with ethical standards of science, improvement of professional banking ethics, and acceptance (implementation) of social responsibility norms. As an important vector in the development of banking ethics, it constitutes the formation of the moral foundations for the



involvement of banks in solving various global problems of an economic, social, and environmental nature. The digital transformation of the economy and society causes a series of ethical problems that need to be solved.

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KYC& AML AS A TOOLS FOR REDUCING COMPLIANCE RISKS OF DIGITAL INVESTMENT ECOSYSTEM PARTICIPANTS

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Abstract. An integral part of the financial world is the digital investment ecosystem, formed by the interaction of investors, borrowers, regulators and professional organizations. However, it requires the development of effective mechanisms to ensure stability due to high compliance risks that expose system participants to the risk of default and systemic crisis. This paper identifies compliance risks and provides a comprehensive analysis of risk mitigation methods by implementing KYC and AML procedures.

Keywords: crowdfunding, digital investment ecosystem, compliance control, investor risk, entrepreneurial ecosystem, compliance risk, investment compliance.

1. Introduction

The digital investment ecosystem has become an essential part of the financial landscape, representing a unique combination of investors, borrowers, regulators and professional bodies. It is, however, associated with high compliance risks, which necessitates the implementation of effective risk mitigation mechanisms.



In Moldova, interest in digital investment platforms emerged in 2023 with the adoption of Law No. 181/2023 "On group financial service". In accordance with the law, the participants of the crowdfunding platform are the operators of the investment platform, investors, persons attracting investments and third parties [1]. At the same time, the low level of trust of the economy and society in the new instruments, the need for special analytical knowledge to compare financial offers available on the platforms have led to discussions and controversial financial and legal issues. The development of crowdfunding is hindered by the high risk of loss of capital invested by investors as a result of economic, regulatory and political events in the country.

Scientific literature has developed approaches to the types of crowdfunding and their financial conditions (crowdfunding through issuing own securities, crowdfunding in the form of investing in goods and services with subsequent purchase, crowdfunding based on the principle of borrowing). Potential risks for investors and borrowers are related to the probability of loss of investor income in case of inefficiency of the project, decrease in the time value of money due to inflation, low liquidity of shares, instability of the economy, insolvency of the borrower or unattractiveness of the business idea. Compliance risks caused by non-compliance with the requirements and rules of the platform - losses due to fraud and deceit, pyramid schemes and unlicensed operations, failure to fulfil contractual obligations, lack of control over the intended use of funds, loss of rights to digital assets, violation of stockholder rights, unreliability of platform participants, and changes in the law. Kuvaeva Y.V. and co-authors [2] draw attention to the high risks of unreliability of information placed on the digital investment platform and low level of awareness of transaction participants.

In a risk situation, there is a need for identification of risk factors and development of measures for their reduction. To achieve this, it seems necessary to consider the digital investment platform as an ecosystem and to identify the key participants, the role they play and the internal relationships.

2. Compliance risks for participants in digital investment

Crowdlending is common on the Moldovan market. In 2023, the total amount of funds raised will be around €4 million [3].

Small and medium-sized enterprises account for a significant share of the business, according to the Fagura.com platform. The majority of funding is raised to support operations and invest in expanding the business. According to the data provided by the platform, investors have achieved an average return of 15 per cent. Operators select investment proposals rather strictly, rejecting about 50%, but nevertheless investment projects are secured with the required minimum.

Compliance factors - legal, regulatory, credit, illegal, reputational, legal and third-party access risks - rank first in terms of frequency and importance, as shown by the risk analysis. Existing systemic risks and their high differentiation can reduce the resilience of the entire digital ecosystem. Sanctions and business interruption are the most important consequences of the impact of compliance risks on the sustainability of the ecosystem.

In this case, investors may lose their invested funds. The imperfection of the legislation, its contradictory nature, lack of clarification and application practice, low level of information about the algorithms of the platform work, financial and digital literacy of the population may lead to a shortage of the desired income.

Based on experience with EU crowdfunding platforms, experts identify the following types of risks, which are summarized in the table below:



Table 1. Risk categories and their brief description. Source: Author's compilation.

Definition and term	Description
Compliance	Related to non-compliance with legal, regulatory, credit, misconduct, reputational standards.
Systemic risks	Risks become differentiated and frequent, which can lead to reduced ecosystem resilience.
Sanctions and termination of operations	Impact of compliance risks on ecosystem sustainability, with potential loss of invested funds.
Revenue shortfall	Risk associated with imperfect legislation, low information and financial literacy.
Risk of financial fraud	Related to vulnerability, using invalid accounts, providing inaccurate information.
Risk of unfair placement and use of information	Possible damage to the interests of investors and borrowers as a result of the unfair use of financial information.
Court costs	Risks associated with litigation, debtor search, damages and other legal procedures.
Operational risks	Result in losses due to the non-compliance of the operations with the legislation, the abuse of authority and the violation of the rules.
Credit risk	Related to borrower default, leads to an imbalance between the platform's assets and liabilities.
Reputational risk	Risk of loss of reputation due to negative perceptions of platform sustainability information and distrust of crowdfunding.

This table summarizes key definitions and terms, and types of risks that digital investment ecosystem participants face in Moldova's market.

3. Application of KYC and AML for compliance risk mitigation

In the practice of activity of financial structures of RM, including crowdfunding platforms, use the principles of client verification, as well as identification of compliance risks and providing a full analysis of risk mitigation methods through the implementation of KYC and AML procedures.

KYC (Know Your Customer)

KYC is the process of identifying and verifying a customer's identity, address and other relevant information to help prevent financial crime. Preventing financial crime and ensuring the security of transactions is the primary purpose of KYC. In 2016, the US Treasury Department's Financial Crimes Enforcement Network (FinCEN) introduced the concept of KYC in its official documents. It was this agency that introduced the formal requirements for KYC. However, as there is no single standard, it is up to the services themselves to decide what data to request from their customers. For example, cryptocurrency exchanges typically ask for full name, date of birth, email address, phone number, country of residence and address, and identification (passport, driving license or another document). Cash withdrawal limits or verification of a customer's identity through an SMS code are examples of KYC procedures [4].

AML (Anti-Money Laundering)

Anti-money laundering (AML) is the prevention of money laundering and the financing of terrorism. It involves the monitoring of financial transactions, the analysis of patterns and the identification of suspicious transactions. This identification serves a number of purposes: to



understand their customer base, to monitor transactions, to mitigate risk and to combat bribery and corruption.

Financial institutions use the AML principle to screen companies that deal in cash or have assets in cash, hold money in different accounts and at different banks, transfer money abroad, buy futures, options or other cash settlement instruments, invest in securities through brokers or dealers, etc [4].

AML is the combination of various algorithms with the KYC database and other sources of information. AML and KYC should communicate continuously and be backward-looking. KYC modules can be used to tailor an AML program to the specific needs of a particular business. They can help clarify customer risk and improve compliance.

Know Your Customer (KYC) is only one part of the anti-money laundering (AML) process. Other elements include CDD - Customer Due Diligence, EDD - Enhanced Due Diligence, risk-based AML policies, ongoing risk assessment and monitoring, employee training programs, internal controls and internal audit.

EDD reports are prepared by specialist firms working to PwC standards in accordance with ISAE 3000. Typically, this work involves the gathering of additional information on clients with higher risk ratings. For example, Refinitiv offers Enhanced Due Diligence reports with KYC information from global sources. Clients of financial institutions themselves can also provide such reports. All information should be open and supported by reliable sources [4].

Table 2. Comparison of KYC and AML. Source - RBC. [4]

Option	KYC	AML
Purpose	Customer Identification	Prevention of money laundering and terrorist financing
Process	Collection and verification of customer information	Financial transaction monitoring, pattern analysis, suspicious transaction detection
Main sources	Customer documents, databases	Financial reports, transaction monitoring, co-operation with law enforcement agencies

An effective way to mitigate compliance risks in the digital investment ecosystem is to implement KYC and AML mechanisms. These tools reduce potential default and systemic risks, and provide a more robust and resilient environment for all participants.

4. Conclusion

In our view, the main conclusions that can be drawn from the content of this article are the following:

1. The study of digital investment platforms from an ecosystem approach has concluded that their emergence and development involve effective interaction between participants and alignment of financial interests.
2. Digital investment ecosystems have high systemic compliance risks. The most important of these is credit risk, which arises when the borrower fails to meet its contractual obligations.
3. To help develop digital investment ecosystems, it is proposed to introduce compliance controls into the activities of crowdfunding platforms.
4. Introducing credit and investment compliance procedures will make it possible to verify the fulfilment of obligations, using analytical procedures to predict the occurrence of adverse consequences resulting from compliance risks for participants in the digital investment ecosystem.
5. Implementing KYC and AML provides digital solutions to mitigate compliance risks. KYC processes ensure the accurate identification of customers, while AML prevents illegal activities through the monitoring and analysis of transactions.



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CAPITALUL UMAN – FACTOR ESENȚIAL PENTRU DEZVOLTAREA INOVAȚIONALĂ ÎN ÎMM-URILE DIN REPUBLICA MOLDOVA

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Abstract. Innovation is a crucial element for competitive and sustainable business development. The aim of this paper is to highlight the importance of human capital in innovation activity and to identify the challenges faced by small and medium-sized enterprises in the Republic of Moldova in this area. The methods and techniques used in the research include desk research, critical analysis, literature synthesis, and comparative analysis. The results of the research show that the main barriers related to human capital for innovation development in Moldovan enterprises are mainly related to the mismatch between the skills of human capital and the needs of employers, the availability of highly qualified human capital, the lack of personnel with specific specialisations, the massive emigration of the population, especially young people, and the decreasing number of students in science and technology.

Keywords: innovation, small and medium enterprises, human capital, innovation development, Republic of Moldova.

Introducere. În era contemporană a schimbărilor rapide și a competiției acerbe, inovația devine nucleul esențial al dezvoltării economice și al menținerii competitivității întreprinderilor. În acest context, întreprinderile mici și mijlocii (ÎMM-uri) reprezintă un motor crucial al economiei, iar capacitatea lor de a inova devine determinantă pentru adaptarea și prosperitatea într-un mediu din ce în ce mai dinamic. Având în vedere că sectorul de afaceri al Republicii Moldova este preponderent format din ÎMM-uri, acesta se confruntă cu provocări semnificative în ceea ce privește capacitatea sa de a inova sau de a absorbi inovații. În acest context, capitalul uman devine un factor cheie, având un



impact profund asupra capacității întreprinderilor de a inova, de a asimila inovații și de a se adapta la schimbările tehnologice și de piață.

Această lucrare își propune să exploreze și să evidențieze importanța capitalului uman în activitatea inovațională și să identifice provocările specifice cu care se confruntă întreprinderile mici și mijlocii din Republica Moldova în acest domeniu.

Capitalul uman, constituit din competențele, educația și cunoștințele angajaților unei organizații, reprezintă un element fundamental pentru stimularea inovației în cadrul întreprinderilor [7], furnizând resursele intelectuale necesare pentru a aborda provocările și a promova progresul într-un mediu de afaceri dinamic și competitiv.

Relația dintre capitalul uman și inovarea în IMM-uri a fost explorată în diverse studii, care au constatat că acesta are un impact major asupra performanței afacerii și constituie un factor critic pentru succesul IMM-urilor, subliniind faptul că calitatea capitalului uman apare ca un factor determinant care influențează competitivitatea firmelor [6, 9]. Capacitățile de inovare tehnologică și netehnologică ridicate, rezultate dintr-un capital uman de calitate, contribuie la creșterea productivității și profitabilității [11]. În plus, capitalul uman al unei întreprinderi servește drept catalizator pentru inovare, facilitând dezvoltarea de produse, servicii și procese noi sau îmbunătățite [11]. Impactul pozitiv al capitalului uman se extinde asupra performanței de inovare a IMM-urilor, influențând procesul de inovare și sporind valoarea capitalului intelectual [8]. Astfel, aspectele specifice ale capitalului uman, inclusiv abilitățile individuale, cunoștințele, talentul, competențele și experiența, dețin un rol crucial în consolidarea capacităților generale de inovare ale unei organizații [8].

Analiza activității inovaționale a IMM-urilor din Republica Moldova. Activitatea de implementare/dezvoltare a inovațiilor în cadrul întreprinderilor moldovenești este una nesemnificativă. Potrivit Biroului Național de Statistică, în perioada 2019-2020, numărul întreprinderilor inovatoare a constituit 448 întreprinderi și a reprezentat doar 12,6% din numărul total de întreprinderi incluse în cercetare (în scădere cu 26% față de anii 2017-2018). Distribuția întreprinderilor pe clase de mărime arată că 57% sunt întreprinderi mici și 30% sunt întreprinderi mijlocii. Astfel, IMM-urile cu activitate de inovare au reprezentat cca 87% din totalul întreprinderilor inovatoare. Datele statistice reflectă o scădere semnificativă a numărului de IMM-uri inovatoare în perioada 2019-2020 față de perioada anterioară 2017-2018 (cu 28,1%). Din totalul întreprinderilor inovatoare, ponderea întreprinderilor mici inovatoare a atins valoarea maximă în anii 2017-2018 (62,5 %), dar apoi a scăzut la 56,9 % în 2019-2020. Pe de altă parte, o tendință opusă se observă în grupul întreprinderilor mijlocii și mari, ponderea cărora a marcat o ușoară creștere în aceeași perioadă (cu 3,0 p.p., respectiv 2,6 p.p.) (Tabelul 1).

Tabelul 1. Structura întreprinderilor inovatoare pe clase de mărime, 2015-2020

	2015-2016	2017-2018	2019-2020
Total	100,0	100,0	100,0
<i>%întreprinderilor inovatoare în total întreprinderi incluse în cercetare</i>	20,8	18,2	12,6
10 - 49 salariați	62,1	62,5	56,9
50 - 249 salariați	28,4	26,9	29,9
250 și peste salariați	9,5	10,6	13,2
Industrie – total	53,9	52,4	48,9
10 - 49 salariați	27,6	27,8	23,4
50 - 249 salariați	19,8	17,0	16,7
250 și peste salariați	6,5	7,6	8,7



Servicii – total	46,1	47,6	51,1
10 - 49 salariați	34,5	34,7	33,5
50 - 249 salariați	8,6	9,9	13,2
250 și peste salariați	3,0	3,0	4,5

Sursa: calculat în baza Rezultatelor activității de inovare a întreprinderilor în Republica Moldova [3]

Analiza activității inovaționale pe sectoare economice în perioada 2019-2020 arată că, cele mai inovative sunt întreprinderile din sectorul producției energiei electrice (din totalul întreprinderilor acestui sector incluse în cercetare, cca 33,3% realizează activități de inovare) și sectorul activităților financiare și asigurări (20,2%), urmate de întreprinderile din sectorul informațiilor și comunicațiilor (18,9%) și industria prelucrătoare (16,4%).

Inovarea din sectorul de afaceri se bazează în mare parte pe achiziționarea de echipamente și se caracterizează printr-un nivel scăzut de cooperare cu mediul de cercetare. În calitate de parteneri de cooperare a întreprinderilor inovatoare tehnologice predomină furnizorii de echipamente, materiale, componente sau software (28%), urmați de clienți sau cumpărători (25%) și alte întreprinderi (14%) [3]. Doar 6% din întreprinderile inovatoare tehnologice au indicat cooperarea cu universitățile și instituțiile de cercetare.

Principalele constrângeri în dezvoltarea parteneriatelor inovaționale între companii și universități/instituții de cercetare, potrivit opiniei reprezentanților mediului de afaceri și academic, se referă la: posibilități financiare insuficiente; lipsa de informații, care ar putea contribui la implementarea inovațiilor; conștientizarea insuficientă a importanței cooperării; complexitatea găsirii partenerului necesar; lipsa stimulentele economice pentru oamenii de știință pentru a iniția cercetări și pentru antreprenori - pentru a pune în aplicare inovații; lipsa cunoștințelor și abilităților majorității cercetătorilor în promovarea rezultatelor personale pe piață; proceduri complicate și costisitoare, care trebuie efectuate de antreprenori în relațiile cu instituțiile intermediare; lipsa unui dialog constructiv între întreprinderi, instituții intermediare și autorități publice [4].

Provocările specifice capitalului uman pentru activitatea inovatională. Capitalul uman reprezintă un factor esențial pentru dezvoltarea unei țări și pentru crearea unor afaceri viabile, inovatoare și competitive. În contextul Republicii Moldova, capacitățile de cercetare-dezvoltare sunt concentrate în instituțiile științifice publice, însă activitatea în acest domeniu este susținută într-o măsură insuficientă. Deși s-a elaborat un cadru legislativ inițial și s-au creat instituțiile de susținere, finanțarea pentru cercetare-dezvoltare provine în principal din surse bugetare, iar ponderea cheltuielilor în PIB a înregistrat o dinamică negativă în ultimii ani (de la 0,49% la 0,20% în perioada 2009-2020). Acest nivel redus de finanțare în ultimele două decenii a avut consecințe semnificative asupra capitalului uman, conducând la exodul creierelor atât către străinătate, cât și către alte sectoare ale economiei naționale. Sectorul cercetare-dezvoltare a înregistrat pierderi calitative și cantitative ale capitalului uman, iar în sectorul public activează în prezent majoritatea personalului de cercetare-dezvoltare, participarea cercetătorilor în întreprinderi fiind infimă.

Dezvoltarea unui ecosistem antreprenorial inovativ depinde, în mare parte, de numărul de persoane care fac studii în domeniul științei și tehnicii și cel din domeniul educației post-universitare. În prezent, aproximativ 70% din studenții învățământului superior sunt înscriși în științe sociale, afaceri și drept în timp ce cererea pentru științe exacte este considerabil redusă, contrar necesității crescânde de specialiști în aceste domenii.

Analizând evoluția numărului de studenți care fac studii în domeniul științelor și tehnicii, remarcăm o diminuare semnificativă în ultimii ani, cu o scădere de 25% în perioada 2015/2016-2020/21. Această tendință descrescătoare este evidentă și în ceea ce privește studiile doctorale, unde s-a înregistrat o reducere de 6,3% în perioada 2015-2019. În mod special, numărul persoanelor care urmează studii doctorale în domeniul științelor ingineresti și tehnologiilor a înregistrat o scădere semnificativă de 21,4% în aceeași perioadă [2].

Această tendință a diminuării alfabetizării științifice a populației, cu precădere în rândul tinerilor, subliniază necesitatea unor măsuri proactive pentru atragerea acestora în domeniile științelor exacte și tehnologie. Acest aspect devine crucial în contextul dezvoltării inovaționale a IMM-urilor,

deoarece o scădere a numărului de studenți în domeniul științei și tehnologiei poate conduce la o lipsă de personal calificat, afectând astfel capacitatea acestor întreprinderi de a absorbi inovația și tehnologia.

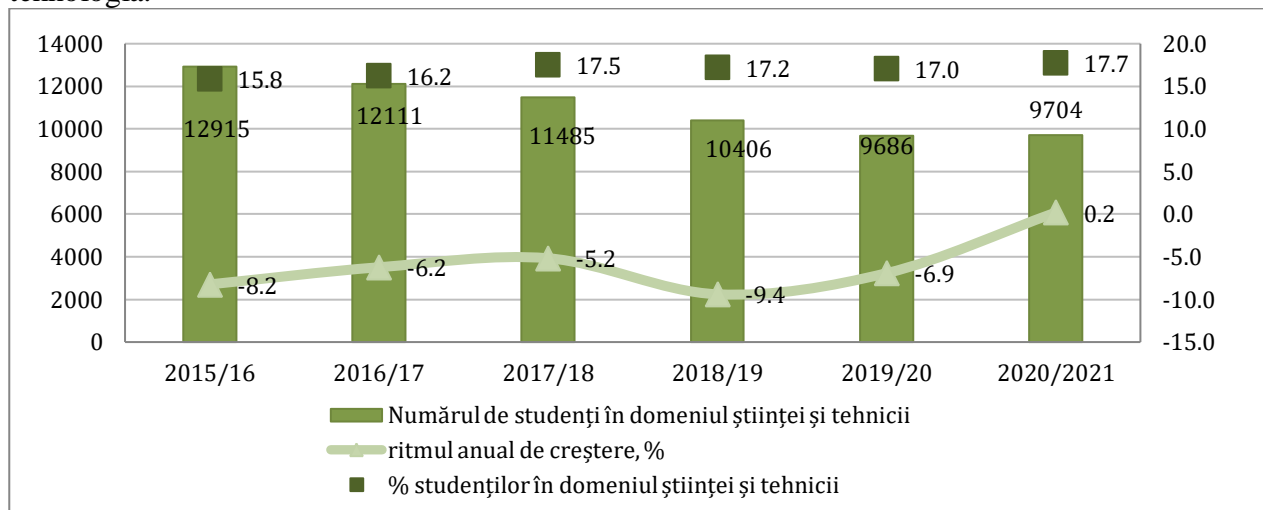


Figura 1. Evoluția numărului de studenți în domeniul științei și tehnicii în perioada 2015/16-2020/21, pers.

Sursa: elaborată de autor în baza datelor BNS

O provocare majoră pentru activitatea inovațională este dificultatea de a găsi forță de muncă calificată și lipsa accesului la competențele potrivite. În acest context, Forumul Economic Mondial (2019) evidențiază că Republica Moldova se clasează pe ultimul loc (136) în ceea ce privește *uşurinţa de a găsi angajați calificați*, cu doar 3,2 din 7, situându-se pe ultimul loc în comparație cu alte țări din regiune [12].

O altă dificultate semnificativă care împiedică inovația este neconcordanța competențelor în Republica Moldova. Sondajul BERD din 2019 arată că această discrepanță a competențelor este principalul obstacol pentru gestionarea afacerilor în Moldova, afectând aproximativ 20% dintre firme, comparativ cu o medie mai mică de 10% în grupul de țări comparabile din Europa și Asia Centrală [1].

Deși Republica Moldova alocă un nivel ridicat de cheltuieli pentru educație raportat la PIB, calitatea sistemului educațional este discutabilă. Aceasta se reflectă în indicatorii calității forței de muncă, care acumulează scoruri reduse, plasând Moldova în poziții inferioare în clasamentul internațional de competitivitate. Indicatorii relevanți arată că Moldova se află pe locurile 112, 114 și 106 în ceea ce privește *formarea personalului, calitatea formării profesionale și competența absolvenților*, atestându-se îmbunătățiri minore în aceste domenii în ultimii ani. Cu toate acestea, situația este mai favorabilă în ceea ce privește *abilitățile digitale ale populației active*, cu o poziționare pe locul 55 și un scor de 4,5 în anul 2019 [12].

Problema dificultății de a găsi angajați calificați este confirmată și de rezultatele unui sondaj realizat în cadrul Institutului Național de Cercetări Economice, unde antreprenorii au evaluat destul de negativ disponibilitatea capitalului uman, în special cel mai negativ a fost evaluată disponibilitatea specialiștilor cu o calificare înaltă și a personalului cu anumite specialități, indicând un nivel relativ minim de disponibilitate a acestora pe piața muncii din Moldova. Aceasta subliniază necesitatea unor măsuri concrete pentru a îmbunătăți disponibilitatea și calitatea capitalului uman în vederea stimulării dezvoltării inovaționale în IMM-urile din Republica Moldova [5].

Provocarea cu care se confruntă antreprenorii privind deficitul de forță de muncă înalt calificată în Republica Moldova este accentuată de emigrarea constantă a populației, contribuind la exacerbarea acestui deficit. Acest aspect înrăutățește peisajul capitalului uman și inovațional în țară. Date recente relevă că acest fenomen a atins cote semnificative, cu un număr de aproximativ 860 de mii de emigranți la începutul anului 2020. Se estimează că această cifră va crește la aproximativ 1,0-1,1 milioane până în 2030 [10]. Rezultatele unui sondaj realizat cu antreprenorii evidențiază impactul



negativ al migrației asupra dezvoltării afacerilor (aproximativ 79% dintre antreprenori au indicat o evaluare negativă a acestui indicator). Acest lucru sugerează că migrația reprezintă un obstacol semnificativ, cu impact negativ asupra recrutării forței de muncă și, în final, asupra dezvoltării unor afaceri inovative [5]. Principalele motive ale emigrării includ un mediu economic nefavorabil și condiții de angajare precare, caracterizate de salarii modeste, incertitudine în privința ocupării forței de muncă și fenomenul corupției.

Concluzie

Analizând provocările legate de capitalul uman cu care se confruntă întreprinderile mici și mijlocii din Republica Moldova în contextul dezvoltării inovaționale, concluziile trase relevă un peisaj complex și preocupant în ceea ce privește această componentă esențială a activității economice. Datele examinate, inclusiv diminuarea numărului de studenți în domeniul științelor și tehnicii, dificultatea de a găsi personal calificat, neconcordanța competențelor, și impactul migrației, subliniază imperativul unei abordări comprehensive pentru revitalizarea și optimizarea capitalului uman în cadrul IMM-urilor moldovenești.

În primul rând, scăderea semnificativă a numărului de studenți implicați în domeniul științelor și tehnicii reprezintă un semnal alarmant privind capacitatea viitoare a țării de a furniza resurse umane calificate necesare inovației și tehnologiei. Acest aspect, evidențiat și de trendul negativ privind studiile doctorale în aceste domenii, impune revizuirea strategiilor educaționale și promovarea atragerii tinerilor către disciplinele Știință, Tehnologie, Inginerie și Matematică.

În al doilea rând, dificultatea întâmpinată de întreprinderi în a găsi personal calificat și neconcordanța competențelor reprezintă obstacole semnificative în calea dezvoltării inovaționale. Este imperativă adoptarea unor politici educaționale și de formare profesională adaptate dinamicelor pieței muncii, cu accent pe alinierea competențelor cu cerințele angajatorilor și promovarea specializărilor în domenii strategice.

În plus, sistemul de educație, deși beneficiază de investiții considerabile, necesită o evaluare și restructurare atentă pentru a asigura o calitate optimă a pregătirii absolvenților și alinierea cu cerințele pieței. Datele relevă că, în pofida cheltuielilor în creștere, calitatea forței de muncă și performanța sistemului educațional rămân modeste.

Migrația, un fenomen persistent și pronunțat în Republica Moldova, amplifică semnificativ criza capitalului uman, prin exodul lucrătorilor calificați, inclusiv a tinerilor afectând în mod direct capacitatea sectorului privat de a stimula inovația și competitivitatea. Abordarea acestei probleme necesită intervenții la nivel de politică publică, creând condiții favorabile pentru retenția și atragerea specialiștilor.

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METODE ȘI DEZVOLTARE A MODALITĂȚILOR DE PERFEȚIONARE A GESTIONĂRII STOCURILOR ÎNTREPRINDERII

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Abstract. To carry out their activities, economic agents must have the necessary means of labor and objects of labor, i.e. material resources. They are the most important element of the productive forces and determine their development. From their quantity, quality, cost, efficiency of use, the end results of the enterprise's activities largely depend: the production of high-quality products, cost, profit, profitability and financial sustainability.

Thus, important for the economic and financial activities of enterprises, especially industrial ones, is particularly accurate and careful accounting of inventories, carefully established accounting of operations for their acquisition, movement, vacation and their assessment, that is, their movement management, and therefore this research is quite relevant in the current economic conditions.

Key words: control, inventory management, minimum level, inventory management policy, assessment of convertibility.

Gestionarea stocurilor este de mare importanță atât din punct de vedere tehnologic, cât și din punct de vedere financiar. În același timp, managementul stocurilor este o activitate funcțională, al cărei scop este acela de a aduce la minimum costul total anual de menținere a stocurilor, sub rezerva unui serviciu satisfăcător al clienților [1, p. 197].

Managementul stocurilor este împărțit în două domenii: management planificat și management direct al producției. Managementul planificat include proceduri pentru menținerea unei aprovizionări adecvate pentru fiecare tip de materie primă și provizii necesare pentru producerea unui produs dat.



Scopul managementului stocurilor este de a menține costurile totale anuale ale stocurilor la minimum.

Controlul asupra acestor stocuri se realizează prin minimizarea practic a următorilor indicatori: numărul de stocuri pe an, activitatea ciclurilor de asigurare; durata termenului de livrare; producție și transport în fabrică; durata ciclurilor de depozitare în depozit; numărul de mărfuri în stoc; numărul de magazine și depozite.

În fiecare perioadă de timp, rata de primire a materialelor ar trebui să fie apropiată de rata de producție și consum. Prin urmare, măsurile de reglementare a volumului stocurilor ar trebui să vizeze reducerea la minimum a timpului în care materialul se află la întreprindere.

În prima etapă a managementului, trebuie efectuată o analiză a rezervelor întreprinderii. În a doua etapă, sunt determinate obiectivele formării stocurilor.

Stocurile trebuie realizate la întreprindere în diferite scopuri: asigurarea activităților curente de producție (stocuri curente de materii prime); o asigurarea activităților de vânzare (stocuri curente de produse finite).

În procesul de formulare a politicilor de gestionare a stocurilor, acestea sunt clasificate corespunzător pentru a asigura diferențierea ulterioară a metodelor de management. La următoarea etapă de management, se ia în considerare optimizarea dimensiunii principalelor grupuri de costuri curente. Stocurile totale sunt împărțite în două tipuri principale - producție (stocuri de materii prime) și stocuri de produse finite.

Cel mai important element al analizei stocurilor este evaluarea cifrei de afaceri a acestora. Indicatorul principal este timpul de circulație în bani, calculat prin împărțirea soldului mediu al stocurilor pentru perioada la cifra de afaceri a stocurilor pe o zi din aceeași perioadă [3, p. 130].

Accelerarea cifrei de afaceri este însoțită de implicarea suplimentară a fondurilor în cifra de afaceri, iar încetinirea este însoțită de deturnarea fondurilor din cifra de afaceri economică, necroza lor relativ mai îndelungată în stocuri (sau imobilizarea propriului fond de rulment).

Suma fondurilor implicate suplimentar în circulație (sau deturnate din circulație) se calculează folosind formula [5, p. 214]:

$$\Delta_b C = (b_1 - b_0) \cdot m_1 = \Delta b \cdot m_1, (1)$$

unde: $\Delta b C$ este suma de fonduri implicate suplimentar în cifra de afaceri dacă $\Delta b C < 0$ sau deturnate dacă $\Delta b C > 0$.

b_0 – rulajul stocurilor în zile în perioada de bază;

b_1 – cifra de afaceri a stocurilor în zile în perioada de raportare;

m_1 – cifra de afaceri efectivă de o zi în perioada de raportare;

m_0 – cifra de afaceri efectivă de o zi în perioada de bază.

Mărfurile învechite și cu mișcare lentă, care reprezintă unul dintre principalele elemente ale capitalului de rulment imobilizat (adică, excluse din circulația economică activă), ar trebui să facă obiectul unui control și audit special. Această practică este comună nu numai în Republica Moldova, ci și în țările occidentale.

Atunci când se analizează lipsurile și pierderile din deteriorarea obiectelor de inventar care nu au fost anulate din bilanț în modul prescripționat, este necesar să se studieze compoziția acestora și motivele formării lor și să se încerce să identifice vinovații specifici pentru a recupera daune cauzate de acestea. De asemenea, este necesar să se verifice: condițiile de depozitare a valorilor; asigurarea siguranței acestora din punct de vedere cantitativ și calitativ; calificările persoanelor responsabile din punct de vedere financiar; dacă a fost lansată contabilitatea stocurilor; dacă sunt respectate regulile de realizare a inventarierii și de identificare a rezultatelor acestora.

Stocuri sunt necesare pentru a onora comenzile de la clienții săi pentru mărfuri în cantitatea necesară și la timp. Cu toate acestea, stocurile necesită cheltuieli pentru întreținerea lor până când „așteaptă timpul” și sunt vândute. Mai mult, pierderile companiei cresc, în primul rând, din cauza deturnării unei părți din capitalul investit în stocuri din cifra de afaceri.



Prin urmare, compania trebuie să găsească pentru ea însăși combinația optimă între costurile și beneficiile nivelului de stoc selectat și să determine ce cantitate de stoc pentru fiecare grup de produse (sau chiar articol) este suficientă. În același timp, este de dorit să se treacă de la observațiile pur empirice ale situațiilor precum: „există comenzi - nu există bunuri” sau „sunt stocuri - nu sunt suficienți bani” la criterii mai obiective. Atât criteriile directe, cât și mai generalizate, precum și combinațiile lor variate, pot fi utilizate ca indicatori de bază ai calității politicii de gestionare a stocurilor alese [2, p.96].

Indicatori de suficiență a stocurilor pentru a satisface cererea clienților.

1. De exemplu, așa-numitul „nivel de serviciu”, care se referă la procentul din volumul total de cereri existente care este satisfăcut din stocurile existente fără o comandă suplimentară.
2. Indicatori bazați pe căutarea mărimii optime a comenzii, pe baza raportului dintre costul stocării stocurilor și costul onorării comenzii. Costurile de depozitare acționează ca o limită a dimensiunii stocurilor. Prin urmare, este necesar să se găsească un echilibru între, pe de o parte, costul depozitării și, pe de altă parte, operațiunile de comandă a mărfurilor.
3. Indicatori legați de caracteristicile fluxurilor de numerar din operațiunile de cumpărare și vânzare de bunuri.
4. Indicatori care reflectă profitabilitatea activităților companiei folosind diverse metode de gestionare a stocurilor. Prezența stocurilor în exces, în exces duce la o creștere a indicatorului „active” și, în consecință, la o scădere a cifrei de afaceri. Este necesar să se determine cantitatea optimă de investiție în stocuri, care, în timp ce crește „cifra de afaceri”, nu ar duce la o scădere a profitabilității.

Ceea ce pare important nu este pe care dintre posibii indicatori a ales compania, ci faptul că indicatorul selectat există. Doar monitorizarea constantă a unor astfel de indicatori face posibilă aprecierea direcției corecte a eforturilor depuse în orice domeniu de management - în acest caz, eficacitatea sistemului de management al stocurilor.

Dintre sistemele de monitorizare a mișcării stocurilor în țările cu economii dezvoltate, Sistemul ABC este cel mai utilizat. Esența sa este de a împărți întregul set de stocuri în trei categorii în funcție de valoarea, volumul și frecvența consumului acestora, de consecințele negative ale deficitului lor asupra desfășurării activităților de exploatare și a rezultatelor financiare.

Analiza ABC se bazează pe principiul Pareto (Vilfredo Pareto, secolul al XIX-lea), care a formulat o regulă, a cărei esență se rezumă la următoarele: controlul unui număr relativ mic de elemente vă permite să controlați situația în ansamblu. Regula formulată și de Pareto este adesea numită regula 80/20, care poate fi interpretată după cum urmează: controlul de încredere a 20% din articolele de produs permite controlul de 80% al sistemului (adică, inventarul în cazul nostru) [5, p.316].

Categoria „A” include cele mai scumpe tipuri de inventar cu un ciclu lung de comandă. Gama de articole specifice de inventar incluse în categoria „A” este de obicei limitată și necesită monitorizare săptămânală. Categoria „B” include articole de inventar care au o importanță mai mică în asigurarea unui proces neîntrerupt. Stocurile acestui grup sunt monitorizate o dată pe lună.

Categoria „C” include toate celelalte articole de inventar cu costuri reduse care nu joacă un rol semnificativ în formarea rezultatelor financiare finale. Mișcarea lor este monitorizată o dată pe trimestru. Principiul clasificării stocurilor în grupe în funcție de importanța acestora pentru întreprindere este prezentat în Tabelul 1.

Tabelul 1. Clasificarea rezervelor (sistem ABC) [5, p. 316]

Grupuri de inventar	Ponderea în volumul cifrei de afaceri comerciale în termeni monetari	Ponderea în volumul rezervelor în termeni fizici	Ar trebui utilizate tehnici complexe de management cantitativ?
1. Grupa A	70%	10%	Da.
2. Grupa B	20%	20%	În unele cazuri.
3. Grupa C	10%	70%	Nu o face.

Astfel, controlul principal al stocurilor conform Sistemului ABC este concentrat pe categoria lor cea mai importantă din punctul de vedere al asigurării funcționării neîntrerupte a întreprinderii și al formării rezultatelor financiare finale. În practica managementului financiar, pentru a reflecta valoarea reală a stocurilor, se poate folosi metoda LIFO, care se bazează pe utilizarea ultimului preț de cumpărare în contabilitate conform principiului „last in, first out”. Spre deosebire de metoda FIFO, care se bazează pe principiul „first in, first out”, vă permite să obțineți o evaluare reală a acestor active în condiții de inflație și să gestionați mai eficient forma de cost a mișcărilor de stoc.

În țările dezvoltate, gestionarea stocurilor se bazează pe utilizarea unor tehnologii informaționale puternice, care fac posibilă monitorizarea stării și dinamicii acestora aproape în fiecare zi, plasarea automată a comenzilor printr-o rețea de calculatoare și completarea stocurilor la nivelul optim. Cele mai comune sisteme de gestionare a stocurilor care se bazează pe utilizarea modelului EQQ, a instrumentului linie roșie și a instrumentului cu două sectoare. Recent, metoda de gestionare a inventarului Just-In-Time a devenit larg răspândită. În același timp, completitatea și fiabilitatea bazei de informații este asigurată prin automatizarea contabilității și utilizarea sistemului internațional de codificare a produselor [5, p. 318].

Astfel de sisteme sunt create pentru a rezolva cel mai eficient următoarele probleme:

- evaluarea reală a stării actuale a rezervelor;
- stabilirea termenelor necesare pentru plasarea comenzilor;
- determinarea volumului corespunzător al lotului de mărfuri care se comandă; determinarea volumului necesar de stocuri de siguranță;
- estimarea costurilor de gestionare a stocurilor.

Prima problemă este rezolvată prin utilizarea sistemelor de control al stocurilor care asigură nevoile managementului de informații operaționale despre dinamica vânzărilor și starea actuală a acestora.

Astfel, obiectivele analizei resurselor materiale la o întreprindere sunt:

- ✓ evaluarea economică a utilizării resurselor materiale;
- ✓ identificarea posibilelor rezerve pentru creșterea eficienței utilizării resurselor materiale;
- ✓ dezvoltarea măsurilor de mobilizare a acestora.

În același timp, șefii de organizații în procesul activităților lor zilnice de management trebuie să analizeze și să controleze constant rezultatele obținute în perioada de raportare.

Managementul eficient al unei organizații ar trebui să se bazeze pe aplicarea unor metode normative de management. Nu vă puteți concentra pe compararea rezultatelor obținute doar cu costurile reale din perioada de raportare. *Este necesar să se compare constant costurile reale cu cele justificate din punct de vedere economic, adică, calculată pe baza normelor și standardelor tehnice și economice.* Normele fac posibilă identificarea rezervelor existente și schițarea modalităților de utilizare ulterioară a acestora. Toate acestea ajută la menținerea unei politici comerciale și financiare corecte în întreprindere pentru a reduce costurile și cheltuielile.

Lipsa stocurilor la o întreprindere duce la o întrerupere a ritmului producției sale, la o scădere a productivității muncii, la cheltuirea excesivă a resurselor materiale din cauza înlocuirilor forțate iraționale și la creșterea costului produselor.

Lipsa stocurilor de vânzări nu permite procesul neîntrerupt de expediere a produselor finite; în consecință, aceasta reduce volumul vânzărilor sale și reduce valoarea profitului primit. În același



timp, prezența stocurilor neutilizate încetinește cifra de afaceri a capitalului de lucru, deturneză resursele materiale din circulație și duce la costuri ridicate pentru întreținerea stocurilor în sine.

Prin urmare, într-o economie de piață, angajații organizației trebuie să depună eforturi pentru gestionarea eficientă a proceselor de aprovizionare și vânzare, a stocurilor și a capitalului de lucru investit în aceste stocuri.

Sistemul de control și management operațional reprezintă organizarea activităților continue ale angajaților departamentului de achiziții, care vizează formarea stocurilor comerciale în dimensiuni fezabile din punct de vedere economic.

Informațiile disponibile despre mișcare, costuri și cadrul de reglementare stabilit pentru stocuri și capital de lucru vă permit să gestionați rapid fluxurile materiale și financiare din întreprindere pe tot parcursul anului. Aceste informații permit organizației să rezolve următorul set de probleme:

- ✓ identificarea deficitului de inventar;
- ✓ selectați poziții de resurse materiale pentru care s-au format rezerve în exces și pot fi vândute;
- ✓ evaluează disponibilitatea rezervelor și structura acestora;
- ✓ determinarea necesarului de resurse financiare pentru asigurarea necesarului de aprovizionare a stocurilor în perioada de planificare etc.

Determinarea cantității necesare de resurse financiare avansate pentru formarea stocurilor de obiecte de inventar se realizează prin determinarea necesității anumitor tipuri de stocuri.

În procesul de determinare a nevoii, stocurile sunt pregrupate după cum urmează:

- stocuri de producție (stocuri de materii prime și materiale necesare pentru deservirea procesului de producție);
- stocuri de produse finite și de bunuri destinate revânzării, destinate vânzării lor neîntrerupte către consumatori.

Sarcina principală a sistemului de gestionare a stocurilor ar trebui să fie nu numai să contabilizeze stocurile din depozit, ci și să aplice modele și reguli moderne de completare a stocurilor, planificarea volumelor optime de achiziție cu acces la controlul financiar al fondurilor bugetare și proprii alocate pentru achiziție. de stocuri și materiale, precum și pentru planificarea strategică a stocurilor.

Pentru a planifica stocurile unei întreprinderi, este necesar să se studieze dinamica consumului (scăderi) în contextul tipurilor individuale de stocuri de materiale. Această dinamică poate fi prezentată sub forma unui grafic în care curba vânzărilor va fluctua în raport cu o curbă medie.

Un studiu al istoriei anterioare a consumului (eliminarea) stocurilor oferă material pentru „predicții” tendințelor cu câțiva pași înainte. Din acest moment începe procesul de gestionare a stocurilor.

Scopul principal al sistemului de management al stocurilor proiectat este de a crește eficiența gestiunii stocurilor la întreprindere, de a asigura controlul asupra consumului acestora, de a crește profitul bilanțului întreprinderii prin reducerea costurilor de management și de a optimiza relațiile financiare cu furnizorii de materii prime.

Atunci când se utilizează un sistem automat de gestionare a stocurilor, se pot obține următoarele îmbunătățiri în funcționarea întreprinderilor:

- creșterea lichidității stocurilor în exces de materiale;
- accelerarea cifrei de afaceri a tuturor tipurilor de stocuri;
- asigurarea costurilor optime pentru achiziționarea stocurilor;
- calculul lotului optim de stoc;
- reducerea costurilor de stocare a stocurilor;
- asigurarea buna functionare a transportului;
- identificarea lipsurilor anumitor tipuri de rezerve;
- selectarea pozițiilor acelor fonduri pentru care s-au constituit rezerve în exces, în vederea vânzării lor ulterioare;



- determinarea necesarului de resurse financiare pentru asigurarea necesarului de aprovizionare cu materiale în perioada de planificare etc.

Pentru a rezolva problema automatizării gestiunii stocurilor, pot fi folosite dispozitive electronice de calcul și periferice deja disponibile în organizație. Nu este necesară achiziționarea de echipamente tehnice suplimentare.

Ca informații de intrare pentru asigurarea gestiunii stocurilor, organizația trebuie să utilizeze datele contabile - raport financiar, registre contabile 211, 213, 216, 217; registru general, evidențe de inventar [4, p.118].

Pentru a automatiza sistemul de management al stocurilor, vor fi necesare următoarele tipuri de sisteme de operare și pachete de aplicații software:

- Management magazin SAP/R3;
- Windows 9x/NT 4.0/2000 Server/XP;
- MS Excel;
- MS Access;
- 1C-Contabilitatea 8.1.

La implementarea unui sistem informatic de gestionare a stocurilor nu va fi necesară transformarea și reinginerirea structurii organizatorice a conducerii instituției.

Colectarea datelor primare, copierea informațiilor din bazele de date în tabelele sistemului informațional, calcularea indicatorilor, primirea și analiza informațiilor eficiente (ieșiri) vor fi efectuate de către persoanele responsabile ale organizației pe baza reglementărilor elaborate și a fișelor postului.

În același timp, modelul de informații SAP/R3 Store Management include următoarele blocuri:

1. Informații de bază. Datele operaționale ale contabilității și contabilității de gestiune a organizației vor servi ca informații inițiale pentru determinarea și calcularea mărimii medii optime a lotului de livrare pentru un anumit tip de stocuri:

- director de stocuri;
- valoarea costurilor operaționale pentru plasarea comenzilor;
- volumul consumului de rezerve materiale în perioada analizată;
- dimensiunea medie a unui transport de stocuri;
- costul mediu al plasării unei comenzi;
- valoarea costurilor de exploatare pentru depozitarea stocurilor într-un depozit;
- costul deținerii unei unități de stoc în perioada analizată.

2. Informații eficiente:

- costul total al plasării stocurilor (inclusiv costurile de transport și acceptare);
- costul total al depozitării mărfurilor într-un depozit;
- dimensiunea medie optimă a lotului pentru furnizarea stocurilor de materiale;
- dimensiunea medie optimă a stocurilor;
- stoc standard de materii prime și materiale în depozit.

Pe baza datelor de intrare (un director al stocurilor, un director al consumului de materiale pentru o perioadă, un director cu privire la costul de plasare și depozitare a stocurilor) folosind instrumente matematice și modelele de gestionare a stocurilor descrise mai sus, vor fi generate următoarele documente :

- tabel cu dimensiunile medii optime ale loturilor de stoc,
- tabel cu dimensiunile medii optime ale stocurilor într-un depozit,
- tabelul indicatorilor de rotație a stocurilor,
- tabel de standarde pentru stocul de materii prime și consumabile din depozit,
- tabelul penuriei de materiale,
- tabelul stocurilor excedentare din depozit.

Astfel, organizarea rațională a mișcării stocurilor este o condiție importantă pentru creșterea eficienței utilizării stocurilor.



În același timp, principalele modalități de îmbunătățire a gestionării stocurilor se rezumă la lichiditatea stocurilor în exces, utilizarea rațională a acestora, selecția optimă a furnizorilor și munca de transport impusă. Prin urmare, pentru a gestiona inventarul, trebuie să te bazezi pe asigurarea solvabilității organizației și pe determinarea mărimii optime a capitalului de lucru [1, p.117].

În același timp, pe baza rezultatelor cercetării, putem concluziona că întreprinderile acordă puțină atenție gestionării și planificării stocurilor.

Sarcina principală a sistemului de gestionare a stocurilor ar trebui să fie nu numai să contabilizeze stocurile din depozit, ci și să aplice modele și reguli moderne de completare a stocurilor, planificarea volumelor optime de achiziție cu acces la controlul financiar al fondurilor proprii alocate pentru achiziționarea de stocuri și materiale, precum și pentru planificarea strategică a inventarului organizației. Scopul principal al sistemului de management automat al stocurilor propus este de a crește eficiența gestiunii stocurilor, de a asigura controlul asupra consumului acestora, de a crește profitul bilanțului întreprinderii prin reducerea costurilor de management și de a optimiza relațiile financiare cu furnizorii de materii prime.

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INFLUENȚA TINERILOR ASUPRA DEZVOLTĂRII IMM-URILOR ÎN REPUBLICA MOLDOVA

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Abstract. In Moldova, the majority of enterprises are SMEs. Small business development needs to be increased to ensure the stable development of the national economy. The Republic belongs to the category of countries with a high rate of population aging. Young people are emigrating from Moldova, so it is necessary to prove that the government should pay more attention to youth problems. It is also required to prove that youth play a significant role in the development of SMEs. The research object is the entrepreneurship sector, and especially the SME. This study aims to verify the hypothesis that the number of young people directly impacts the development of SMEs in Moldova. Correlation and regression analysis were used to verify the hypothesis and construct regression equations.

Keywords: entrepreneurship, small and medium-sized enterprises, youth, competitiveness, average number of employees, turnover.

Introducere

Întreprinderile mici și mijlocii (IMM) activează în toate sectoarele economiei naționale. Eficiența businessului mic depinde de rețelele antreprenoriale [2, p. 281]. Impactul IMM-urilor la formarea Produsului Intern Brut (PIB) este de necontestat [5, p. 39]. Însă cu toate că sunt cercetați pe larg mulți factori care reprezintă catalizatori a sporirii activității IMM-urilor, totuși influența tinerilor este puțin studiată, mai ales în Republica Moldova. Cercetătorii autohtoni A. Novac și N. Vinogradova în studiul elaborat au pus accentul pe perfecționarea educației antreprenoriale a tineretului [12, p. 149].

Interviura efectuată de N. Shaposhnikova a tinerilor care fac studii în cadrul universităților a arătat, că chiar și cei care conform planului de învățământ studiază managementul firmei sau a întreprinderii, nu obțin abilitățile necesare pentru a organiza și gestiona o afacere de succes. Tineretul nu cunoaște organizațiile și instituțiile care pot să-i ofere un sprijin [15, p. 1310].

Tinerii ca inovatori, catalizatori, evaluatori și motivatori a dezvoltării sectorului antreprenorial și perfecționării IMM-urilor au fost studiați de asistenții universitari din Indonezia [10, p. 332]. În lucrarea sa S. Hutagaol, Erlina și H. Tarmizi denotă că tineretul ajută la dezvoltarea regiunilor, prin faptul că asigură ocuparea de locuri de muncă, creșterea PIB-ului, majorarea cererii și ofertei agregate, reducerea sărăciei și ratei criminalității [10, p. 342].

Nu numai cercetătorii menționați dar și O. Adeosun, A. Shittu [1, p. 69], Y. Chernykh și E. Charochkina [16, p. 11] au remarcat efectul inovator al tinerilor asupra afacerii. Anume tineretul are viziuni noi [3, p. 72], este generator de idei noi, poate crea și oferi bunuri noi competitive [8, p. 137]. Tinerii sunt ageri și pot promova afacerea proprie utilizând rețele de socializare [11, p. 120]. Cel mai mare obstacol pe care îl întâmpină tinerii antreprenori sunt lipsa de resurse financiare, costul înalt al start-upurilor, imposibilitatea de a arenda la un preț decent un oficiu, prețurile înalte la resurse energetice [9, p. 434]. Factorii menționați duc la diminuarea competitivității întreprinderii [4, p. 288], [7, p. 67].

În studiile descrise impactul tinerilor este examinat aplicând sondajul și interviul, însă nu este utilizată metoda regresiei sau modelarea economico-matematică. Noutatea cercetării date constă în evaluarea impactului tineretului asupra dezvoltării IMM-urilor.

Rolul IMM-urilor în dezvoltarea economiei naționale

IMM-urile au un impact multidimensional direct asupra economiei naționale. În primul rând, creează noi locuri de muncă, deci aduc aport la sporirea gradului de ocupare. Cu cât sunt mai mulți angajați în câmpul muncii, cu atât va fi cererea mai mare și va crește PIB-ul și bunăstarea populației. Prin urmare, creșterea economică sustenabilă poate fi asigurată prin sporirea activității IMM-urilor. În 2015-2022, atât PIB-ul, cât și numărul IMM au înregistrat trenduri ascendente (Figura 1).

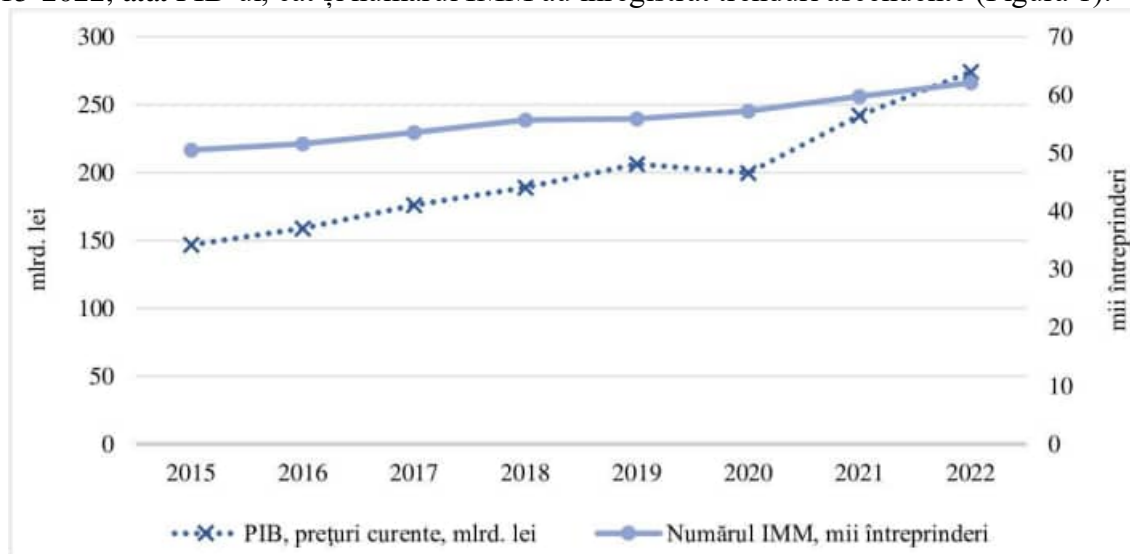


Figura 1. Evoluția PIB și numărului IMM în Republica Moldova, 2015-2022

Sursa: Elaborat în baza datelor [6].

În contextul estimării aportului sectorului IMM-urilor la formarea PIB a fost elaborată următoarea ecuație de regresie liniară (pentru anii 2015-2022):

$$PIB = -392,825 + 10,606 \times nimm \quad (1)$$

unde: *PIB* – Produsul Intern Brut, prețuri curente, mlrd. lei;

nimm – numărul IMM, mii întreprinderi.

Verificarea validității ecuațiilor de regresie se realizează utilizând diverse teste statistice. În Tabelul 1 sunt prezentate rezultatele testării ecuației de regresie (1).

Tabelul 1. Testarea statistică a ecuației de regresie (1)

Variabila	Eroarea standard	t-statistică	Probabilitatea
<i>c</i>	45,6175	-8,6113	0,0001
<i>nimm</i>	0,8156	13,0046	0,0000
		Valoarea	
<i>Coeficient de determinare</i>		0,9657	
<i>Coeficient de determinare ajustat</i>		0,9600	
<i>F-statistic</i>		169,1200	
<i>Probabilitatea (F-statistic)</i>		0,0000	
<i>Criteriul de informare Akaike</i>		7,3200	
<i>Criteriul Schwarz</i>		7,3399	
<i>Criteriul informațional Hannan-Quinn</i>		7,1861	
<i>Testul Durbin-Watson</i>		2,0452	

Sursa: Calculele autorului utilizând EViews 9.5.

Comparând valorile indicatorilor „t-statistică” și „probabilitatea” cu nivelul marginal al testului, ținând cont că nivelul de semnificație este stabilit 5%, concluzionăm că ipoteza nulă (H_0) precum parametrii regresiei sunt egali cu zero este respinsă. Rezultatele testului Durbin-Watson ne indică că nu există autocorelație a erorilor. Valoarea parametrului regresiei (1) ne arată că crearea unei noi întreprinderi IMM va asigura creșterea PIB-ului cu 10,606 mil. lei (în prețuri curente).

Corelația dintre numărul tinerilor în Moldova și dezvoltarea IMM-urilor

În vederea verificării ipotezei că numărul tinerilor are un impact direct asupra dezvoltării IMM-urilor din Moldova au fost elaborate ecuațiile de regresie (2) și (3):

$$pimm = 1,792 \times bp + 0,316 \times tiner - 2,078 \times rcrt + 5,978 \times d19 \quad (2)$$

$$pimm = 17,437 \times salb + 0,352 \times tiner - 3,009 \times rcrt - 19,646 \times d20 \quad (3)$$

unde: *pimm* – numărul mediu de personal IMM, mii persoane;

bp – bunăstarea populației, mii lei;

tiner – numărul mediu anual al tinerilor (18-35 ani) cu reședință obișnuită, mii persoane;

rcrt – rata nominală medie ponderată a dobânzilor creditelor noi acordate (total pe sectorul bancar), %;

salb – câștigul salarial mediu brut lunar, mii lei;

d19, *d20* – variabila dummy pentru anii 2019 și 2020, care ia valoarea 0 în fiecare an, cu excepția anului indicat. În cazul *d19* valoarea variabilei este 1 pentru anul 2019, iar în cazul *d20* valoarea variabilei este 1 pentru anul 2020.

Testarea acestor două ecuații de regresie ne va permite să acceptăm sau să respingem H_0 . Rezultatele testării sunt prezentate în Tabelul 2.

Tabelul 2. Testarea statistică a ecuațiilor de regresie (2) și (3)

Variabila	Ecuția de regresie 2		Ecuția de regresie 3	
	t-statistică	Probabilitatea	t-statistică	Probabilitatea
<i>tiner</i>	50,3496	0,0000	41,1753	0,0000
<i>rcrt</i>	-5,9501	0,0040	-6,1619	0,0035
<i>bp</i>	69,0936	0,0000	–	–
<i>salb</i>	–	–	48,6072	0,0000
<i>d19</i>	2,8224	0,0477	–	–
<i>d20</i>	–	–	-6,5306	0,0028
		Valoarea		Valoarea
<i>Coeficient de determinare (R²)</i>		0,9875		0,9746
<i>Coeficient de determinare ajustat</i>		0,9782		0,9555
<i>Criteriul de informare Akaike</i>		4,3876		5,1007
<i>Criteriul Schwarz</i>		4,4273		5,1405
<i>Criteriul informațional Hannan-Quinn</i>		4,1197		4,8328
<i>Testul Durbin-Watson</i>		2,2368		2,0171

Sursa: Calculele autorului utilizând EViews 9.5.

Ipoteza nulă pentru ambele ecuații de regresie (2) și (3) este respinsă, dar este acceptată ipoteza alternativă H1, precum coeficienții regresiei sunt diferiți de zero. Totuși, este necesar de ales numai o sigură ecuație. Compararea valorilor coeficientul de determinare și coeficientul de determinare ajustat ne indică că cea mai potrivită este ecuația de regresie (2), deoarece valoarea R² și R² ajustat este mai mare comparativ de cea obținută în cazul ecuației (3). Însă testul Durbin-Watson a înregistrat o valoare mai mare, de aceea vom continua testarea ecuației (2) aplicând testul „Breusch-Godfrey Serial Correlation LM” (Tabelul 3) și testul Breusch-Pagan-Godfrey (Tabelul 4).

Tabelul 3. Rezultatele testului Breusch-Godfrey Serial Correlation LM ecuațiilor de regresie (2) și (3) (lag 2)

	Ecuția de regresie (2)	Ecuția de regresie (3)
	Probabilitatea	Probabilitatea
<i>tiner</i>	0,6402	0,5472
<i>rcrt</i>	0,9967	0,7917
<i>bp</i>	0,2384	–
<i>salb</i>	–	0,2862
<i>d19</i>	0,5665	–
<i>d20</i>	–	0,9023
<i>resid(-1)</i>	0,2878	0,4855
<i>resid(-2)</i>	0,0466	0,1997

Sursa: Calculele autorului utilizând EViews 9.5.

Cu ajutorul testului ”Breusch-Godfrey Serial Correlation LM” s-a stabilit că în cazul ecuației (2) are loc autocorelația erorilor. În schimb, testul Breusch-Pagan-Godfrey a demonstrat că erorile de regresie sunt homoscedastice.

Tabelul 4. Rezultatele testului Breusch-Pagan-Godfrey ecuațiilor de regresie (2) și (3)

Ecuția de regresie (2)			
<i>F-statistic</i>	1,7055	<i>Prob. F (4,3)</i>	0,3447
		<i>Prob. Chi-Square (4)</i>	
<i>Obs*R-squared</i>	5,5565		0,2348
		<i>Prob. Chi-Square (4)</i>	
<i>Scaled explained SS</i>	0,6602		0,9561

Ecuția de regresie (3)			
<i>F-statistic</i>	1,7907	<i>Prob. F (4,3)</i>	0,3299
		<i>Prob. Chi-Square</i>	
<i>Obs*R-squared</i>	5,6385	(4)	0,2278
		<i>Prob. Chi-Square</i>	
<i>Scaled explained SS</i>	1,4094	(4)	0,8426

Sursa: Calculele autorului utilizând EViews 9.5.

Pentru a soluționa problema autocorelării erorilor a fost elaborată următoarea ecuație de regresie:

$$pimm = 1,775 \times bp + 0,320 \times tiner - 2,189 \times rcrt + 5,753 \times d19 + [AR(2) = -0,952, UNCOND] \quad (4)$$

$$R^2 = 0,9987$$

Valoarea coeficientului de determinare arată că 99,87% din modificările variabilei dependente „Numărul mediu de personal IMM” sunt explicate de variabilele exogene din ecuația (4). Valorile parametrilor regresiei (4) pot fi interpretate astfel:

- majorarea „numărului mediu anual al tinerilor (18-35 ani) cu reședință obișnuită” cu 10 persoane, în condițiile ceteris paribus, va genera creșterea „numărului mediu de personal IMM” circa cu 3 persoane;
- sporirea „ratei nominale medii ponderate a dobânzilor creditelor noi acordate” cu 1%, în condițiile ceteris paribus, va cauza majorarea „numărului mediu de personal IMM” cu 5-6 persoane.

Pentru a evalua influența variabilei independente „numărului mediu anual al tinerilor” asupra variabilei dependente „venituri din vânzări IMM” a fost elaborată următoarea ecuație de regresie:

$$vvimm = -637,557 + 5,001 \times bp + 0,603 \times tiner + 1,066 \times crt - 14,094 \times d19 \quad (5)$$

unde: *vvimm* – venituri din vânzări IMM, mlrd. lei;

crt – volumul creditelor noi acordate (total pe sectorul bancar), mlrd. lei.

În Tabelul 5 sunt prezentate rezultatele testării calității ecuației obținute. Ecuția de regresie (5) a trecut cu brio toate testele statistice.

Tabelul 5. Testarea statistică a ecuației de regresie (5)

Variabila	Eroarea standard	t-statistică	Probabilitatea
<i>c</i>	73,3532	-8,6916	0,0032
<i>bp</i>	0,3311	15,1041	0,0006
<i>tiner</i>	0,0742	8,1218	0,0039
<i>crt</i>	0,5912	1,8027	0,1692
<i>d19</i>	4,1992	-3,3563	0,0439
Valoarea			
<i>Coeficient de determinare</i>		0,9979	
<i>Coeficient de determinare ajustat</i>		0,9950	
<i>F-statistic</i>		348,0098	
<i>Probabilitatea (F-statistic)</i>		0,0002	
<i>Criteriul de informare Akaike</i>		5,8083	
<i>Criteriul Schwarz</i>		5,8580	
<i>Criteriul informațional Hannan-Quinn</i>		5,4734	
<i>Testul Durbin-Watson</i>		1,9723	

Sursa: Calculele autorului utilizând EViews 9.5.

Analizând rezultatele obținute concluzionăm că majorarea numărului de tineri în țară nu numai va asigura creșterea numărului de angajați la IMM, dar și va asigura sporirea cifrei de afaceri.



Concluzii

Rezultatele prezentate în studiul dat sugerează acceptarea ipotezei că numărul tinerilor are un impact direct asupra dezvoltării IMM-urilor din Moldova. Sporirea „numărului mediu anual al tinerilor” cu 10 persoane, va genera atât majorarea „numărului mediu de personal IMM” circa cu 3 persoane, cât și a „veniturilor din vânzări IMM” cu 6 mil. lei. Alți doi factori care pot asigura creșterea cifrei de afaceri a IMM sunt: bunăstarea populației (PIB pe cap de locuitor) și volumul creditelor noi acordate.

Prin urmare, activitatea antreprenorială a tinerilor necesită sprijinul din partea statului prin acordarea subvențiilor, granturilor [14, p. 123]. În contextul extinderii afacerii este necesar de majorat volumul creditelor noi acordate, iar pentru a asigura „o creștere a rezultatelor financiare ale întreprinderilor este necesară sporirea volumului investițiilor pe termen lung” [13, p. 18]. Promovarea politicilor orientate spre susținerea tinerilor, crearea condițiilor unui trai decent, nu numai va reține tinerii în țară, dar și va spori activitatea IMM și va asigura creșterea economică sustenabilă a țării.

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STRATEGIA DEZVOLTĂRII SISTEMULUI DE SERVICII ȘI PRODUSE BANCARE

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Abstract. In this article, the author aims to study the methods and techniques for developing the strategy of the service sector and banking products, to manage this sector and their implementation on the domestic financial-banking market. The changes produced in the banking system at the end of the 80s of the last century, imposed on the banks the need to adapt and adapt their behavior, including the assumption of their own development strategies, modernization of control, staff restructuring.

We hope that this research will be important for the country's financial and banking system because, thanks to the implementation of new banking services and products, especially electronic technologies, all operations become computerized and banks only need to acquire these software programs to create infrastructure and train the staff after which electronic systems will be introduced into most of the bank's services and products.

The primary objective of each financial institution is to achieve profiled activity under acceptable risk conditions and, to that end, budget preparation is a component of the profit strategy. The bank's management aims at elaborating the strategy of the bank's activity regarding the implementation of new banking services and products and of the adequate banking policies for the achievement of the strategic objectives. The management of a bank, without a good strategy and rigorous control over the launch of banking products and services, cannot be successful in the financial and banking market.

The bases of the bank are profiled activities under acceptable risk conditions, and budgeting is a component of the profit strategy. Profit planning is, in fact, the central element of strategic planning of the bank, the synthetic form in which profit-making is materialized in the revenue and expenditure budget. Of particular importance in the budgetary procedure is the control of the budget execution, which can be correlated with the bank's dashboard, its financial components.

Keywords: strategy, control, management, banking services, banking products, bank audit, banking operations.

JEL Classification: M 41, M42

INTRODUCERE

Procesul gestiunii activității băncii are ca scop principal elaborarea unor strategii bancare, care va permite primirea unui profit și respectiv a politicilor bancare adecvate pentru realizarea obiectivelor strategice. Politica de activitate a băncii este strâns legată și subordonată strategiei de dezvoltare a băncii. Elaborarea strategiei dezvoltării activității băncii trebuie să cuprindă toate componentele activității băncii: dimensionarea și configurarea structurii organizatorice și de personal, proiectarea produselor și serviciilor, relațiile băncii cu clienții.

Managementul eficient al activității băncii cere elaborarea unei strategii privind studierea pieții de servicii și produse bancare pentru plasarea pe piață clienților săi o gamă largă de servicii.

STRATEGIA DEZVOLTĂRII SISTEMULUI DE SERVICII ȘI PRODUSE BANCARE

Obiectivul esențial al oricarei strategii bancare îl constituie nivelul profitului, în condițiile prudenței bancare și supravegherii reglementate a băncii, într-un mediu caracterizat prin risc și incertitudine. Strategia bancară este necesară având în vedere natura și transformările majore produse în sectorul bancar pe plan mondial, îndeosebi după anii '80 ai secolului trecut, când au intervenit schimbări profunde ale mediului bancar, dar și în politicile băncilor mari, sub mai multe aspecte [3, p.138- 139]:

- ✓ a fost modificată concepția despre instituția bancară;
- ✓ a fost revoluționată tehnologia bancară, îndeosebi prin informatizarea operațiunilor bancare;
- ✓ a fost diversificată și inovată structura produselor și serviciilor bancare;
- ✓ a fost modificată și restructurată configurația rețelei bancare, băncile transformându-și sectoarele tradiționale, aparținând o piață de intermediere;
- ✓ a fost acutizată concurența pe piețele financiare, băncile intrând în competiție cu noi instituții financiare și nonbancare.

Schimbările produse în sistemul bancar la finele anilor 80 ai secolului trecut, au impus băncilor necesitatea adaptării și adecvării comportamentelor, inclusiv în asumarea strategiilor proprii de dezvoltare, modernizarea controlului, restructurarea personalului. Adaptarea băncii la aceste schimbări, în condițiile evoluțiilor economico-financiare actuale, presupune înțelegerea și promovarea diferențiată a următoarelor *tipuri de strategie* [4, p.194]:

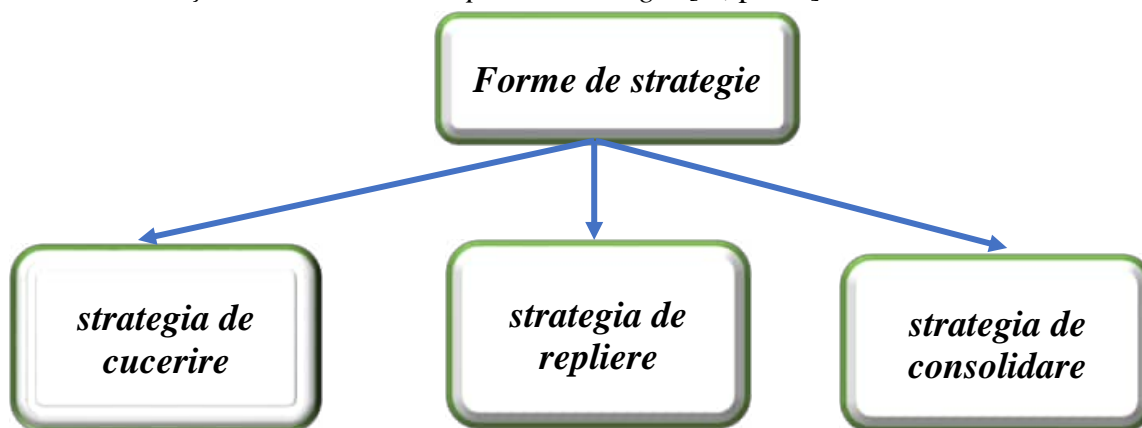


Figura 1. Tipuri de strategie bancară

Sursa: Elaborat de autor

- *strategia de cucerire*, care estimează locul în cursa de afirmare a băncii pe plan național, regional și mondial;
- *strategia de repliere*, restaurare, care implică recunoașterea slăbiciunilor băncii în mediul concurențial și plasarea în poziții subordonative;
- *strategia de consolidare*, specifică fazele de avânt al băncilor, de asumare a propriei dezvoltări.

Implementarea unor noi strategii implică adoptarea unor decizii, care vor fi realizate prin diferite instrumente și tehnici cuprinse în planurile strategice, orientate primordial spre următoarele sectoare strategice: clientelă, resursele financiare, personalul și produsele bancare. Orientarea activității spre aceste direcții evidențiază patru *tipuri de comportamente strategice* ale băncii [3, p.142 - 143]:

- ❖ *comportamentul prudent*, caracterizat prin concentrarea asupra atragerii de resurse financiare și efectuarea de plasamente cu risc minim, implementarea de produse și servicii deja acceptate de piață, dezvoltarea metodologiilor și normelor interne;
- ❖ *comportamentul moderat*, caracterizat printr-o adaptabilitate adecvată, și uneori inovatoare, la variațiile conjuncturale ale pieței resurselor și plasamentelor;
- ❖ *comportamentul agresiv*, caracterizat prin atragerea de resurse la costuri mari și efectuarea de plasamente în condiții de risc, prin realizarea de produse și servicii noi, prin monitorizarea permanentă a pieței;
- ❖ *comportamentul mixat*, promovat prin combinarea diferențiată a celor trei comportamente prezentate, în funcție de evoluția mediului economic și de poziția băncii.

Strategiile pe termen lung ale băncii presupun ajustări în timp ale planurilor, programelor și instrumentelor pe măsura realizării obiectivelor propuse.

TEHNICI ȘI PROCEDURI DE ELABORARE A STRATEGIEI DEZVOLTĂRII SISTEMULUI DE PRODUSE ȘI SERVICII BANCARE

Managementul strategiei dezvoltării băncii se realizează prin următoarele *metode* [4, p.196]:

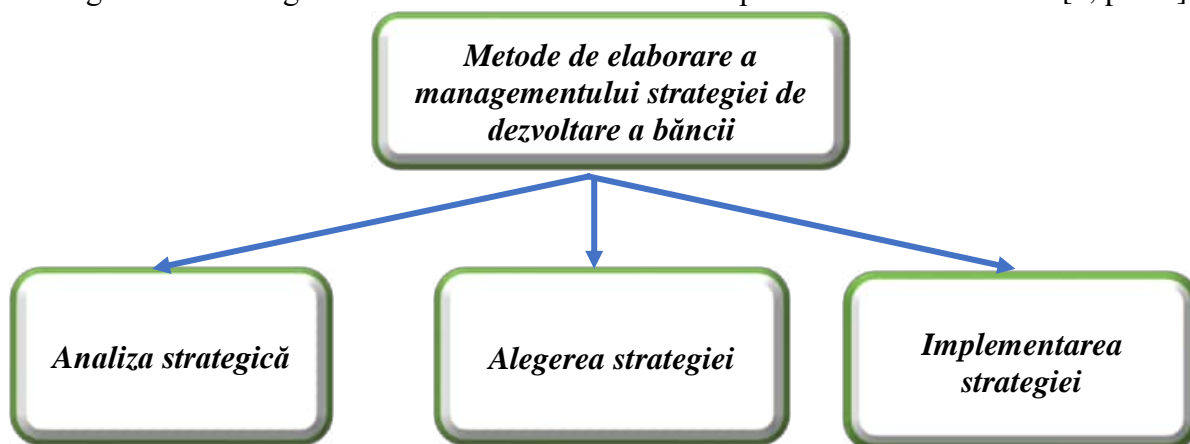


Figura 2. Metode de elaborare a managementului strategiei de dezvoltare a băncii
Sursa: Elaborat de autor

- ✓ *analiza strategică*, care presupune luarea în considerare a obiectivelor, situației concrete, resurselor disponibile, a restricțiilor (constrângerilor);
- ✓ *alegerea strategiei*, care implică identificarea opțiunilor, evaluarea acestora, precum și formularea opțiunii preferate;
- ✓ *implementarea strategiei*, concretizată în planificarea modului de acțiune în baza opțiunii alese, punerea în practică a acesteia, monitorizarea realizării și compararea rezultatelor cu obiectivele.

Principalele componente ale unei strategii bancare sunt [4, p.196 -199]:

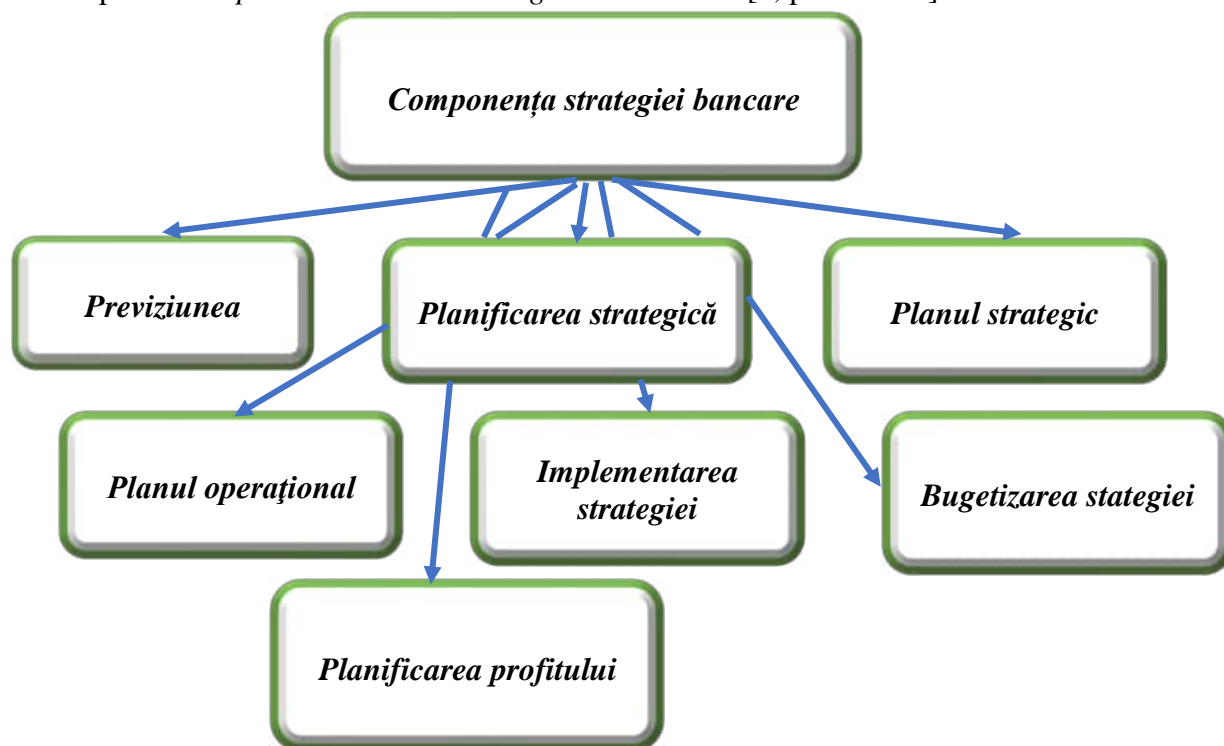


Figura 3. Structura strategiei bancare

➤ **Previziunea.** Previziunile sunt fundamentale pentru elaborarea unei strategii. Elaborarea previziunilor înseamnă a formula diferite ipoteze, privind analiza diferitelor factori și instrumente de gestiune care influențează activitatea băncii.

Utilizarea previziunilor este necesară în elaborarea proiecțiilor anuale ale variabilelor și indicatorilor financiari ai băncii, prin utilizarea unor modele de simulare a anumitor parametri cheie ai băncii. În acest sens, de exemplu, poate fi simulată prin sisteme expert evoluția rezultatelor activității de creditare în funcție de evoluția ratei dobânzii și a ofertei de credit (produse și servicii), permițând astfel anticiparea rezultatelor conform unor scenarii de comportament al ratei și ofertei.

La elaborarea obiectivelor principale privind strategia activității băncii este necesar de analizat toate aspectele privind:

- ✓ *profitabilitatea;*
- ✓ *valoarea acțiunilor;*
- ✓ *cota de piață, (în condiții de costuri, profitabilitate și calitate) care asigură competitivitatea produselor și serviciilor bancare;*
- ✓ *diversitatea și calitatea prestării produselor și serviciilor bancare.*

➤ **Planificarea strategică** reprezintă metodele și instrumentele prin intermediul cărora managementul bancar inițiază principalele misiuni, stabilește obiectivele, evaluează avantajele și oportunitățile, trasează pașii care urmează să fie efectuați. Planificarea strategică analizează factorii interni și externi care influențează asupra activității băncii, identifică riscurile bancare pe care banca le va întâlni în procesul de formare și evaluare a costurilor produselor și serviciilor prestate. Principalele componente ale planificării strategice includ:

Evaluarea externă a performanțelor ia în considerare factorii externi care pot influența asupra atingerii obiectivelor, analizei punctelor tari și slabe ale activității băncii, oportunitățile și pericolele.

Evaluarea internă presupune luarea în considerare a capacităților, potențialului și ofertelor băncii, trebuind să fie evidențiate constrângerile și limitările proprii băncii.

După identificarea și analiza factorilor externi și interni, a influenței lor asupra activității băncii, evaluarea se finalizează prin identificarea avantajelor competitive.



➤ **Planul strategic** reprezintă rezultatul unei activități de concepție, avînd ca elemente principale misiunea și finalitățile. Managementul de vîrf al băncii va reflecta și arbitra asupra opțiunilor fundamentale ale băncii, asupra modalităților de dezvoltare, asupra ritmului de reînnoire a produselor, asupra diversificării serviciilor. Reluînd analiza și evaluarea punctelor tari și slabe, a oportunităților și pericolelor, alegerile strategice vizează punctele cheie care ar permite băncii evoluția spre atingerea finalităților propuse. Aceste finalități se exprimă prin obiective generale și financiare, vizînd capitalul, profitabilitatea, riscurile, acționarii, piața, produsele.

Pentru a realiza aceste finalități, managementul strategic trebuie să efectueze o analiză situațională a băncii comparativ cu misiunea, finalitățile și obiectivele trasate în domeniul situației financiare, produselor și serviciilor prestate, clienților, resursele umane, mediul economic.

În acest sens sunt evidențiate *compatibilitatea și acceptabilitatea opțiunilor strategice* ale băncii [4,p.199]:

- cu potențialul organizațional și cu oportunitățile băncii,
- cu resursele de finanțare și cu portofoliul activelor băncii,
- cu aptitudinile și profesionalismul personalului și managerilor,
- cu interesele și preferințele clienților și partenerilor.

În *promovarea planificării strategice*, este necesar de analizat următoarele opțiuni:

- ✓ necesitatea restructurării ca element al dezvoltării băncii;
- ✓ oportunități de competitivitate în combaterea concurenței;
- ✓ realizarea de contacte;
- ✓ imitarea sau inovarea în perspectiva diferențierii;
- ✓ diversificarea în condiții de vulnerabilitate.

➤ **Planul de acțiune (operațional)** poate fi definit ca o parte formalizată, cuantificată a demersului strategic. Planul trebuie să concretizeze în cifre și mijloace opțiunile strategice. În acest sens, procedurile de planificare sunt standardizate în cadrul băncii, elaborarea planului operațional al băncii presupunînd descentralizarea activităților, stabilirea de planuri operaționale la nivelul departamentelor. Planul operațional este orientat spre client, vizînd creșterea rentabilității în condiții acceptabile de risc.

Elaborarea planurilor operaționale specifice presupune stabilirea obiectivelor tactice, operative, cu termene concrete de realizare, centrate spre realizarea opțiunilor strategice.

➤ **Implementarea strategiei** presupune comunicarea scopului și implicațiilor acesteia personalului băncii, într-un mod clar, eficient și concret.

Pentru implementarea strategiei de dezvoltare a băncii sunt necesare de analizat următoarele elemente:

- *aplicarea planurilor de acțiune* prin stabilirea și promovarea unor planuri de măsuri și bugete corespunzătoare pe ansamblul băncii și, îndeosebi, pe componentele acesteia;
- *monitorizarea și controlul*, în vederea evaluării modului de realizare a obiectivelor, a luării măsurilor corective;
- *clarificarea obiectivelor organizaționale și stabilirea nivelurilor de realizare a acestora* în procesul de îndeplinire a planurilor de acțiune, în scopul reactualizării și adaptării obiectivelor, reconsiderării instrumentelor și mijloacelor de realizare.

Urmărirea realizării strategiei, a planurilor de acțiune implică necesitatea stabilirii unui ansamblu coerent, corelat de indicatori care să permită evaluarea realizării obiectivelor în patru domenii cheie: financiar, clientelar, operațional, resurse umane. Pe fiecare domeniu vor fi definiți indicatorii de decalaj sau ai rezultatelor și indicatorii de performanță sau de orientare, alegerea, formularea și delimitarea acestora făcîndu-se în funcție de situația concretă a băncii.

➤ **Bugetizarea strategiei.** În cadrul managementului strategic al băncii, bugetul reprezintă atît un instrument de planificare contabilă și financiară, cît și un instrument de coordonare a unităților descentralizate ale băncii. Bugetul constă în planificarea nivelului țintă al veniturilor și cheltuielilor, pe ansamblul băncii, pe unitați componente și pe centre de profit. În derularea activității băncii, conform obiectivelor stabilite, sunt evidențiate abaterile de la obiectivele bugetare stabilite. În funcție



de cauzele abaterilor, sunt adoptate decizii de corectare și de adoptare a obiectivelor, bugetul controlând activitatea băncii, îndeosebi din punctul de vedere al cheltuielilor [5, p.70]

În procedura bugetară o deosebită importanță o are controlul asupra realizării bugetului, care poate fi corelat cu tabloul de bord al băncii, al componentelor financiare ale acesteia. Efectuarea **controlului**, urmărirea realizării bugetului, presupune următoarele elemente [1, p.285]:

- ✓ *compararea realizărilor* cu obiectivele bugetare pentru a determina gradul de realizare și a permite analiză ecarturilor;
- ✓ *prezentarea măsurilor*, a mijloacelor necesare recuperării nerealizărilor sau ajustării obiectivelor bugetare;
- ✓ *reactualizarea adaptativă a obiectivelor*, mijloacelor și structurilor bugetare în funcție de necesitățile impuse în perspectivă realizării finalităților strategice.

➤ **Planificarea profitului**. Obiectivul fundamental al băncii îl constituie realizarea unei activități profilate în condiții de risc acceptabile, și în acest sens elaborarea bugetului constituie o componentă a strategiei profitului.

Planificarea strategică a profitului parcurge următoarele *etape*:

- *elaborarea situațiilor descentralizate* referitoare la costurile și veniturile pe centre organizational generatoare de profit și de costuri;
- *prognozarea evoluției elementelor de activ și pasiv* furnizoare de venituri și consumatoare de resurse (cheltuieli), în diverse scenarii evolutive a situației economice a băncii;
- *elaborarea planurilor de profit* pe centre organizaționale, care reflectă „înclinația spre performanță” a acestora, generând ajustări și adaptări din partea managementului de vîrf al băncii, care conduc în final, prin coordonare, la stabilirea planului global al profitului pe ansamblul băncii;
- *stabilirea termenelor, delegarea responsabilităților și alocarea resurselor* pentru implementarea planului de profit.

Planificarea profitului constituie, de fapt, elemental central al planificării strategice a băncii, forma sintetică în care se concretizează planificarea profitului fiind bugetul de venituri și cheltuieli.

Calitatea produselor bancare reprezintă un element important al sistemului de gestiune a relațiilor dintre bancă și clienții săi, precum și a competitivității și profitabilității instituției bancare. Din punct de vedere a managementului băncilor, calitatea produselor oferite de bănci este realizată prin respectarea legislației bancare, a normelor prudențiale impuse de Băncile Centrale, a cerințelor standardelor internaționale privind calitatea serviciilor financiare și reglementările interne ale instituțiilor financiare [2, p.127 -128].

CONCLUZII

În urma studiului efectuat putem să facem următoarele concluzii:

Sistemul bancar, care reprezintă sectorul cheie în orice economie națională, trebuie și el să fie racordat din toate punctele de vedere la realitățile specifice competiției de pe piața bancară europeană, o piață puternică, transparentă și cu tradiție.

Strategia dezvoltării sectorului de servicii și produse bancare poate fi definită ca reprezentînd ordonarea unor valori prioritare ale activității bancare, precum și a unor componente ale politicilor bancare vizînd principalele domenii ale activității băncilor, elaborarea strategiilor presupunînd determinarea obiectivelor, a misiunii și finalităților băncii, stabilirea metodelor și instrumentelor, a tehnicilor de realizare a obiectivelor, prin politici și programe adecvate.

Din punctul de vedere al băncii, costurile scad cu fiecare nou client care utilizează serviciul, degreveză salariații băncii de o serie de operațiuni de rutină și le permite să se concentreze pe alte servicii/priorități sau spre alți clienți, care vor fi serviți mai prompt.

Reușita unei strategii bancare privind implementarea unor noi servicii și produse bancare este apreciată sub următoarele aspecte:

- ✓ varietatea serviciilor și individualizarea poziției competitive;
- ✓ adaptarea activităților bancare la obiectivele strategiei;
- ✓ asigurarea delimitării, distingerii opțiunilor proprii de cele ale concurenței;



- ✓ orientarea activităților spre promovarea avantajului competitiv;
- ✓ existența unei convergențe organizaționale în susținerea strategiilor;
- ✓ operaționalizarea eficientă a realizării strategiilor.

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Abstract. For more targeted measures to contribute additionally beside other existent measures towards tackling the socioeconomic issues of children in difficulty support voucherization can be considered. From the most known and already present voucher uses can be mentioned: meal tickets, vouchers for vocational training, cultural vouchers. In this paper is described the international experience of vouchers for children in difficulty.

Keywords: voucher, children, children in difficulty, socioeconomic support.



Fiind unul dintre cele mai vulnerabile grupuri de populație, copiii aflați în dificultate au nevoie de sprijin direcționat. Bazându-se pe definiția UNICEF, aceștia sunt "victime ale violenței sau neglijării; copii care practică vagabondajul, cerșetoria, prostituția; copii lipsiți de îngrijire și supraveghere din partea părinților datorită absenței acestora; copii ale căror părinți au decedat; copii care trăiesc pe stradă, au fugit sau au fost alungați de acasă; copii al căror părinți refuză să-și îndeplinească obligațiile parentale privind creșterea și îngrijirea copilului; copii abandonati de părinți sau ale căror părinți au fost declarați incapabili printr-o hotărâre judecătorească." [8].

O modalitate de a direcționa sprijinul socio-economic este prin utilizarea de vouchere. Este o metodă deja utilizată în alte domenii: pentru șomeri, tineri, angajați. O aplicație relativ nouă este pentru copiii în dificultate. Direcționarea sprijinului este importantă din două perspective: din partea autorității care îl oferă, astfel încât să poată fi justificat corespunzător, și, de asemenea, din perspectiva beneficiarului care îl primește și poate obține cel mai mare beneficiu pentru nevoile direcționate. Un voucher este un instrument care conferă posesorilor săi dreptul de a primi beneficii în valoare monetară sau în natură. Voucherul poate avea o perioadă de valabilitate. Analiza literaturii științifice arată că acesta poate fi oferit pentru hrană pentru a combate malnutriția sau pentru programe școlare de alimentație, exerciții fizice suplimentare, chiar și pentru locuințe.

Un exemplu de aplicare a voucherelor în rândul copiilor este în susținerea activității lor fizice. Deși nu include doar copiii aflați în dificultate, ci toți copiii, în New South Wales (NSW), Australia, în 2018 s-a implementat un program de vouchere numit "Active Kids" pentru copiii cu vârsta de la 4 ani și 6 luni până la 18 ani, concentrat pe acoperirea cheltuielilor de înregistrare pentru activități fizice organizate, în scopul reducerii obstacolelor pentru activitatea fizică în scopuri benefice sănătății. Foley et al. (2021) au cercetat eficiența acestui program [3]. Rezultatele au arătat o creștere a zilelor în care copiii îndeplineau nivelurile recomandate de activitate fizică de la 4,0 zile pe săptămână la înregistrare la 4,9 zile pe săptămână după jumătate de an.

Creșterea a fost observată în toate grupurile sociodemografice. Partea activităților acoperite de voucher a reprezentat 42,4% din durata totală în care copiii au participat la activități fizice organizate în afara școlii. Copiii și adolescenții care au crescut sau au menținut niveluri ridicate de activitate au primit încurajare socială să rămână activi, au avut părinți sau îngrijitori implicați activ, au demonstrat o concentrare îmbunătățită și au raportat în general o stare de fericire mai mare în comparație cu colegii lor mai puțin activi. Programul voucherelor a crescut în mod esențial nivelurile de activitate fizică ale copiilor, existând astfel beneficii potențiale evidente pentru extinderea programului în scopul implicării copiilor în activități fizice.

Unul dintre mijloacele de prevenire a malnutriției în Somalia sunt voucherile alimentare incluse în același program împreună cu sprijinul financiar. Doocy et al. (2020) au studiat influența sprijinului prin numerar și voucher în prevenirea malnutriției acute la copii în perioada 2017-2018, în contextul crizei alimentare din Somalia [1]. Schimbările în alimentație și cazurile de malnutriție acută au fost evaluate pe o perioadă de 4 luni la copiii cu vârste cuprinse între șase luni și patru ani și 11 luni din gospodăriile care au primit transferuri de aproximativ 450 dolari SUA. Aceste transferuri au fost oferite fie sub formă de vouchere alimentare, fie sub formă de alimente în natură, vouchere și numerar. Apariția malnutriției acute la copiii sub 5 ani a crescut cu mai puțin de 1% pentru beneficiarii de vouchere alimentare, în timp ce a scăzut cu aproape 5% la cei care au primit transferuri mixte. Prin urmare, atât numerarul, cât și voucherile au avut efecte comparabile asupra stării nutriționale a copiilor.

Gospodăriile britanice care au copii eligibili pentru mese școlare gratuite se confruntă cu riscul insecurității alimentare (Lalli, 2023) [4]. Lalli (2023) a efectuat un studiu de răspuns rapid care examinează impactul schemei de vouchere alimentare școlare în timpul crizei COVID-19 asupra tinerilor, familiilor și școlilor. Se subliniază dependența statului de bunăvoința societății și implicarea cetățenilor în acordarea de sprijin esențial celor în nevoie. Utilizând Abordarea Capabilităților, studiul identifică factori care au împiedicat utilizarea eficientă a voucherelor pentru asigurarea bunăstării nutritive a copiilor care necesită mese școlare gratuite.



Abordarea vizează dezvoltarea unei societăți în care copiii și tinerii pot duce o viață aleasă de ei și pot contribui activ la deciziile politice semnificative. Acest studiu calitativ a abordat două întrebări-cheie: cum au răspuns școlile la COVID-19 în ceea ce privește furnizarea de alimente în timpul vacanțelor și obstacolele cu care s-au confruntat familiile în accesarea schemei de vouchere alimentare școlare. Colectarea datelor a implicat interviuri online cu tineri, școli și diverse organizații, inclusiv directori din domeniul sănătății publice și industria alimentară. Constatările evidențiază dificultățile de accesare și utilizare a voucherelor alimentare școlare, însă este esențial să se remarce că descoperirile acestui studiu la scară mică pot să nu fie generalizabile la populația mai largă.

Pe măsură ce economia se redresează în urma crizei COVID-19, costurile locuințelor persistente ridicate vor continua să creeze dificultăți pentru milioane de chiriași cu venituri reduse, crescând riscul instabilității locative și al lipsurilor de locuințe și diminuând șansele de succes pe termen lung ale copiilor lor (Fischer, Acosta & Gartland, 2021) [2]. Un pas esențial implică extinderea Voucherelor de Alegere a Locuinței în SUA către mai multe gospodării și, în cele din urmă, către toți cei eligibili. Cercetările riguroase arată că voucherelor pentru locuințe au un rol foarte eficient în reducerea lipsei de adăpost, instabilității locative și supraaglomerării, îmbunătățind astfel rezultatele pentru familii și copii. Ele joacă un rol crucial în a oferi persoanelor cu venituri reduse posibilitatea de a alege mai multe în privința locuinței lor, asigurându-se că inițiativele de construcție sau reabilitare a locuințelor ajung la cei care au cea mai mare nevoie de ajutor.

În plus, voucherelor pot contribui semnificativ la scoaterea oamenilor din sărăcie și la reducerea inechităților, deoarece provocările privind accesibilitatea la locuințe sunt concentrate în special în rândul celor cu venituri foarte mici. Cu toate aceste avantaje, finanțarea insuficientă a condus la faptul că doar 1 din 4 familii eligibile pentru vouchere a primit orice tip de asistență federală pentru închiriere chiar înainte ca pandemia să lovească, iar în multe părți ale țării există liste lungi de așteptare pentru vouchere. Inadecvarea plasează rețeaua de siguranță a locuințelor într-o poziție precară, lăsând familiile luptând pentru a-și păstra un acoperiș deasupra capului chiar și în perioade economice bune și reprezentând un motiv major pentru care asistența adecvată pentru locuințe nu a fost disponibilă în mod oportun în timpul crizei COVID-19.

În sondaje, non-răspunzătorii pot introduce părtinire și submina validitatea studiilor, făcând crucială explorarea modalităților de îmbunătățire a ratelor de răspuns. Pejtersen (2020) și-a propus să investigheze dacă o recompensă monetară necondiționată poate crește rata de răspuns în cazul copiilor și tinerilor vulnerabili care participă la un sondaj prin corespondență [6]. Cercetarea a utilizat un design de studiu controlat randomizat, având o populație de 262 de copii și tineri implicați într-un program de intervenție stabilit pentru a crea rețele pentru diferite grupuri vulnerabile în această demografie. Participanții, cu o vârstă medie de 16,7 ani (interval 11–28 ani) și 67,9% femei, au răspuns la un chestionar adaptat la trei grupuri de vârstă diferite, acoperind diferite aspecte ale situației lor de viață, inclusiv dimensiuni din Chestionarul de Puncte Tari și Dificultăți. În sondajul ulterior, participanții au fost repartizați aleatoriu în două grupuri, unul care a primit un voucher de 15 € pentru un supermarket împreună cu chestionarul și celălalt care a primit doar chestionarul.

Regresia Poisson a fost utilizată pentru a estima diferențele în ratele de răspuns între grupul de intervenție și grupul de control. Grupul de intervenție a prezentat o rată de răspuns de 75,5%, semnificativ mai mare decât cea a grupului de control de 42,9%, chiar și după ajustarea pentru vârstă și gen. Nu au existat diferențe semnificative în scorurile de scară între cele două grupuri. Analiza ulterioară a relevat că impactul stimulentei a fost mai pronunțat pentru bărbați în comparație cu femeile. Aceste constatări sugerează că stimulentele monetare au potențialul de a crește ratele de răspuns în anchetele care implică copii și tineri vulnerabili.

Global Education Cluster (GEC) a fost activ implicat în stabilirea unei baze de dovezi pentru asistența în bani și vouchere (CVA) în programe de educație în timpul situațiilor de urgență (ESU) conform lui Thakkar et al. (2023) [7]. Acest efort a condus la publicarea "Raportului de Sinteză și Ghidurilor privind Asistența în Bani și Vouchere pentru Educație în Situații de Urgență" în 2019. Acest raport a identificat lacune în dovezi, în special în ceea ce privește rolul CVA în îmbunătățirea echității și incluziunii pentru copiii cei mai marginalizați în ESU, configurând focusul central al



cercetării ulterioare. Împreună, World Vision International, Plan International și GEC Cash Task Team au început să adune dovezi cu privire la impactul CVA asupra promovării echității și incluziunii pentru fete și copiii cu dizabilități în ESU.

Cercetarea a fost ghidată de trei întrebări principale de cercetare: identificarea barierelor unice întâmpinate de fete, copiii cu dizabilități și copiii marginalizați la accesarea în condiții de siguranță și calitate a ESU; abordarea eficientă a acestor bariere prin intervenții integrate cu o componentă CVA, cunoscută și sub denumirea de "cash plus"; și evaluarea impactului acestor intervenții integrate asupra rezultatelor ESU și a altor indicatori ai bunăstării. Cercetarea s-a desfășurat în două faze: recenzia cuprinzătoare a literaturii pentru a obține informații despre starea actuală a educației și programelor de bani în sector și consultări cu informatori cheie, inclusiv experți în educație, protecție, CVA, monitorizare, evaluare, responsabilitate și învățare, și incluziune.

Dovezile generate din cercetare subliniază eficacitatea înaltă a intervențiilor CVA atunci când sunt integrate în programele mai largi de ESU, abordând atât barierele ofertei, cât și cele ale cererii, pentru a îmbunătăți echitatea și incluziunea pentru fete și copii cu dizabilități în situațiile de educație de urgență. Studiul recomandă ca programele CVA specifice ESU să se integreze cu intervenții din alte sectoare, în special protecția, utilizând sprijinul de gestionare a cazurilor pentru a aborda eficient barierele personalizate întâmpinate de fete și copii cu dizabilități. Organizațiile umanitare sunt încurajate să asigure includerea susținută a copiilor marginalizați prin facilitarea soluțiilor pe termen lung pentru barierele economice din partea cererii. Acest lucru implică stabilirea de legături între CVA specific ESU și programele de mijloace de trai și conectarea CVA la mecanismele mai ample de protecție socială și rețele de siguranță. Guvernele trebuie să prioritizeze dezvoltarea de strategii și medii politice incluzive în sectoarele educației și protecției, facilitând CVA eficientă prin asigurarea sprijinului reglementar pentru accesul grupurilor marginalizate și stabilirea de legături cu programele naționale de protecție socială.

Costul a fost identificat ca principalul obstacol în adoptarea unui regim alimentar sănătos în rândul grupurilor vulnerabile (Miguel-Berges et al, 2022) în urma evaluării impactului unei intervenții de educație nutrițională asupra conformității cu Dieta Mediteraneană și asupra stării de sănătate în contextul furnizării de vouchere alimentare [5]. Acest studiu pilot a fost conceput ca un experiment controlat randomizat, includând 66 de utilizatori vulnerabili de la Crucea Roșie din Zaragoza, Spania. Participanții din grupurile de intervenție și control au primit lunar vouchere alimentare în valoare de 120 de euro timp de 3 luni, valabile în supermarketuri (60 de euro/lună pentru cei sub 12 ani), împreună cu un program de educație nutrițională de 10 săptămâni pentru grupul de intervenție. Achizițiile alimentare ale familiilor au fost monitorizate prin intermediul tranzacțiilor electronice înregistrate obținute de la supermarketuri.

Pe durata și la încheierea intervenției, procentul de alimente sănătoase a fost mai ridicat în grupul de intervenție comparativ cu cel de control. Odată cu încheierea educației nutriționale, diferențele între grupuri s-au atenuat. În cadrul grupului de intervenție, s-au observat îmbunătățiri ale parametrilor de sănătate, în special în ceea ce privește starea ponderală, lipidele și enzimele hepatice. Participanții din grupul de control au înregistrat creștere ponderală, deși s-au înregistrat îmbunătățiri ale lipidelor și enzimelor hepatice. Tensiunea arterială nu a înregistrat îmbunătățiri în niciunul dintre grupuri. În concluzie, furnizarea de vouchere alimentare nelimitate grupurilor vulnerabile pentru a promova consumul de alimente sănătoase pare a fi insuficientă și ar trebui să fie însoțită de programe de educație nutrițională pe termen mediu și lung.

Concluzii

Copiii aflați în dificultate sunt considerați a fi unul dintre cele mai vulnerabile grupuri de populație. Aceștia pot fi definiți conform UNICEF drept victime ale violenței sau neglijării, copii care practică vagabondajul, cerșetoria, prostituția, lipsiți de îngrijire sau supraveghere din partea părinților. Copiii aflați în dificultate necesită sprijin direcționat, și o modalitate eficientă de a aborda această nevoie este utilizarea voucherelelor. Voucherele reprezintă o metodă aplicată cu succes în diverse domenii, și în acest context, pot fi utilizate pentru a oferi sprijin socio-economic copiilor vulnerabili. Voucherele pot avea diverse aplicații, inclusiv pentru susținerea activităților fizice ale copiilor,



combaterea malnutriției prin vouchere alimentare, sau acordarea de sprijin financiar în situații de criză. Se oferă exemple de programe care au implementat cu succes vouchere, precum programul "Active Kids" din Australia, care a dus la creșterea nivelurilor de activitate fizică în rândul copiilor. Studii asupra utilizării voucherelor în diverse contexte au evidențiat îmbunătățiri în starea de sănătate, activitate fizică și reducerea riscului de malnutriție.

Furnizarea de vouchere alimentare trebuie însoțită de programe de educație nutrițională pe termen mediu și lung pentru a asigura o schimbare durabilă în comportamentul alimentar și starea de sănătate. Se recomandă extinderea programelor de vouchere pentru a acoperi mai multe gospodării și a asigura accesul la locuințe pentru cei cu venituri reduse. În contexte de urgență, cum ar fi crizele alimentare, voucherurile au demonstrat eficacitate în prevenirea malnutriției acute la copii. În timpul crizei COVID-19, studiile au arătat că voucherurile alimentare școlare au avut dificultăți în asigurarea bunăstării nutritive a copiilor, evidențiind nevoia unei implicări mai puternice și a politicii de sprijin adecvat. Voucherurile pentru locuințe au un rol crucial în reducerea lipsei de adăpost și a instabilității locative, având potențialul de a scoate oamenii din sărăcie. Finanțarea insuficientă a reprezentat un impediment pentru extinderea voucherurilor, iar asigurarea unei finanțări adecvate este esențială pentru succesul programelor de sprijin.

În contextul cercetării privind ratele de răspuns la sondaje, s-a constatat că stimulentele monetare au potențialul de a îmbunătăți semnificativ rata de răspuns, mai ales în rândul copiilor și tinerilor vulnerabili. Cercetarea privind asistența în bani și vouchere în educație în timpul situațiilor de urgență arată că integrarea voucherurilor în programele de educație poate contribui semnificativ la îmbunătățirea echității și incluziunii pentru categoriile cele mai marginalizate.

Cercetarea sugerează că programele CVA ar trebui să fie integrate în programele mai largi, având în vedere necesitatea de a aborda atât barierele ofertei, cât și cele ale cererii, pentru a asigura o educație de calitate și echitabilă. Aceste concluzii subliniază diversitatea și importanța voucherurilor în abordarea nevoilor variate ale diferitelor grupuri vulnerabile și situații, inclusiv a copiilor aflați în dificultate, evidențiind totodată importanța unor strategii bine gândite și finanțare adecvată pentru a asigura succesul programelor.

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CALITATEA ADMINISTRAȚIEI SERVICIULUI VAMAL: PARTICULARITĂȚILE ȘI PERSPECTIVELE DE DEZVOLTARE

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Abstract. International trade strongly influences the level of development of the states' economy. Therefore, for the economy's sustainable growth and the Customs Service's continuous development, it is necessary to reduce the time required for customs clearance and accelerate the traffic of goods. This goal can be achieved by identifying the effective organizational structure and introducing beneficial experiences within the national customs administration. At the same time, developing and adapting information technologies to the needs of the Customs Service is beneficial. In this article, there is a comparison of the efficiency of the Customs Services of different states based on the time required to carry out the export procedures to identify the factors necessary to improve the activity of the Customs Service in the future.

Keywords: customs service, information technology, export, administration, international trade.

Introducere

Comerțul internațional influențează drastic nivelul de viață al populației datorită faptului că permite funcționarea continuă a economiei. După carantina, și pandemia COVID-19 au fost dezvoltate noi căi de comercializare a mărfurilor prin intermediul surselor digitale și crescuseră volumul mărfurilor digitale comercializate. Aceste fenomene au creat necesitatea dezvoltării Serviciului Vamal atât din punct de vedere administrativ, cât și digital.

Pentru elaborarea articolului au fost analizate lucrările ce studiază aparatul administrativ al Serviciului Vamal precum ar fi lucrările lui J.Olah și coautorii [10], ce analizează modernizarea și armonizarea serviciilor vamale pe plan internațional. R.Tavengerwei scria despre dezvoltarea procedurilor administrative a serviciului vamal ce poate duce la creșterea volumului de tranzit a mărfurilor pe piața internațională [12, p. 372]. Emmanuelle Ganne a investigat rolul tehnologiilor avansate în comerțul transfrontalier [4]. Sam Fleuter oferă un nou sistem de clasificare a produselor digitale ca bunuri sau servicii [2].

C.Lagarde scrie că „Intrăm într-o nouă eră a comerțului – o eră în care fluxurile de date devin mai importante decât comerțul fizic” [8]. Creșterea fluxurilor de date și reducerea tranzitului de mărfuri brute este demonstrată și de către Raportul WTO, care a înregistrat o încetinire bruscă în anul 2022 a fluxului de mărfuri. Se prognozează că creșterea producției globale se va încetini în anul 2024, marcând al treilea an consecutiv de decelerare. Creșterea comerțului global în 2023 a fost comparativ lentă, cu contractarea comerțului cu mărfuri pe fondul anemiei globale în sfera producției industriale. Comerțul cu servicii a continuat să-și revină după efectele pandemiei, dar la un ritm mai lent decât se aștepta anterior.

Conform raportului Băncii Mondiale se estimează că comerțul va crește cu 2,3% în anul 2024, reflectând parțial o redresare a cererii pentru bunuri [3]. Toate aceste schimbări sunt influențate nu doar de către pandemia COVID-19, ce a marcat reducerea drastică a volumului comerțului internațional, ci și de conflictele recente în Orientul Mijlociu și Europa. Șocurile date, cu toate că au influențat volumul de producție și cel al comerțului, totuși nu demonstrează rigid lipsa importanței



pentru mărfurile fizice, deoarece fără economia reală nu poate exista economia digitală și derivatele ei.

Datorită comerțului internațional statul importă acele bunuri și servicii pe care nu le poate produce pe teritoriul său, precum ar fi utilajul, instrumente de înaltă precizie, și chiar unele produse alimentare. De exemplu, SUA a importat apă minerală în sumă de 686,3 mil. de dolari în anii 2022, ceea ce reprezintă 26% din importul mondial al apei minerale [14]. În același timp, comerțul activ cu țările străine supune securitatea națională unui careva risc datorită apariției posibilității circulației contrabandei și a mărfurilor necalitative sau periculoase. Importanța circulației bunurilor fizice nu-și va pierde actualitatea, deoarece sectorul real este baza materială pentru celelalte sectoare ale economiei.

Administrația Serviciului Vamal

În activitatea operațională a Serviciului Vamal „au fost stabilite diferite funcții ale organelor vamale și prioritățile acestora” [11, p. 278]. În special, putem menționa următoarele funcții cheie, precum ar fi: asigurarea securității naționale și internaționale pe baza controlului traficului internațional al mărfurilor și produselor, asigurarea integrității teritoriale a țării prin delimitarea și securizarea frontierelor naționale, crearea unei baze de date privind comerțul internațional pentru luarea deciziilor prompte de către managementul vamal ce vor fi bazate pe informații solide, asigurarea bunăstării societății prin împiedicarea pătrunderii în țară a produselor dăunătoare și a celor ce nu sunt conforme cu standardele stabilite pe teritoriul supravegheat.

Potrivit clasamentului internațional „Doing Business” oferit de Grupul Băncii Mondiale [13], Franța are unul din cele mai dezvoltate sisteme vamale din lume. Clienții Serviciului Vamal francez sunt complet mulțumiți de serviciile primite. Practic, toți indicatorii referitori la perioada de perfectare și costurile financiare ale controlului vamal, precum și a celor de documentare a tranzacțiilor de export-import sunt egale cu zero. Conform datelor din anul 2020 este necesară doar o jumătate de oră pentru perfectarea documentelor vamale cu privire la tranzacțiile de import și export în Franța. Aceste date dovedesc faptul că Franța deține unul din cele mai dezvoltate și bine organizate administrații în cadrul Serviciului vamal.

În Franța, Serviciul Vamal este poziționat ca un organ ce reglementează comerțul internațional, de asemenea organul dat suportă creșterea volumului operațiunilor de comerț extern, simplifică procedurile de vămuire și asigură securitatea economică a țării. Misiunea cheie a Serviciului vamal din Franța este de a promova comerțul securizat și onest la nivel internațional, în interiorul Uniunii Europene și pe piața internă. Administrația vamală în Franța este denumită Direcția Generală pentru Vamă și Impozitare Indirectă. După tipul de administrație vamală, Serviciul vamal francez reprezintă un organ separat în structura autorităților publice. Din punct de vedere organizatoric, Serviciul vamal francez este format din administrația generală, ce are în subordine 12 oficii regionale și 7 departamente naționale.

Administrația Generală este situată în Montreuil și include 6 departamente separate și un departament de statistică specializat. În mod clar funcția statistică a autorităților vamale acordă prioritate rolului cooperării vamale internaționale. Conform principiului funcțional, cum am menționat mai sus, Serviciul Vamal francez este format din 7 departamente: administrația vamală, managementul investițiilor și informațiilor vamale, managementul recrutării și formării profesionale, statistica și managementul comerțului internațional, centrul tehnologiilor informaționale, laboratoarele vamale și muzeul vamal național. Structura dată creează o eficacitate înaltă datorită mecanismului complex de conducere bazat pe principiul funcțional.

Conform datelor din Tabelul 1 nu numai Franța ci și alte state europene precum Cehia, Danemarca și Estonia se bucură de o perioadă extrem de redusă a timpului destinat perfectării documentelor de export ce nu depășesc o jumătate de oră. În același timp perioada de rambursare a taxei pe valoare adăugată este cea mai redusă în Estonia, fiind de doar 2,3 săptămâni, în Franța fiind de 6,16 săptămâni.

Poate fi observată o legătură dintre nivelul de venit și timpul de perfectare a documentelor de export și timpul de rambursare a TVA. După cum observăm din datele Tabelului 1, în țările Europene,



cu un nivel înalt al venitului, timpul de perfectare a documentelor de export nu depășesc o oră, în același timp perioadă de perfectare a documentelor este de circa 2 ore în Japonia, ceea ce poate fi explicat prin faptul că în țările Uniunii Europene există un grad înalt de armonizare a Serviciilor Vamale a statelor membre.

Țările cu un nivel mai scăzut al veniturilor necesită o perioadă mai îndelungată pentru efectuarea operațiunilor vamale, de exemplu astfel de țări cu un nivel scăzut al veniturilor precum Etiopia și Malawi necesită 76 și respectiv 75 de ore pentru conformarea documentelor de export. În același timp perioada de rambursare a TVA este de asemenea prelungită în comparație cu statele cu un nivel înalt al veniturilor, fiind de 48,7 și respectiv 44,3 de săptămâni. Aceste date pot fi explicate prin faptul că aceste țări nu dețin resurse suficiente pentru investirea în dezvoltarea economică, și în special în dezvoltarea sistemelor digitale și instruirea personalului.

Dar dacă comparăm Republica Moldova cu Liban, observăm că timpul destinat exportului este același și este egal cu 48 de ore, iar timpul de rambursare a TVA este mai mic în Moldova fiind echivalent cu 13,3 săptămâni în comparație cu cel din Liban (43,64 săptămâni). Este necesar de menționat faptul că Liban se clasează ca țară cu un nivel de venit mediu înalt, în timp ce Moldova se clasează ca țară cu un nivel de venit mediu scăzut. Egalitatea intervalului de timp necesar pentru „proceduri documentare și vamale ale tranzacțiilor de export” poate fi explicată prin faptul că ambele țări au înregistrat aproximativ aceeași valoare a Information and Communication Technology Index (în anul 2015, Moldova a înregistrat 5,81, iar Liban - 6,29). Diferența dintre perioada de rambursare a TVA poate fi explicată prin diferența politicii vamale și a faptului că Republica Moldova este la un nivel relativ înalt de armonizare cu politicile vamale a vecinilor și deține un aparat vamal comparativ mai dezvoltat.

Tabelul 1. Timpul de export și rambursare a TVA (2020)

Țara	Nivelul venitului	Timpul pentru proceduri documentare și vamale ale tranzacțiilor de export (ore)	Timp de rambursare a TVA (săptămâni)
Cehia	Înalt	0,5	17,73
Danemarca	Înalt	0,5	10,1
Dominica	Mediu înalt	12	31,9
Egipt	Mediu scăzut	88	34,45
Estonia	Înalt	0,5	2,3
Etiopia	Scăzut	76	48,7
Franța	Înalt	0,5	6,16
Germania	Înalt	1	5,16
Jamaica	Mediu înalt	47	89,45
Japonia	Înalt	2,37	10,8
Liban	Mediu înalt	48	43,64
Malawi	Scăzut	75	44,3
Moldova	Mediu scăzut	48	13,3

Sursa: The World Bank. “Doing Business”.

Efectul digitalizării asupra Serviciului Vamal

În situația de astăzi economiile statelor se află într-o perioadă de recuperare după pandemia COVID-19, are loc restabilirea lanțurilor de aprovizionare și a volumului de import/export. Mecanismele de reglementare a operațiunilor vamale nu sunt destul de acomodate cu tehnologiile informaționale și cu modelele de afaceri pe care le creează. Pe agenda administrațiilor vamale ale lumii se află problemele conformării cu practica actuală a realității ce se află în continuă schimbare. În 2016, înainte de pandemie, McKinsey Global Institute a publicat raportul „Globalizarea digitală: noua era a fluxurilor globale”, unde concluziona că fluxurile tot mai mari de date și informații generează acum mai multă valoare economică decât comerțul global de bunuri fizice. Pandemia a lansat o evoluție enormă în toate domeniile legate de sfera digitală.



Principalii factori de creștere a fluxurilor transfrontaliere sunt datorate activelor necorporale, serviciilor, și forței de muncă înalt calificate. Fluxurile de servicii, studenții internaționali și proprietatea intelectuală au crescut de aproximativ de două ori mai rapid decât fluxurile de mărfuri în perioada anilor 2010–2019. Fluxurile de date au crescut cu aproape 50% anual [9]. În timp ce comerțul cu mărfurile fizice nu a înregistrat careva creșteri majore.

Există o careva diferență dintre mărfurile brute: materii prime, produse, echipamente și comerțul internațional digital. Sunt două concepte distincte și separate, comerțul electronic este cel al mărfurilor și serviciilor comandate prin mijloace digitale și livrate fizic către destinatar [5, p. 51]. Se poate face referire la comerțul electronic ca bunuri fizice cumpărate prin intermediul platformelor digitale care ar putea fi expediate în străinătate pe piețele externe. Comerțul digital este transferul de date, produse sau servicii prin mijloace electronice, de obicei prin intermediul tehnologiei web [7, p. 74].

Comerțul digital poate juca un rol în comerțul electronic prin facilitarea și stimularea vânzărilor, pentru bunurile fizice [1]. De asemenea, există o frecvență tot mai mare de combinare a elementelor date într-o singură vânzare precum ar fi comercializarea automobilului și activarea contra plată a funcțiilor blocate digital de către producător. Este important de subliniat că costul de element digital în prețul bunurilor finale poate fi de câteva ori mai mare decât prețul „componentei fizice” [6, p. 9]. Astfel, conceptul de produs a devenit mult mai larg. Marfa se referă acum la o gamă largă de active atât fizice cât și virtuale.

World Customs Organization a lansat specificațiile tehnice privind comerțul electronic transfrontalier [15]. Aceste specificații reprezintă o colecție de studii de caz ce sunt în mod regulat publicate și reflectă practica de lucru cu comerțul electronic în țările membre și experiența acestora în implementarea standardelor WCO. Odată cu dezvoltarea comerțului digital este necesară și dezvoltarea Serviciului Vamal pentru acomodarea la noile condiții ale pieței și aplicarea tehnologiilor informaționale în cadrul aparatului administrativ al Serviciului Vamal la un nivel mai înalt.

Concluzii

Odată cu anularea situației excepționale, care a fost cauzată de epidemia COVID-19, țările au început să-și restabilească volumul comerțului exterior. De asemenea a crescut volumul comerțului digital și al mărfurilor virtuale, în special a celor care nu trebuie transportate. Pentru ca creșterea volumului de comerț al bunurilor fizice să atingă un nivel înalt și într-un ritm rapid, este necesar un aparat administrativ al Serviciului Vamal bine organizat și structurat. Franța deține un aparat administrativ foarte eficient și un grad înalt de armonizare a metodologiei operațiunilor vamale cu membrii Uniunii Vamale, ce permite o rapiditate înaltă în prelucrarea operațiunilor de import/export.

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ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ РАЗВИТИЯ ИНТЕРНАЦИОНАЛИЗАЦИИ ИССЛЕДОВАТЕЛЬСКОЙ ДЕЯТЕЛЬНОСТИ В КОМРАТСКОМ ГОСУДАРСТВЕННОМ УНИВЕРСИТЕТЕ

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Abstract. Internationalization of research activities creates value for research, development and innovation in higher education and aims to improve the quality and dissemination of R&D results. Study of this topic and the results of a survey of university staff presented in this article revealed the



main problems and directions for the development of the internationalization of research activities. The analysis of existing strategic documents serves as the basis for the development of a Policy to stimulate the promotion of internationalization of research at Comrat State University. The proposed policy areas represent a set of measures aimed at eliminating identified shortcomings and providing the conditions necessary to increase the efficiency, relevance and international competitiveness of research results.

Keywords: R&D, internationalization of R&D, research activities, innovation in higher education.

Интернационализация исследовательской деятельности создает ценность для исследований, разработок и инноваций систему высшего образования и направлена на повышение качества и улучшение распространения результатов [1]. Европейское исследовательское пространство (ERA) является основой формирующегося в Европе «общества знаний», которое мобилизует науку, образование, обучение и инновации для достижения экономических, социальных и экологических целей ЕС [2].

Республика Молдова стала первой страной Восточного партнерства, получившей статус государства, связанного с седьмой Рамочной программой ЕС по исследованиям, технологическому развитию и демонстрационной деятельности (2007-2013 гг.), а впоследствии и с Рамочной программой ЕС по исследованиям и инновациям (2014- 2020) «Горизонт 2020» и Horizon Europe [3].

Реформа молдавской системы НИОКР все еще продолжается, и ожидается, что следующая Национальная программа развития R&D охватит период 2024–2027 годов [4]. В ней будет изложен комплекс мероприятий, направленных на устранение выявленных недостатков и обеспечение условий, необходимых для повышения эффективности, актуальности и международной конкурентоспособности результатов исследовательской деятельности. На уровне университетов ведется активная работа по созданию международных исследовательских коллективов. В рамках проекта, финансируемого Шведским институтом, «Расширение возможностей продвижение международных исследований» было проведено исследование состояния данного вопроса на уровне вуза.

Были проанализированы существующие стратегические документы КГУ, содержащие или отражающие политику в области интернационализации научно-исследовательской деятельности служат основой для разработки Политики стимулирования содействия интернационализации исследований в Комратском государственном университете (КГУ), а также оказания помощи исследователям и исследовательским группам, руководителям кафедр и ректоратам университета в развитии данного вида деятельности [5]:

1. Программа стратегического развития КГУ на 2023-2027 годы (утверждена решением Сената КГУ от 22 июня 2023г.);
2. Стратегия интернационализации КГУ на 2020-2025 годы (утверждено решением Сената КСС от 09.07.2020г);
3. Положение об управлении научной деятельностью и поддержке талантов (утверждено решением Сената КГУ от 18 февраля 2020 года);
4. Руководство по привлечению иностранных преподавателей и исследователей в КГУ (утверждено решением Сената КГУ от 18.02.2020);
5. План мероприятий КГУ по интеграции в Европейское исследовательское пространство (утвержден решением Сената КГУ от 18.02.2020);
6. Кодекс университетской этики КГУ (утвержден решением Сената КГУ от 26 января 2012 года).

Опрос научно-педагогического состава относительно развития научно исследовательской деятельности проводился посредством анонимного онлайн-опроса, последующей обработки персональных данных и составления выводов по результатам исследования. Распространение анкеты и процесс опроса проходили с 1 по 10 октября 2023

года. Из 120 штатных сотрудников ответили 40%, из них 23% - мужчины и 77% - женщины. Основное количество респондентов составили 35% представители факультета национальной культуры, 33% - экономического факультета, 19% - юридического факультета и 13% - факультета агротехнологий; 50% опрошенных имеют стаж работы 21 и более лет, 16-20 лет - 19% опрошенных, 9-15 лет - около 17%, остальные имеют стаж работы до 8 лет.

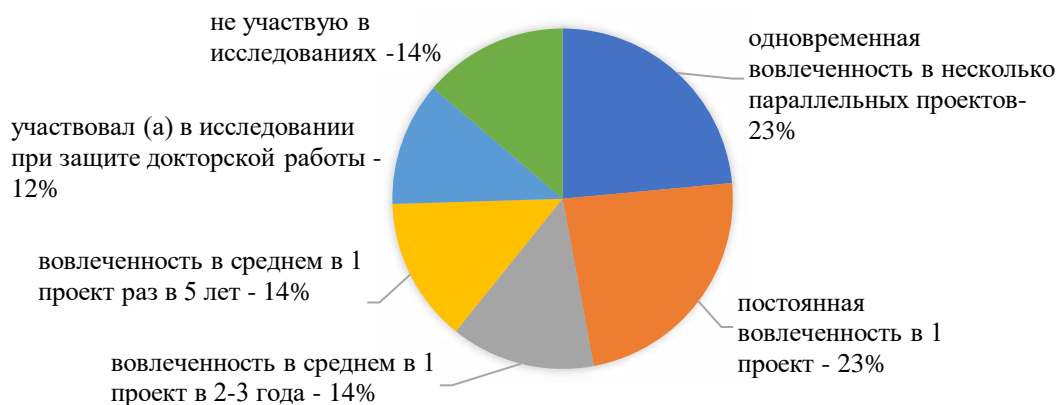


Рисунок 1. Уровень личного участия в международных исследовательских проектах

Не занимаются научной деятельностью на момент проведения опроса 14% респондентов, 12% проводили исследования при разработке и защите докторской работы. Таким образом, около четверти профессорско-преподавательского состава (ППС) не вовлечены в исследовательскую деятельность на постоянной основе. Около 23% ППС одновременно задействованы в нескольких проектах регионального, национального и международного уровня; 23% ППС постоянно включали 1 проект; от 14% ППС участвуют минимум в 1 проекте каждые 2-3 года; 14% ППС включаются в проектную деятельность раз в 5 лет.

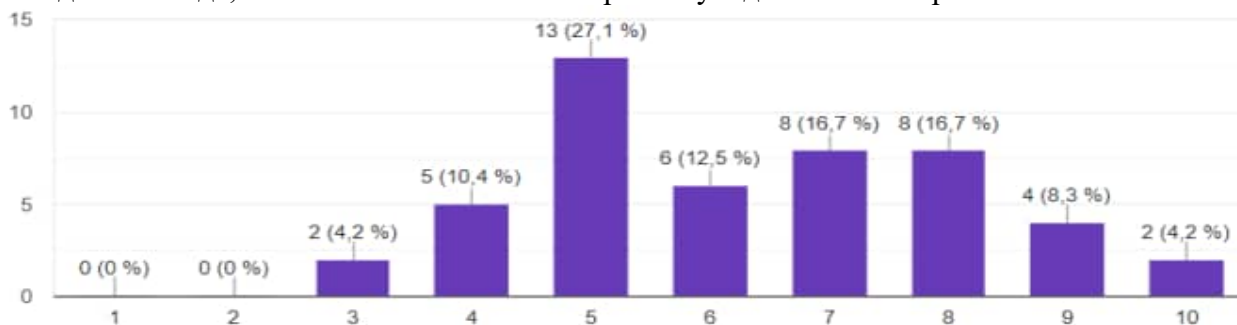


Рисунок 2. Уровень участия сотрудников КГУ в международных исследовательских проектах (1 – низкий уровень, 10 – высокий уровень)

Уровень участия сотрудников КГУ в международных исследовательских проектах оценивается в среднем в 6,3 балла (рисунок 2). Необходимо отметить специфику региона, выражающуюся в высокой языковой нагрузке знания местных языков: гагаузского и болгарского. Респондентами отмечен низкий уровень знания иностранных языков (85,4%); 62% отметили низкий уровень навыков привлечения международных партнеров; 42% отметили пассивность ППС в сфере исследовательской деятельности; около 40% отметили пассивность работы международного отдела (рисунок 3).

В качестве причин, ограничивающих научно- исследовательскую деятельность преподавателей, респондентами указано следующее:

- ✓ Высокий уровень нагрузка лекционными часами (800-900 часов в год), отсутствие оплаты научной деятельности (кроме часов, отведенных на работу с аспирантами).

- ✓ Больше времени уделяется работе различного рода аккредитационных комиссий, которые носят бюрократический характер и не оставляют времени на исследовательскую работу.
- ✓ Кроме того, не каждый преподаватель имеет достаточно компетенций, чтобы заниматься наукой.



Рисунок 3. Ограничения участия сотрудников КГУ в международной научной деятельности

- ✓ Университеты не могут обеспечить тот же уровень проведения научных исследований, что и научно-исследовательские институты (ранее подчинявшиеся Академии наук).
- ✓ Научные сотрудники занимаются только исследовательской деятельностью, мы, преподаватели, параллельно с научной деятельностью должны заниматься и академической лекционной деятельностью. Осуществлять одновременно двумя этими видами деятельности при существующей педагогической нагрузке невозможно - отсюда и низкие показатели вовлеченности в науку.

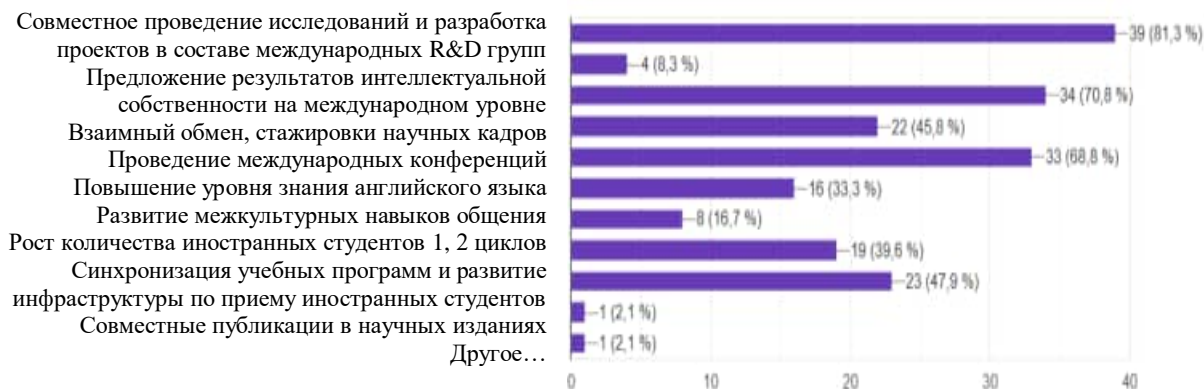


Рисунок 4. Факторы, способствующие развитию исследовательской деятельности на международном уровне

В качестве основных факторов, способствующих развитию и продвижению исследовательской деятельности сотрудников университета на международном уровне были названы: 82% - совместные исследования в рамках международных групп; 71% – взаимный обмен, обучение и стажировка; 69% - улучшение навыков английского языка; синхронизация учебных программ, развитие инфраструктуры по приему иностранных студентов и, как следствие, рост количества иностранных студентов 1, 2 циклов отметили более 40% респондентов (рисунок 4).

На основе опроса мнений преподавателей КГУ был разработан SWOT-анализ, целью которого является формулирование основных направлений развития университета



посредством систематизации имеющейся информации о сильных и слабых сторонах университета, а также потенциальных возможностях и угрозах.

Таблица 2. SWOT-анализ возможностей развития интернационализации исследовательской деятельности

СИЛЬНЫЕ СТОРОНЫ	НЕДОСТАТКИ
<ul style="list-style-type: none"> ✓ Опыт участия университета в реализации проектов академической мобильности и в рамках соглашений о сотрудничестве, ✓ Опыт университета в реализации международных проектов, ✓ Обучение в университете для иностранных студентов, ✓ Наличие образовательных программ, реализуемых на английском языке, ✓ Лингвистическая близость с тюркоязычными народами. 	<ul style="list-style-type: none"> ✓ Небольшая доля сотрудников со знанием английского языка, ✓ Отсутствие совместных образовательных программ, ✓ Ограниченные финансовые возможности университета при реализации академической мобильности и международных проектов, ✓ Слабое сотрудничество в сфере научно-исследовательской деятельности с зарубежными университетами, ✓ Слабая мотивация ППС к участию в международных проектах.
ВОЗМОЖНОСТИ	УГРОЗЫ
<ul style="list-style-type: none"> ✓ Повышение узнаваемости КГУ на национальном и международном уровнях, ✓ Разработка программ приграничного сотрудничества, ✓ Возможность гибкого формирования и обновления образовательных программ, ✓ Финансовая доступность образовательных программ КГУ для иностранных граждан. 	<ul style="list-style-type: none"> ✓ Усиление конкуренции между университетами на национальном и международном уровнях, ✓ Снижение рождаемости и увеличение оттока молодежи из страны, ✓ Отсутствие мотивации молодежи к научно-исследовательской деятельности в связи с ухудшением экономической и политической ситуации, ✓ Рост демотивации квалифицированных преподавателей и научных сотрудников.

SWOT- анализ возможностей развития интернационализации исследований позволяет выделить 3 приоритетных направления:

Приоритет 1. Формирование дружественной и открытой среды для развития и продвижения интернационализации.

Мера 1. Стимулирование научно-исследовательской деятельности академических (педагогических и научных) сотрудников.

- ✓ Проведение оценки потребностей в развитии научно-исследовательской деятельности на каждом факультете.
- ✓ Расширение доступа к электронным исследовательским базам данных.
- ✓ Создание вузовской базы данных доступных исследований по тематическим направлениям (факультетам).
- ✓ Начало издания научного журнала КГУ «BUGEAC REVIEW» (экономический, культурный, правовой, сельскохозяйственный).

Мера 2. Модернизация инфраструктуры и оборудования, влияющая на исследования и научные процессы в КГУ.

- ✓ Создать на факультете рабочие группы для разработки проектов научного партнерства.
- ✓ Создание отдельной страницы на сайте КГУ с публикацией анонсов научных проектов и публикаций.



- ✓ Создание веб-страницы с кратким изложением результатов исследований научными сотрудниками.
- ✓ Активизировать работу существующих лабораторий для привлечения заказов на исследования.

Приоритет 2. Развитие передаваемых навыков и исследовательской этики академического персонала.

Мера 1. Развитие профессиональных навыков.

- ✓ Проведение постоянных онлайн-курсов английского языка на каждом факультете.
- ✓ Организация регулярных семинаров, круглых столов для устойчивого развития исследовательских навыков.
- ✓ Проведение повышения квалификации в области передаваемых навыков и исследовательской этики.
- ✓ Разработка программ двойных и совместных дипломов.

Мера 2. Активное участие в международной научно-исследовательской деятельности.

- ✓ Увеличение количества публикаций в цитируемых изданиях.
- ✓ Подписание новых соглашений о мобильности исследователей, научных стажировках с университетами, научно-исследовательскими институтами.
- ✓ Стимулирование участия научных исследователей в образовательных программах, в том числе дистанционного обучения.
- ✓ Мотивация персонала за опубликованные статьи в Scopus.

Приоритет 3. Развитие сотрудничества и сетевого взаимодействия.

Мероприятие 1. Развитие сотрудничества КГУ с организациями разных отраслей.

- ✓ Планирование мероприятий по НИОКР на основе государственно-частного партнерства.
- ✓ Разработка плана развития сотрудничества с партнерами из отраслей бизнеса.
- ✓ Развитие сотрудничества с НИЦ им. Маруневич по тематическим направлениям.
- ✓ Укрепить партнерство с Исполнительным комитетом для проведения тематических региональных исследований.
- ✓ Развитие сотрудничества с организациями гражданского общества.

Мера 2. Стимулирование участия исследователей КГУ в проектах.

- ✓ Актуализировать партнёрские соглашения и инициировать переписку с партнёрами.
- ✓ Поручение работы с партнерами группам исследователей по факультетам.
- ✓ Активно участвовать в развитии международных исследовательских проектов.
- ✓ Установить постоянный контакт с национальными офисами Национального Агентства исследований и развития и Горизонт Европа.
- ✓ Проведение курсов по написанию проектов и поиску партнеров.

Достижение приведенных выше направлений развития и продвижения интернационализации исследовательской деятельности позволит усилить присутствие ППС в наукометрическом пространстве и, в целом, повысить конкурентоспособность университета в мировом исследовательском ландшафте.

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МЕГАТRENДЫ ЧЕТВЕРТОЙ ПРОМЫШЛЕННОЙ РЕВОЛЮЦИИ: СОСТОЯНИЕ, ПЕРСПЕКТИВЫ, ВЫЗОВЫ

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Abstract. The article examines megatrends of systemic transformations of the economy and society in the context of the transition from an industrial model to a super-productive post-industrial one, a change in the technological basis within the framework of the fourth industrial revolution.

It is concluded that the fourth industrial revolution, its megatrends lead to fundamental changes, confronting each country with the need to comprehensively and comprehensively assess ongoing global processes and develop an adequate strategy and tactics for national innovative and digital development.

Keywords: industrial revolution, megatrends, digitalization, robotization, artificial intelligence, challenges, national development.

Современная эпоха – это эпоха четвертой промышленной революции, когда происходят радикальные изменения технологий: нано-, био-, информационных, когнитивных и социогуманитарных. Технологические инновации стимулируют социальные изменения; возникает необходимость осмыслить происходящее и в его текущей форме, и в перспективе тех будущих трансформаций, что технологии несут человечеству.

Глобальными трендами четвертой промышленной революции являются искусственный интеллект, квантовые вычисления, роботизация, цифровизация экономики и общества, безлюдные технологии, нанотехнологии, принципиально новые неисчерпаемые источники энергии, геновая инженерия, конструирование биологических систем, «зеленые технологии», инструментальное воздействие на индивидуальное и групповое сознание, метавселенные, в которых люди взаимодействуют друг с другом и цифровыми объектами через свои аватары, технология блокчейн; государственные цифровые платформы и тематические маркетплейсы; «Интернет вещей» (IoT) и другое.

Из этих глобальных трендов четвертой промышленной революции современную миросистему характеризуют глобальные *мегатренды* мирового развития, к которым можно отнести: *инновационно-цифровую модернизацию экономики и общества, автоматизацию и роботизацию, внедрение искусственного интеллекта.*

И действительно самыми цитируемыми и обсуждаемыми темами являются *цифровизация, роботизация, искусственный интеллект и машинное обучение*, то есть те



направления, которые в современных условиях имеют наибольшее развитие и с большой перспективой на будущее.

Цифровизация экономики и общества выступают основой четвертой промышленной революции и это один из главных мегатрендов *мирового развития* на длительную перспективу. Большинство цифровых технологий опираются на подключенность пользователей к сети Интернет. Интернет преобразил торговлю, коммуникации, систему образования и профессиональной подготовки, производственные цепочки и саму экономику, перевернул взгляды на старые бизнес-модели, общественные и государственные институты, открыл новую эру в экономической, социальной и политической истории, заставил по-новому взглянуть на всю систему международной и национальной безопасности, в первую очередь на систему информационной и инновационной безопасности [8, с. 99–113].

С использованием цифровых технологий изменяются повседневная жизнь человека, производственные отношения, структура экономики и образование, а также возникают новые требования к коммуникациям, вычислительным мощностям, информационным системам и сервисам. Современные средства коммуникации объединяют людей, создавая тем самым глобальное цифровое общество, где люди могут пользоваться в максимальной мере своими социальными свободами.

Цифровая экономика представляет собой новую форму организации социума, государства, деловой среды. Взаимодействие субъектов рыночных отношений происходит в виртуальной среде с использованием информационных и цифровых технологий, интеллектуального капитала. Стремительная цифровизация оказывает влияние на все аспекты жизни общества, включая не только то, каким образом создается и обменивается стоимость, но и то, каким образом мы взаимодействуем, работаем, делаем покупки и получаем услуги. Директор-распорядитель МВФ Кристилина Георгиева, отметила, что более 100 государств – членов МВФ активно работают в сфере цифровизации [4].

Глобальный рынок цифровых технологий в 2023 г. увеличился до 2,3 трлн. долл. США, то есть за пять лет удвоится. 68% бизнес-лидеров планеты цифровую трансформацию называют главным приоритетом для своих компаний [10].

Широкое развитие получили *виртуальная и дополненная реальность (VR/AR)* и *аддитивные технологии (Additive Manufacturing)*. Виртуальная реальность (VR) – это симуляции, созданные с помощью шлемов виртуальной реальности. Отличием от дополненной реальности (AR) является то, что настоящие предметы полностью исчезают из поля зрения и вы видите только виртуальную среду. *Аддитивные технологии (Additive Manufacturing)* – метод создания трехмерных объектов, деталей или вещей путем послойного добавления материала: пластика, металла, бетона и, возможно, в будущем – человеческой ткани. *Аддитивное производство* – класс перспективных технологий. Ежегодные темпы роста мирового рынка аддитивных технологий составляют 15%. По мнению аналитиков до 51% рынка аддитивных технологий будет приходиться на авиационную промышленность, сферу здравоохранения.

Вместе с тем, цифровизации, несмотря на огромные преимущества для экономики и общества, несет серьезные вызовы и угрозы современному и будущему развитию мира.

Одним из вызовов являются *цифровые технологии властного контроля*, дающие возможность власти установить тотальный контроль над поведением граждан. Так, система социального рейтинга, внедренная в Китае с применением цифровых технологий, позволяет отслеживать граждан с «ненадежным» поведением и автоматически применять к ним дисциплинирующие меры «ограничительного» характера. Обращает на себя внимание тотальность контроля и оценки поведения.

К этому следует добавить, что применяемая *технологии анализа больших данных (big data analysis technology)* позволяет оценивать каждого гражданина по его фиксируемым в электронном виде поступкам, выявлять отклонения от желаемой нормы и применять к



нарушителям чувствительные меры воздействия, то есть цифровые средства дают возможность не только сбора информации, но и *влияния на поведение* граждан страны.

Таким образом, власти не только Китая, но и всех стран мира, получили новые возможности через тотальный информационный контроль над населением, мощным системам информационной слежки, возможностями контролировать цифровую инфраструктуру управлять населением, его политическими взглядами, идеологическим предпочтениями. Многие государства, в первую очередь ведущие страны мира, стали использовать возможности социальных сетей в геополитической и внутривнутриполитической борьбе.

Информационно-цифровые технологии дали беспрецедентную возможность *информационного манипулятивного воздействия* на личность, общество и государство.

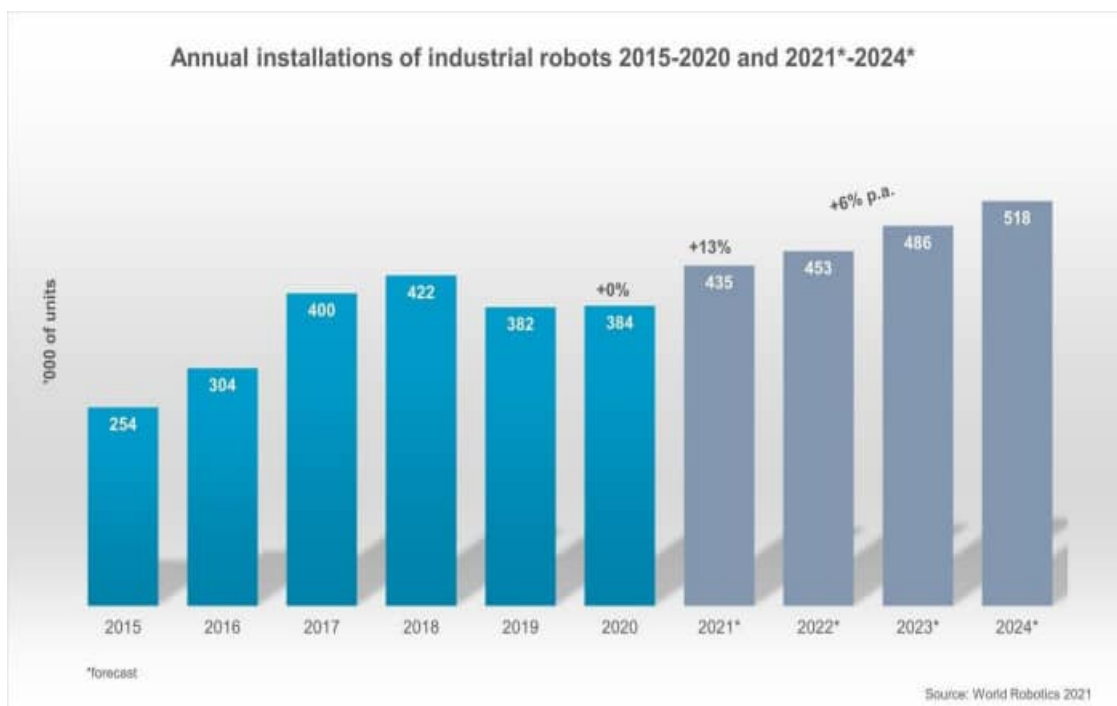
Появились целые направления и технологии информационного воздействия путем проведения *информационных и гибридных войн, информационно- психологического воздействия на личность*.

Появилась реальная возможность через информационно-коммуникационные сети «...организации психологических операций, направленных на осуществление манипулятивного целенаправленного воздействия на сознательные и подсознательные психические процессы населения определенной страны, на его эмоции, чувства, волевые импульсы, ценностные ориентации и жизненные стратегии, с целью изменить их в желаемом для инициаторов информационных атак направлении» [2, с. 164], влиять на политические предпочтения, социальную сплоченность, манипулировать осведомленностью и процессами общественной жизни граждан.

«Гибридная война» совмещают военную мощь, экономику, технологии, религию, культуру, дипломатию, пропаганду, контроль средств массовой информации и *информационную войну*, манипулятивные действия над населением, проведение кибератак. *Стратегия современной гибридной и информационной войны* – затрагивает национальные обычаи, углубляет эрозию национальной идентичности и приверженности к национальным началам, стремится в корне изменить восприятие внутреннего мира человека и его социально-общественное поведения, установить контроль над важными национально-государственными процессами – политическими, экономическими, социальными, духовно-культурными и т. д. Цель подобных действий одна – манипулирование людьми, заставляя их действовать в нужном для противника или соперника направлении, даже вопреки собственным национальным интересам.

Следующими *главными мегатрендами современности*, который по глубине воздействия на общество превосходят все текущие геоэкономические процессы являются два тесно взаимосвязанных процесса – **автоматизация и роботизация**. Причем наиболее быстрыми темпами развивается робототехника. На скорость ее развития указывают темпы умножения количества роботов – они примерно втрое выше темпов экономического роста [1, с. 74–80].

Рисунок 1. Ежегодная установка промышленных роботов (2015 - 2024 гг.)



Источник: Отчет World Robotics 2021

Анализ о внедрении промышленных роботов (World Robotics 2021) показывает рекордные – три миллиона промышленных роботов, работающих на заводах по всему миру, число которых продолжает расти. При этом парк роботов меняется не только количественно, но и качественно, робототехника развивается не только быстро, но и повсеместно – как в отраслях, так и во всех странах мира. Это уже в настоящее время привело к структурным сдвигам в мировой системе производительных сил. Например, в машиностроении производство электронных гаджетов и автомобилей уже невозможно без робототехники.

В настоящее время сформировались три главных региона масштабного применения робототехники: Восточная Азия, Европа и США. По количеству и отношению роботов к числу занятых лидирует Восточная Азия, в особенности три ее страны: Япония, Республика Корея и Китай. Ожидается, что в 2030 г. общий объем мирового рынка робототехники достигнет до 260 млрд. дол. США [3].

С процессом роботизации в настоящее время связано много позитивных ожиданий. Роботизация решает принципиальную проблему снижения нагрузки на биосферу и восстановления экологического баланса планеты, а также создания устойчивой системы жизнеобеспечения, обеспечивает устойчивое развитие экономики.

В то же время есть основания утверждать, что в современных условиях складывается ситуация, при которой роботизация и автоматизация и инновационно-цифровая революция создают ряд опасностей мировому развитию.

В-первых, *мировое* хозяйство по-прежнему остается своеобразным симбиозом различных по уровню зрелости и особенностям общественной организации производительных сил. Так, на высокоразвитые страны Запада приходится 76% прямых иностранных инвестиций, 73% объемов международной торговли, 88% всех регистрируемых в мире патентов, свыше 90% пользователей глобальной сети Интернета [7, с. 317]. Все это ведет к растущей научной, инновационно-технологической и социально-экономической поляризации между инновационно развитыми и отстающими странами. С началом XXI в. четко углубляющиеся разрывы в инновационном и социально-экономическом развитии государств обозначили тенденцию к обособлению, замыканию в себе стран постиндустриального мира –



формированию «клуба» избранных [7, с. 317], при растущей социально-экономической деградации большинства менее развитых стран, которые могут на долгие годы остаться в доиндустриальной эпохе. Этот вывод подтверждается необходимостью больших усилий и больших финансовых средств на лидерство в технологическом новом укладе. Так, например, Южная Корея стала одним из лидеров пятого технологического уклада, но ей пришлось до 40% своего ВВП тратить на инвестиции/инновации, умеряя потребление [5, с. 231]. Обобщая международный опыт, выдающийся польский экономист Игнацы Сакс в свое время сформулировал алгоритм вывода экономики страны на траекторию развития: для экономического роста в 10% в год необходимо инвестировать не менее 20% ВВП.

Во-вторых, непропорциональное технологическое развитие с использованием роботов и автоматизированных систем развитых стран мира дала им возможность подавлять большинство глобальных конкурентов. Высокотехнологичные фирмы, расширяя производство с помощью роботизации и автоматизации, тем самым *блокируют* участие в промышленном производстве не обладающих необходимыми капиталами и технологиями фирмы. В последние годы блокировка технического и технологического развития наблюдается уже не только на уровне фирм, но и на уровне стран и регионов. Если производители равные по силе, то формируются *олигополистические рынки* и тогда не выдерживают конкуренции производства вне стратегического взаимодействия крупных фирм на основе старых технологий, включающих большой трудовой вклад.

Нельзя не согласиться с выводами ученых, что в этих условиях стала формироваться *новая форма колониализма* – технологического.

В-третьих, большая опасность повсеместного внедрения робототехники – это появление *глобальной безработицы*, которая в настоящее время и так высока, особенно среди молодежи.

Анализ на более длительную перспективу показывает, что надвигается самая масштабная гуманитарная катастрофа в истории человечества – глобальная безработица. Так, согласно прогнозу McKinsey, к 2030 г. около 400 миллионов человек на планете, или 14% рабочей силы, потеряют работу из-за того, что их функции станут выполнять программы и роботы. По отдельным прогнозам, мир недалекого будущего это – 50 – 70% «лишнего населения». На вопрос что делать с массой людей, которым не будет места ни в производстве, ни в потреблении ответа не существует.

Сверхзадача новой промышленной революции это – создание *искусственного интеллекта*, который постепенно становится *главным мегатрендом* современного развития.

Искусственный интеллект (ИИ) – свойство интеллектуальных систем выполнять творческие, интеллектуальные, когнитивные функции, которые традиционно считаются прерогативой человека; наука и технология создания интеллектуальных машин, особенно интеллектуальных компьютерных программ.

В настоящее время он объединяет нейронные сети, машинное обучение, когнитивные вычисления, обработку естественного языка, компьютерное зрение. Однако четкого исчерпывающего представления, что входит в понятие искусственного интеллекта нет, так как отсутствуют критерии разумности и соответствия человеческому интеллекту.

По прогнозам мировая экономика к 2030 г. только за счет развития ИИ привлечет 15,7 трлн. долл. США [10]. Искусственный интеллект к 2030 г. обеспечит 14% роста мирового ВВП [9].

Единого ответа на вопрос, чем будет заниматься искусственный интеллект в будущем не существует. Есть вообще радикальные мнения. По мнению американского предпринимателя Илона Маска человечество уже приближается к ситуации, когда искусственный интеллект будет существенно умнее, чем люди. Стивен Хокинг, один из известных ученых отмечал, что «появление полноценного искусственного интеллекта может стать концом человеческой расы. Это самое опасное время для нашей планеты» [11]. Некоторые даже прогнозируют, что искусственный интеллект превзойдет интеллект человеческий уже в 2040–2045 гг.

Но, искусственный интеллект – это нечто большее, чем мы сегодня можем представить.



Безусловно, бурное развитие искусственного интеллекта требует особого философского осмысления с позиции развития будущего всего человечества и до с какой степени искусственный интеллект может прийти в своем развитии, какие вызовы с его развитием ожидает человечество в будущем.

Таким образом, четвертая промышленная революция, ее мегатренды ведут в настоящее время социально-технологический уклад мира к серьезным изменениям, происходит массовый переход к производству, основанному на использовании роботов, искусственном интеллекте, геной инженерии, аддитивных технологиях, В выигрыше останутся те государства, которые вовремя успеют привлечь необходимые «мозги» и финансы, и вложиться в проекты, обеспечивающие лидерство в инновационно-цифровых технологиях (автоматизации, робототехнике, искусственном интеллекте).

Поэтому фундаментальные изменения в мире ставят каждую страну перед необходимостью комплексно и всесторонне оценить происходящие глобальные процессы, выработать адекватную стратегию и тактику национального инновационно-цифрового развития, определить национальные интересы, упредить появление возможных вызовов и угроз, построить эффективную систему обеспечения национальной безопасности.

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НОВАЯ ПАРАДИГМА ИНВЕСТИЦИОННЫХ ПРОЕКТОВ

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Abstract. Contemporary issues in the context of globalization are a consequence of ignoring spiritual values, especially in education. Society is on the threshold of scientific paradigm shift, and search for new equilibria - material and spiritual values such as harmonization of an individual.

Keywords: spiritual values, the good, coefficient of good, material values, competition, cooperation, profit, financial assessment.

В современных условиях глобализации экономический кризис перерос в цивилизационный кризис и как следствие возникли межстрановые противоречия.

Важно отыскать первопричину экономических кризисов. Проведенный глубинный анализ указывает на то, что первопричиной является духовный кризис, упадок моральных ценностей.

Экономистам, философам, политикам – всем нам следует различить и дать определение: чем отличается духовно – нравственная экономика от либерально – рыночной экономики. Современная либерально – рыночная экономика, она абсолютно материалистическая – это и есть одномерная экономика, и она имеет только материальное измерение – в деньгах без учета нематериальных ценностей. Целевая функция которого является «максимизация прибыли» притом, безусловно: «в целях достижения максимизации прибыли следует руководствоваться «золотым правилом», где $MC = MR$ (предельные издержки равны предельному доходу)».

Такая формулировка отталкивает экономического субъекта от нематериальных (духовных) ценностей к материальным.

Следует заметить, что во всех учебниках по экономике, которые писались, основываясь на кейнсианской, равно как и на классической теории занятости, где материальные ценности возведены в абсолют, возведены в ранг религии. Деньги стали объектом преклонения – наделены сверхъестественным свойством. Деньги стали цениться выше, чем жизнь человека.

Наши исследования, проведенные в Молдове, свидетельствуют о том, что значимость альтернативных издержек порой становится определяющим фактором при оценке успеха или поражения собственника, или производственной деятельности фирмы. Поэтому возникает необходимость более глубоких исследований социальных издержек, которые не включаются в издержки.

Известно, что отрицательную прибыль называют убытками фирмы. Если убытки фирмы легко поддаются материальному подсчёту, как потери, то как учитывать потери здоровья собственника фирмы или работников в результате экологических последствий. По сути это тоже "издержки", тоже "убытки" особого порядка - они носят не материальный характер, то тогда учитывать их следует путем ранжирования, отдавая предпочтение альтернативным издержкам.

Теория максимизации прибыли без учёта других ценностей дорого обходится инвесторам. Каждый, кто стремится построить свою "пирамиду успеха", подвержен риску потерять здоровье. Находясь в стрессовом состоянии, такой человек может нанести моральный ущерб себе и окружающим. Исследования, проведенные в АТО Гагаузия,

показывают, что предприниматели, занятые малым и средним бизнесом, болеют в 1,7 раза чаще, чем среднестатистическая активная часть населения.

Таким образом, кроме экономической оценки, предпринимателям и работникам, работающим на предприятии, дают и субъективную оценку, методом ранжирования (“лучше-хуже”). Мы полагаем, что в целях объективной оценки деятельности фирм и конкретных работников, следует применять более расширенную модель оценивания, используя два показателя: экономическая оценка в узком смысле, которая носит чисто материальный характер и совокупная финансовая оценка, как слагаемый показатель, то есть **материальный + нематериальный**. Априори, каждый человек сознательно или неосознанно, всегда смотрит на жизнь через призму материальных и нематериальных (духовных) ценностей, поэтому нужен другой подход оценивания инвестиционных проектов.

Как оценить нематериальные (духовные) ценности?

В анализе полезности товара рассмотрим два подхода в концепции маржиналистов:

1. **Кординалистский** подход (количественный) - это возможность количественно измерить полезности извлекаемого блага (материальная оценка).

2. **Ординалистский** подход (порядковый).

Потребитель (инвестор) не способен дать количественную оценку полезности, но потребитель может ранжировать в соответствии с субъективной оценкой - довольствуясь "лучше-хуже".

Австрийская школа экономистов за единицу полезности ввела понятие "ютиль".

Сравнивая полезности товаров:

$$U(A)=U(B) \quad U(A)>U(B) \quad U(A)<U(B)$$

Как и потребитель при оценивании полезности товара или услуги руководствуется, как кординалистской (количественной), так и ординалистской (порядковой) концепцией, подобно тому и фирма (отдельный работник) по нашему убеждению должен оцениваться через совокупный показатель, как материальных, так и нематериальных ценностей.

Таким образом, необходима субъективная оценка инвестиционных проектов с использованием определенных коэффициентов.

Отправная точка благосостояния инвестора принимается за единицу $W_k=1$. Благосостоянию (комфортности), каждый инвестор, работник, даёт свою субъективную оценку во времени и пространстве. Нематериальная оценка приобретает все большее значение в эпоху глобализации.

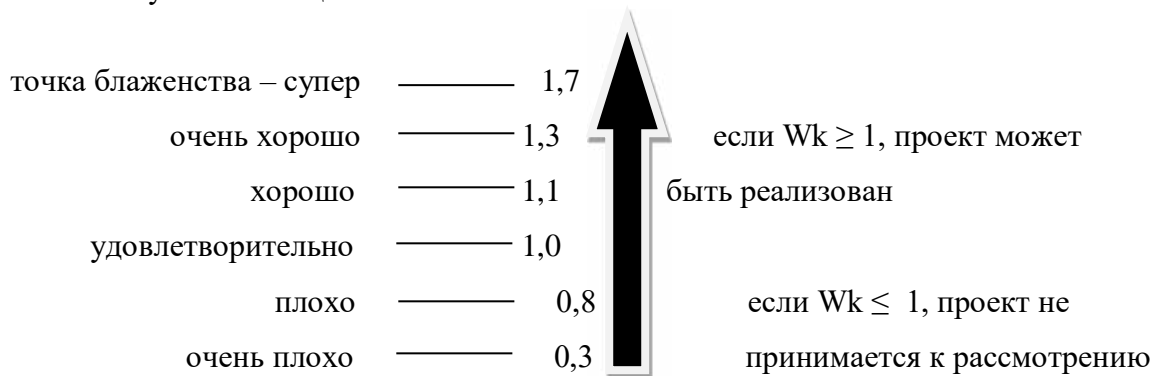


Рис. 1. Субъективная оценка проекта инвестором с учетом своей комфортности (благосостояния)

Подлинные причины экономических кризисов, а значит и общественной жизни, глубоко спрятаны в человеке, в его духовной сфере. Если экономический кризис имеет духовное происхождение, следует говорить о духовном кризисе, который порождает экономический кризис как следствие. Важно отыскать, где раскручивается маховик воспроизводства духовного кризиса или создание бездуховности.



Во всех экономических учебниках все пронизано идеологией материализма, извлечение материальных ценностей без учета морали. Студенты не просто получают такие знания, они зомбируются, они знают «золотое правило» — $MR=MC$ (предельный доход равен предельным издержкам и тогда достигается максимизация прибыли). Нам следует подняться на другой уровень равновесия— **единство духовного и телесного, равновесие материальных и нематериальных ценностей $MV=SV$** .

Предложенная нами идея приведения в равновесие материальных и духовных ценностей ($MV = SV$) на первый взгляд вызывает сомнения, поскольку материальные ценности можно количественно измерить, сопоставляя доходы и издержки. А как количественно измерить нематериальные (духовные) ценности, состояния морали? В данном контексте мы выходим на другие уровни — общечеловеческие. Разумеется, и порядок измерения осуществляется другими категориями. Мы предлагаем для сопоставления применить относительные показатели «больше», «меньше» и «равно» с обозначениями $MV>SV$, $MV<SV$ и $MV=SV$. Тогда как в учебниках по курсу «Микроэкономика» преследуется старая идея, что цель инвестора - лишь максимизации прибыли. Другими словами, методика оценки инвестиционных проектов сводится лишь к максимизации ожидаемой прибыли.

Приведем небольшой практикум при чтении курса «Финансирование и эффективность инвестиций» для выбора лучшего инвестиционного проекта, учебники предлагают известную формулу:

$$E(R) = \sum_{k=1}^n * R_k * P_k \rightarrow \max$$

где: $E(R)$ — математическое ожидание прибыли;

R_k — возможный исход (доход, прибыль);

P_k — соответствующая вероятность.

Идеология данной формулы та же, что и в курсах по “микроэкономике” и в “макроэкономике” — максимизировать прибыль и только, притом, безусловно (сколотить состояние).

Экономисты сознательно уходят от таких понятий, как духовные ценности, этика, мораль, состояние радости, так как их нельзя количественно измерить. Перед австрийскими экономистами — маржиналистами в свое время стояла подобная задача: как измерить полезность товаров и услуг (если один продукт вкуснее другого или первый потребленный товар полезнее последующих). Они ввели условное понятие «ютиль» (полезность), который действует в пространстве и во времени и вошло в учебники как «закон убывающей предельной полезности».

Предложенный нами условный показатель «благо» действует в пространстве и во времени и имеет свою отправную точку, и эта отправная точка принимается за единицу ($W_k=1$) и рассматривается как тенденция роста и развития.

Таким образом, расширенная модель принятия управленческих решений, ориентированная на гармонизацию личности, примет вид:

$$E(W) = \sum_{k=1}^n * R_k * P_k * W_k \rightarrow \max$$

где: $E(W)$ —ожидание благосостояния,

W_k — коэффициент блага.

Показатель физического и духовного здоровья инвестора ранее не учитывался, однако это необходимо делать, поскольку, в противном случае, используемые методики, прежде всего развивающихся и слаборазвитых стран, дают некорректные результаты.

Коэффициент блага (W_k) является отражением состояния здоровья и психологического климата в коллективе. Окончательное решение об инвестировании целесообразно принимать не с учетом максимизации прибыли, а на основе максимизации математического ожидания



благополучия. По новой методике инвестор даст предпочтение тому проекту, где выше/больше общее благополучие, при этом коэффициент физического и духовного состояния инвестора должен быть больше единицы: $W_k > 1$. Если $W_k < 1$, то проект считается ущербным и не принимается к рассмотрению. Настало время изучать экономическую теорию на стыке философии, физики, политологии. Известный философ В. С. Соловьев в книге «Оправдание добра» пишет: «Признать в человеке только деятеля экономического производителя, собственника и потребителя вещественных благ — есть точка зрения ложная и безнравственная».

Общепринятая методика отбора лучшего инвестиционного проекта и нами предложенная новая методика прошли апробацию на практике - будущим экономическим агентам в студенческой аудитории было предложено в ходе решения задач самим выбрать ту методику которая, на их взгляд, является более комфортной в будущей жизни. Более 85% респондентов выбрали новую методику, где лучшим является тот проект, где выше общее благополучие. Сегодня XXI век, пришло время наряду с множеством узко экономических коэффициентов ввести итоговый, совокупный коэффициент - коэффициент радости (Кр), который включает в себя как экономические, так и неэкономические показатели. Управленческое решение принимается при условии, если $K_p > 1$. Разумеется, данный критерий является субъективным как и «ютить» для каждого индивида.

Нами предлагается новая методика, где инвестор даст предпочтение тому проекту, где выше (больше) общее благополучие. Коэффициент физического и духовного состояния должен быть больше единицы - $W_k > 1$. В теории полезности используется условный показатель - «ютить». Мы предлагаем оценивать инвестиционные проекты (выбор оптимальных решений) с учетом физического и духовного состояния инвестора, где вводится показатель «благо» (Well).

Приведем методологию оценки инвестиционных проектов в условиях риска потерь ожидаемого дохода, а также риска потерять здоровье.

1. Предположим, эксперты прогнозируют возможные исходы (доходность). Обозначим возможный исход (доход) R_k , где $k = 1, 2, \dots, n$. В качестве R_k могут выступать различные показатели. Например, доход, прибыль, выручка и т.д.

2. Каждому исходу присваивается соответствующая вероятность (P_k) получения ожидаемого дохода, где $\sum_{k=1}^n P_k = 1$.

3. Каждому исходу присваивается соответствующий коэффициент получения «блага» (W_k) (степень физического и духовного здоровья инвестора).

4. Выбирается критерий (н-р. максимизация математического ожидания благополучия)

$$E(W) = \sum_{k=1}^n R_k * P_k * W_k \rightarrow \max$$

Приведем конкретный пример: Допустим, имеются два объекта финансирования с одинаковой прогнозной суммой требуемых капитальных вложений. Величина планируемого дохода R_k в каждом случае неопределенна и приведена в виде распределения вероятностей (P_k), а также коэффициента возможного блага (W_k).

Таблица 1. Исходные данные для отбора инвестиционных проектов, тыс. лей

Проект А			Проект В		
доход (R_k)	вероятность P_k	коэффициент блага (W_k)	доход (R_k)	вероятность P_k	коэффициент блага (W_k)
3000	0.10	1.20	2000	0.10	1.0
3500	0.20	1.10	3000	0.15	1.0



4000	0,40	1.0	4000	0,30	1.0
4500	0.20	1.15	5000	0.35	0,9
5000	0,10	1,0	8000	0,10	0,8

Рассмотрим традиционный метод определения лучшего проекта, где учитывается только доход R_k и ее вероятность P_k , а не физическое и духовное состояние инвестора. Тогда математическое ожидание дохода по проектам А и В следующее:

$$E(R_A) = 3000 * 0,10 + 3500 * 0,20 + 4000 * 0,40 + 4500 * 0,20 + 5000 * 0,10 = 4000 \text{ тыс. лей}$$

$$E(R_B) = 2000 * 0,10 + 3000 * 0,15 + 4000 * 0,30 + 5000 * 0,35 + 8000 * 0,10 = 4400 \text{ тыс. лей}$$

Мы видим, что проект В является более предпочтительным, так как ожидаемый доход больше 4400 тыс. лей, чем проект А - 4000 тыс. лей.

Теперь введем переменную W_k - коэффициент блага и формула примет следующий вид:

$$E(W) = \sum_{k=1}^n * R_k * P_k * W_k$$

$$E(W_A) = 3000 * 0,10 * 1,2 + 3500 * 0,20 * 1,1 - 4000 * 0,40 * 1,0 - 4500 * 0,20 * 1,15 + 5000 * 0,10 * 1,0 = 4265 \text{ тыс. лей}$$

$$E(W_B) = 2000 * 0,10 * 1,0 + 3000 * 0,15 * 1,0 - 4000 * 0,30 * 1,0 + 5000 * 0,35 * 0,9 + 8000 * 0,10 * 0,8 = 4065 \text{ тыс. лей}$$

Таким, образом, проект А является более предпочтительным - 4265 тыс. лей с точки зрения общего благосостояния. Сравнивая две методики установления критерия отбора инвестиционных проектов, можно сделать вывод, что проект В обладает большим доходом - 4400 тыс. лей, чем проект А. однако это сопряжено с издержками потери здоровья (ухудшением физического и духовного состояния инвестора).

Методика предполагает, что если $(W_k) < 1$, то проект не принимается к рассмотрению. За основу следует брать экономико-экологическую эффективность, защищая как индивида, так и окружающую среду. Настало время изучать экономическую теорию на стыке философии, физики, политологии.

На наш взгляд, сегодня устаревшая экономическая теория не отвечает возросшим требованиям интеграционного процесса. Причины мирового экономического кризиса следует искать в человеке - носителе прежде всего духовных и материальных ценностей, в его возросшем самосознании, которые вступают в противоречия с устаревшими экономическими отношениями.

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ОЦЕНКА БЮРОКРАТИИ И КОРРУПЦИИ В ПРЕДПРИНИМАТЕЛЬСКОЙ ЭКОСИСТЕМЕ РЕСПУБЛИКИ МОЛДОВА

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Abstract. In this article, corruption and bureaucracy are considered as factors that are still inherent in the business environment of the Republic of Moldova. The country's government is currently developing legislative initiatives aimed at reducing the complexity of bureaucratic procedures for economic agents and is taking active measures to reduce corruption. But despite this, surveys of entrepreneurs indicate the frequency of phenomena associated with bureaucracy and corruption on the part of officials involved in regulating business activities. Assessments of these phenomena in the responses of various groups of entrepreneurs were considered, depending on the size of the enterprise, its location, and type of activity. Based on the analysis of the results of the survey of entrepreneurs, it was concluded that there is a direct connection between the high level of bureaucracy and corruption in the business environment of the Republic of Moldova and the decision of entrepreneurs to close their business or significantly reorganize it.

Key words: corruption, bureaucracy, Republic of Moldova, entrepreneurial ecosystem, business environment.

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Введение

Бюрократия и коррупция – две повсеместно распространенные «беды» бизнес-среды многих стран, особенно развивающихся, характеризующихся более низкими экономическими показателями [7; 13]. Одной из таких стран является Республика Молдова. В соответствии с Национальной программой содействия развитию предпринимательства и повышения конкурентоспособности на 2023–2027 годы, среди проблем предпринимателей в Республике Молдова названы сложные и трудоемкие процедуры взаимодействия с государственными учреждениями; чрезмерное регулирование; сохранение коррупции и кумовства, в том числе в судебной системе [4].

Несмотря на то, что крупнейший теоретик бюрократии Макс Вебер определял бюрократию как «наиболее технически совершенную форму организации, обладающую специализированным опытом, определенностью, преемственностью и единством», в большинстве современных исследований и словарях термин «бюрократия» имеет негативный оттенок.

Например, словарь Dexonline трактует бюрократию как «чрезмерную власть администрации» [2]. В соответствии с Законом о неподкупности №82 от 25-05-2017, «коррупция – незаконное использование должности в частных интересах».



Считается, что указанные явления взаимосвязаны, и понятие коррупции частично вытекает из понятия бюрократизации [1; 6], поскольку сложные и запутанные бюрократические процессы могут способствовать коррупции [3]. В качестве других причин возникновения и поддержания коррупции исследователи выделяют следующие факторы: низкий уровень заработной платы в государственном секторе [15]; слабая прозрачность в системе принятия решений и слабая доступность информации [16]; неустойчивость в политической сфере [11]; низкие моральные стандарты и этическая культура среди чиновников [17].

В 2022 году Республика Молдова заняла 91 место из 180 стран в Индексе восприятия коррупции, проводимом Transparency International, что свидетельствует о значительных усилиях по борьбе с коррупцией, предпринятых в последние годы [14]. В отчете об Индексе экономической свободы (Index of Economic Freedom) 2023 года, реализованном Heritage Foundation, Республика Молдова занимает 96-е место из 180 стран, набрав 58,5 баллов, что на -2,8 балла ниже по сравнению с предыдущим годом. При этом Молдова занимает 40-е место из 44 стран Европы, а общий балл ниже среднего по региону и миру [5]. Этот результат свидетельствует о том, что необходимо продолжать реформы по сокращению бюрократической волокиты и улучшению делового климата.

В настоящее время Правительством Республики Молдова предпринимаются активные меры по снижению бюрократии и коррупции. Так, разрабатываются законодательные инициативы, направленные на снижение сложности бюрократических процедур, которые сегодня необоснованно обязаны соблюдать экономические агенты. Планируемые изменения направлены на «содействие созданию бизнеса и получению доходов за счет сокращения административной бюрократии в таких сферах, как гостиничный бизнес, телекоммуникации, строительство, финансовые рынки, электронная коммерция; снижения требований к отчетности для предприятий; налогообложения, либерализации ограничений на иностранную рабочую силу» [9]. Также активно ведется работа по цифровизации государственных услуг. По данным Министерства Экономического Развития и Цифровизации, 47,8% госуслуг оцифрованы для предпринимателей [10]. Но если учесть, что в РМ различными институтами оказываются более 500 видов госуслуг для предпринимателей, то получается, что почти 300 видов услуг только ожидают цифровизации и в настоящее время требуют значительных затрат времени предпринимателей и личного взаимодействия предпринимателей и чиновников.

Методология и результаты исследования

Оценить частоту таких явлений, как бюрократия и коррупция в Молдове, позволяют данные, полученные в результате опроса предпринимателей, проведенного с участием автора. Опрос проводился в 2022 в рамках проекта «Многоаспектная оценка и развитие экосистемы предпринимательства на национальном и региональном уровнях в интересах стимулирования сектора МСП Республики Молдова»/ „Evaluarea multidimensională și dezvoltarea ecosistemului antreprenorial la nivel național și regional în vederea impulsării sectorului IMM în Republica Moldova” (2020-2023) и имел целью оценить целый ряд факторов предпринимательской экосистемы Республики Молдова, среди которых были «бюрократия» и «коррупция». Всего в опросе участвовало 204 предпринимателя из различных районов страны [18, стр.212].

Предприниматели оценивали по 5-балльной шкале то, насколько часто они сталкивались с бюрократией и коррупцией, связанными с работой чиновников, вовлеченных в регулирование предпринимательской деятельности. Так, с явлениями бюрократии *часто* и *очень часто* сталкиваются 57,6% опрошенных предпринимателей, с коррупцией – 46,0% предпринимателей. При этом только 24,9% респондентов отметили, что *редко* либо *никогда* в своей работе не сталкивались с бюрократией, 32,5% - с коррупцией.

Ниже рассмотрим, как отличались оценки данных явлений в ответах различных групп предпринимателей.

Так, в зависимости от размеров предприятий, в рамках сектора малых и средних предприятий (МСП), проявилась закономерность: чем меньше предприятие, тем чаще оно



сталкивается с бюрократией и коррупцией со стороны чиновников (График 1). В то время как крупные предприятия чаще, чем малые и средние предприятия, отмечали максимальный уровень бюрократии (33,3%), но совсем не отмечали максимальный уровень коррупции (График 1).

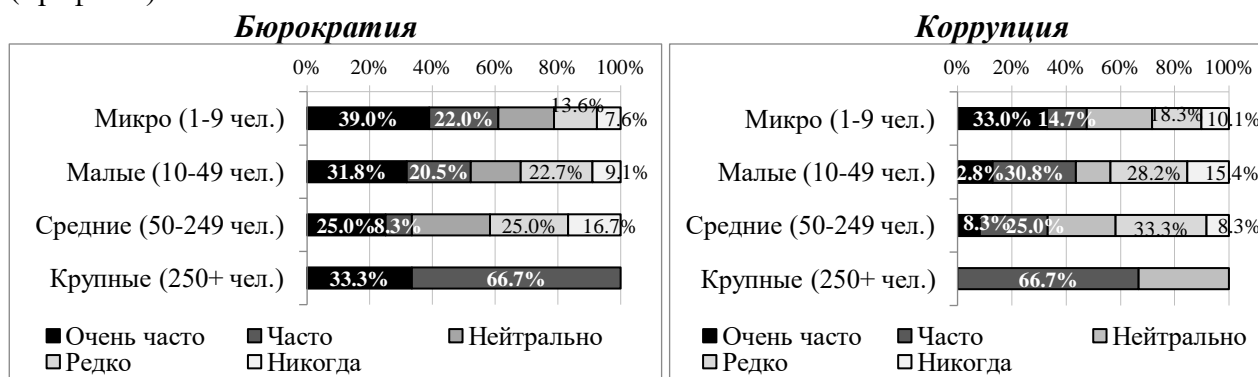


График 1. Оценка предпринимателями распространенности бюрократии и коррупции, в зависимости от размера предприятия

Источник: собственные данные.

В зависимости от зоны расположения предприятия, предприниматели, работающие в городской местности, чаще отмечали высокую частоту бюрократии и коррупции, по сравнению со своими коллегами из сельской местности (График 2).

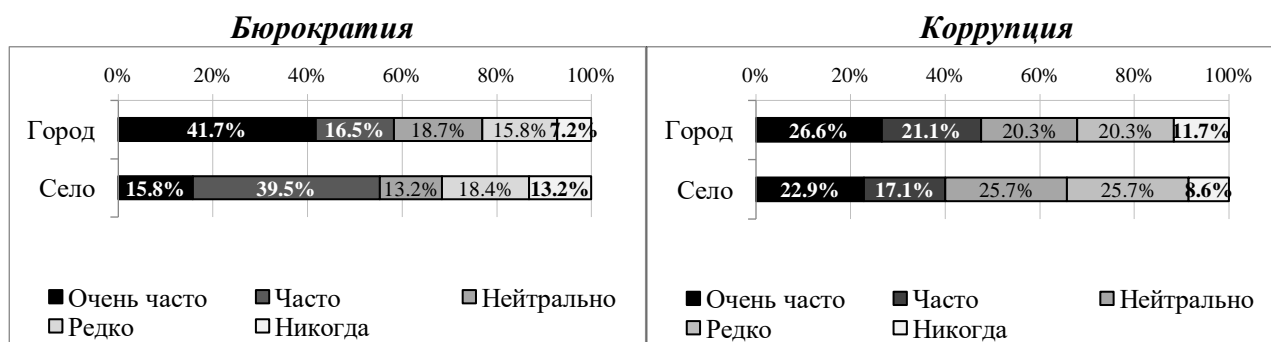


График 2. Оценка предпринимателями распространенности бюрократии и коррупции, в зависимости от местности расположения предприятия

Источник: собственные данные.

В зависимости от региона развития, максимальная частота показателей бюрократии и коррупции отмечалась чаще предприятиями столицы (муниципия Кишинэу) (42,1% и 27,9% соответственно) и Центрального региона развития (38,5% и 36,0% соответственно) (График 3).

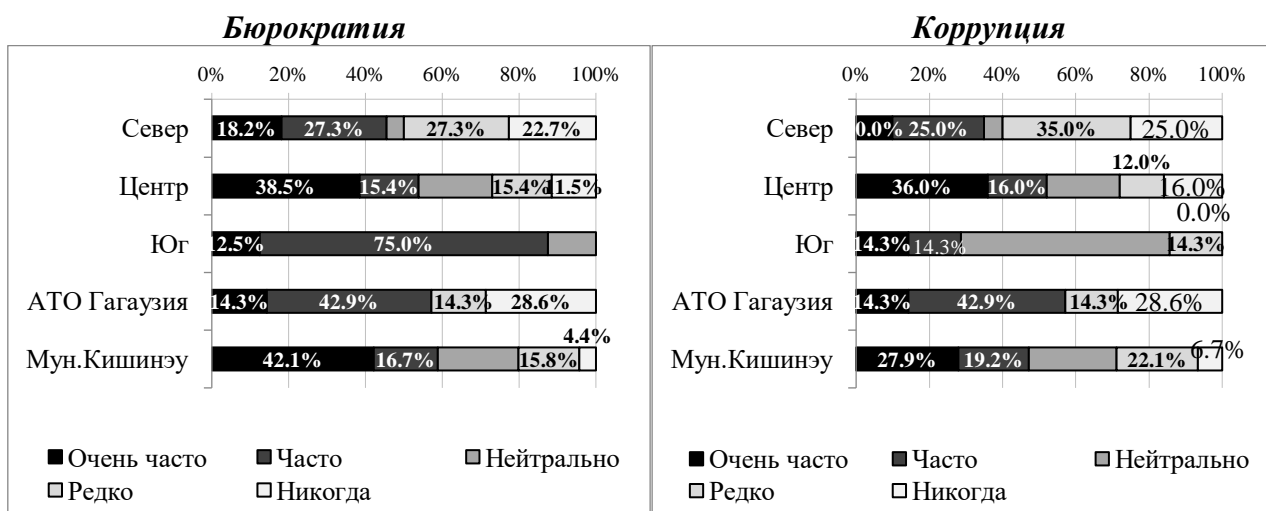


График 3. Оценка предпринимателями распространенности бюрократии и коррупции, в зависимости от региона развития

Источник: собственные данные.

В зависимости от вида деятельности, с максимальным уровнем бюрократии относительно чаще сталкиваются *производственные* (промышленные) и *торговые* предприятия (44,8% и 42,9% соответственно); предприятия сферы *услуг* – 37,9%, *IT компании* – 50,0%. Следует отметить, что в то время как по большинству групп предприятий доля предпринимателей, оценивших уровень коррупции как максимальный, обычно оказывалась ниже соответствующего показателя по фактору бюрократии, в сфере сельского хозяйства и строительства предприниматели чаще отмечали максимальный уровень коррупции (График 4).

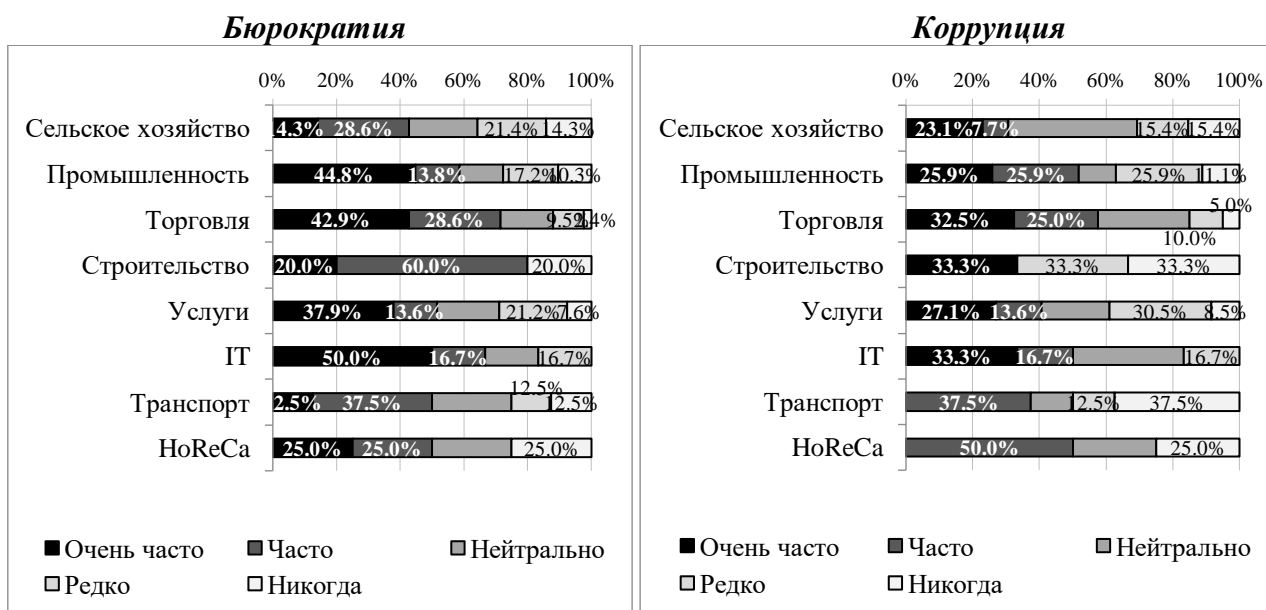


График 4. Оценка бюрократии и коррупции предпринимателями, в зависимости от вида деятельности предприятия

Источник: собственные данные.

Состояние и тенденции предпринимательской экосистемы в стране могут быть частично охарактеризованы планами предпринимателей, связанными с развитием бизнеса. Среди предпринимателей, участвовавших в опросе, 65,2% на ближайшие два года планируют



развивать данный бизнес, 22,1% - сохранить основные показатели предприятия на прежнем уровне; 4,4% - закрыть данный бизнес и эмигрировать; 2,0% - закрыть данный бизнес и стать наемным работником.

Анализ взаимозависимости планов предпринимателей и оценки уровня бюрократии в стране показал, что предприниматели, которые планируют в ближайшие два года развивать свой бизнес, относительно реже оценивали бюрократию на максимальном уровне (33,0%), в то время как доля максимальных оценок частоты бюрократии выше среди тех предпринимателей, которые планируют закрывать данный бизнес и становиться наемными работниками (50,0% наихудших оценок уровня бюрократии), закрыть бизнес и эмигрировать (44,4%), а также значительно реорганизовать бизнес либо сменить вид деятельности (42,9%) (График 5).

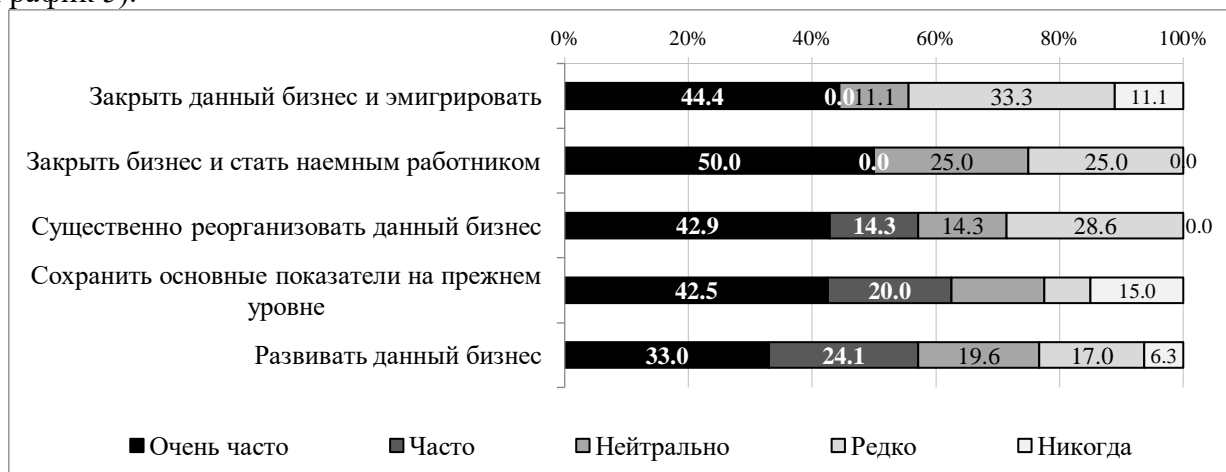


График 5. Зависимость планов предпринимателя от частоты столкновений с проявлениями бюрократии, %

Источник: собственные данные.

Аналогично, уровень коррупции был оценен выше теми предпринимателями, которые планируют в ближайшие два года: (а) закрыть данный бизнес и стать наемными работниками (в их группе 50,0% наихудших оценок уровня коррупции), (б) значительно реорганизовать бизнес либо сменить вид деятельности (42,9% наихудших оценок), а также (в) закрыть бизнес и эмигрировать (33,3% наихудших оценок уровня коррупции) (График 6). При этом, среди предпринимателей, планирующих сохранить основные показатели бизнеса на прежнем уровне либо развивать бизнес доля наихудших оценок уровня коррупции значительно ниже (21,1% и 26,0% соответственно) (График 6).

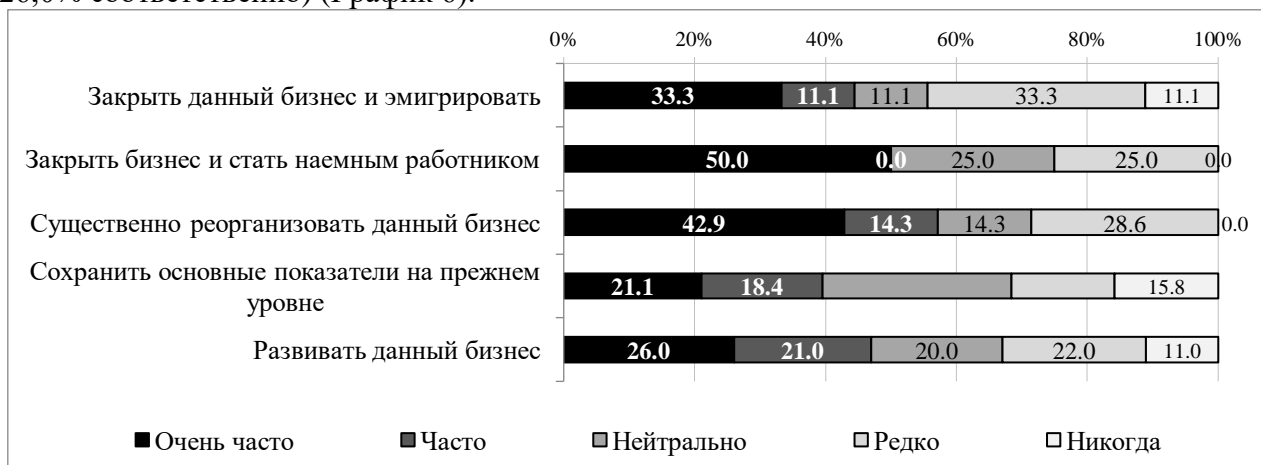


График 6. Зависимость планов предпринимателя от частоты столкновений с проявлениями коррупции, %

Источник: собственные данные.



Выводы и рекомендации

Проведенный опрос предпринимателей показал, что бюрократия и коррупция все еще встречаются в работе чиновников, вовлеченных в регулирование предпринимательской деятельности, несмотря на активно предпринимаемые меры по сокращению бюрократии в предпринимательской деятельности и борьбе с коррупцией.

Нет ни одной группы предприятий в Республике Молдова, которая бы не сталкивалась с бюрократией и коррупцией в своей повседневной деятельности.

На основе проведенного анализа результатов опроса предпринимателей был сделан вывод, что высокий уровень бюрократии и коррупции в Республике Молдова является фактором, который затрудняет предпринимательскую деятельность и вынуждает предпринимателей чаще принимать решения о закрытии либо перепрофилировании своего бизнеса.

В качестве рекомендаций для снижения уровня бюрократизации процедур предпринимательской деятельности и коррупции в Республике Молдова можно предложить следующее:

- Упрощение административных процедур, связанных с предпринимательской деятельностью, таких как получение лицензий и авторизаций, составление отчетов и отчетности и др., что сокращает временные и финансовые затраты предприятий;
- Продолжение процесса цифровизации государственных услуг для предприятий, что уменьшит необходимость личного взаимодействия предпринимателей и чиновников;
- Реформирование судебной системы, в том числе более быстрое и эффективное разрешение коммерческих споров, может уменьшить неопределенность и риски для бизнеса;
- Активизация публично-частного диалога, проведение проактивных консультаций представителей государственной власти с предприятиями и бизнес-ассоциациями для своевременного выявления и устранения проблем;
- Повышение прозрачности и открытости в части информирования о правилах и процедурах, связанных с бизнесом;
- Необходимы регулярный мониторинг и оценка влияния вводимых изменений на бизнес-среду, в том числе путем проведения регулярных опросов предпринимателей, для обеспечения эффективной обратной связи и своевременной корректировки проводимых реформ.

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РАЗВИТИЕ КРИПТОВАЛЮТЫ В АРМЕНИИ

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Abstract. Cryptocurrency has become an essential topic of conversation in the global financial environment. Technological innovations have led to the creation of a new form of money, decentralized and digital, based on blockchain technology. This monetary revolution was accompanied by a significant rise in popularity in many developing countries, where the fight against

weak national currencies and corruption became a major concern. Cryptocurrencies offer potential solutions to these problems and open the way to new economic opportunities.

Our article focuses specifically on Armenia, a country located at the crossroads of Eastern Europe and Western Asia. While the Armenian nation has a rich cultural and historical heritage, it has faced persistent economic challenges. In this context, Armenia stands out as an interesting case study, as it has yet to adopt cryptocurrencies significantly, despite the potential they present for its economy. This is why it is essential to answer the following question: Can cryptocurrency bring financial and banking independence to Armenia? To answer this central question, we set other questions and tried to “solve” them in scopes of presented article.

Keywords: RA, Cryptocurrency, Blockchain, Digital Transformation, Economic Development

Система блокчейн была разработана для защиты информации, ускорения транзакций и устранения посредников. В настоящее время он не управляется никакими центральными органами или частными структурами в Армении или во всем мире и, таким образом, является децентрализованным. Информация хранится в виде блоков один под другим. Следующий блок не будет открыт, пока не будет закрыт предыдущий блок. Отличается высоким уровнем информационной безопасности.

Криптовалюты — это активы, широко используемые в качестве средства обмена для финансовых транзакций. Вопрос использования и распространения криптовалюты в качестве электронных денег является одной из важнейших проблем современной экономики. Несмотря на то, что изучению рассматриваемой проблемы в последнее время уделяется более или менее серьезное внимание, она по-прежнему остается скрытой загадкой и требует большого внимания и изучения.

Криптовалюты — это новейшая финтех-инновация, революционная технология, которая бросает вызов политическим и социальным основам общества. В настоящее время в Армении существует активная криптовалютная экосистема, которая хвалит многих молодых людей, активно работающих в сфере криптографии и блокчейна. По мере того, как криптовалюта продолжает развиваться в направлении мирового признания, все больше и больше стран обращают внимание на ее экономическое, политическое и социальное влияние, включая Центральный банк Армении.

Летом 2022 года Комитет государственных доходов Армении обратился в Центральный банк РА с призывом обеспечить регулирование криптосектора. Такая необходимость, как отметил тогда глава комитета, возникла из-за случаев уклонения от уплаты налогов в этой сфере, отмывания денег и других факторов риска.

До этого финансовые власти страны неоднократно заявляли, что в Армении криптовалюта находится в серой зоне, она не запрещена и не разрешена. Годы ранее, затрагивая эту тему, Регулятор много говорил о рисках, в частности связанных с волатильностью криптовалют, технологий, идентифицирующих человека и т. д.

Примечательно, что, несмотря на то, что общих правил игры в криптосфере в Армении пока нет, количество пользователей в стране активно растёт и на сегодняшний день примерно количество людей, вовлеченных в криптосообщество в стране, составляет до 25 тыс.

Криптовалюты — это что-то вроде платежной системы, средства платежа. Как говорят специалисты, сами по себе они ничего государству дать не могут. Однако в нынешней ситуации в стране, при большом притоке и оттоке необлагаемых налогом средств в криптовалюте, государство не получает огромных средств в государственную казну. «По расчетам, государство теряет и не досчитывает налогов примерно \$20-25 млн в год. Специалисты пояснили, что львиная доля этих средств приходится на тотализатор (ставки), часть — теневой оборот, связанный с оружием, наркотиками и т. д. Определенная доля, поступающая с российского рынка, может повлиять на введение вторичных санкций. Кроме того, существует большое количество нелегальных обменных пунктов. Именно поэтому к



криптовалюте в целом относятся негативно, и именно поэтому, по мнению специалистов, сферу необходимо регулировать.

Для рядового гражданина криптовалюта может стать дополнительным средством платежа (в том числе в электронной коммерции) или альтернативой столь актуальным в Армении денежным переводам. А физические лица могут сократить свои расходы, отправив денежные переводы своим родственникам в Армению или из Армении в криптовалюту, поскольку это намного дешевле, чем использовать традиционную систему переводов. Кроме того, сегодня достаточно большое количество людей работает в цифровой сфере, сотрудничает с зарубежными партнерами и получает зарплату в криптовалюте. Поэтому актуальность регулирования этой сферы растет с каждым днем. Соответственно, если сектор будет регулироваться, Армения станет еще более интересным местом для аутсорсинга крупных компаний, в том числе благодаря наличию удобных способов оплаты.

Регулирование криптосектора: «Между двух огней»

По мнению специалистов, ЦБ Армении проводит очень грамотную монетарную политику, поддерживая курс драма. Но при этом, ввиду тесной связи с РФ и большого финансового объема, учитывается и позиция России по этому вопросу. Россия не очень заинтересована в регулировании криптосферы в Армении, поскольку четкого регулирования в РФ тоже нет. В то же время существует и позиция западных стран и институтов, которые следят за притоком виртуальных активов в страну и последующими процессами. «Западные партнеры боятся, что Россия может этим как-то воспользоваться, поэтому призывают к регулированию отрасли. И получается, что наш ЦБ постоянно находится «между двух огней», — пояснил ситуацию специалист.

Специалист рассказал, что изначально, когда обращались к Регулятору (ЦБ) по поводу криптосферы, было отмечено, что это все «на усмотрение банков, поскольку прямого запрета нет». В банках заявили, что этот вопрос является прерогативой ЦБ. Специалист надеется, что ЦБ уже работает над проектом закона под председательством своего главы, который, по его мнению, будет принят достаточно быстро, поскольку сфера очень оживленная, и в то же время мнение бизнеса будет учтено.

«Нам было бы удобно, если бы Регулятор ввел механизм безналичной покупки криптовалюты, чтобы мы могли принимать банковские карты и сотрудничать с банками. В целом это хорошее решение. Вероятно, будут введены определенные лимиты для резидентов и нерезидентов. Но нам бы не хотелось таких ограничений, поскольку Армения гостеприимная, туристическая страна, сюда приезжает большое количество людей. И нам следует быть более открытыми и ориентированными не только на людей, живущих здесь, но и на туристов. Важно, чтобы последние имели возможность совершать операции с криптовалютой с минимальными лимитами, минимальным пакетом документов и за наличные, как и при обычных покупках, когда за наличные можно приобрести товары, стоимость которых не превышает 300 000 драмов», - сказал специалист. Тогда, по его мнению, Армения сможет быть полностью финансово интересной. «Наша задача – помочь как можно большему количеству людей приехать в Армению и потратить здесь много денег. И нам необходимо упростить этот процесс», — заявил он.

Следопыты с далеко идущими планами

В Армении достаточно большое количество компаний, которые занимаются разработкой блокчейна, созданием и обслуживанием кошельков. Кроме того, букмекерские компании взаимодействуют с криптовалютой. В этом ключе он пояснил, что из-за низких доходов довольно большое количество людей в Армении пытаются приобрести недвижимость, прибегая к так называемым легким методам обогащения, в частности, к ставкам. А в случае проигрыша на ставках, они теряют свое имущество, тем самым усугубляя и без того непростую ситуацию. Специалист отметил, что SkyLabs является первой и единственной в Армении по установке криптотерминалов, где можно проводить мгновенные транзакции с криптоактивами.



На сегодняшний день компания уже установила 7 криптоматов в Армении, из них 6 в Ереване и 1 в Гюмри. Кроме того, SkyLabs планирует расширяться в сторону Грузии и ОАЭ. В частности, в этом году в Тбилиси будут установлены криптоматы. Благодаря этому клиенты смогут покупать криптовалюту за армянские драмы, продавать ее в Тбилиси и получать грузинские лари. В этой связи основатель SkyLabs подчеркнул, что компания планирует превратить Армению в важный криптохаб для многих стран. «Наша стратегия в Армении долгосрочная. Мы планируем создать большую экосистему, которая свяжет Армению с рядом стран», - сказал бизнесмен [4].

Цифровая трансформация Армении и роль блокчейна [2].

Армения только что опубликовала пятилетнюю Цифровую стратегию. Это было разработано с целью стимулирования инноваций в цифровой трансформации Армении, в частности, стратегия предусматривает цифровую трансформацию правительства, экономики и общества посредством развития инновационных технологий, кибербезопасности, политики данных, электронных услуг и электронных услуг. -государственные системы. В этой статье будет рассмотрено текущее состояние технологической отрасли Армении и то, как блокчейн может способствовать ее цифровой трансформации.

Армения, страна с древней историей и уникальным культурным наследием, расположенная в геостратегически важном регионе Южного Кавказа, всегда была центром инноваций в науке и технологиях. Армению считали «Силиконовой долиной» Советского Союза: 40 процентов мэйнфреймов для советских вооруженных сил производились в Армении, а также в стране находился престижный Ереванский научно-исследовательский институт компьютерных технологий, в котором работали тысячи высококвалифицированных рабочих. .

В стране процветает сектор технологий и стартапов, который в 2018 году достиг 250 миллионов долларов, и ему помогает армянская диаспора, которая в несколько раз превышает население страны. Основатели и инвесторы многих технологических стартапов в Армении связаны с ведущими университетами, фондами венчурного капитала и исследовательскими институтами в США, Великобритании и Европе. Часто армянские технологические стартапы создаются и имеют головной офис в Армении, но работают по всему миру, а инженерные команды в США и Европе ориентируются на клиентскую базу по всему миру.

Какое нынешнее состояние экосистемы технологий и стартапов в Армении?

Армению называют следующим мировым технологическим центром, и здесь существует ряд компаний и организаций, занимающихся ведущими мировыми инновациями. TUMO Labs — образовательная организация, ориентированная на STEM, проводящая курсы по веб-разработке, программированию, робототехнике, блокчейну, искусственному интеллекту, виртуальной реальности и другим областям, важным для будущего развития цифровой экономики. «Формула краудфандинга» является лидером в области краудфандинга, чьи последние девять кампаний собрали более 17 миллионов долларов США. Arloora, инновационная компания VR/AR, разработала такие технологии, как AR-часы, AR-футболки, VR-игры и т. д., а также виртуальную реальность для NASA Space Apps.

Между тем, Blockchain R&D Hub — это технологическая компания, основное внимание которой уделяется созданию основных блокчейн-решений для глобальных рынков, в частности, созданию масштабируемых и надежных P2P-сетей, распределенных хранилищ и вычислительных платформ. Крисп разработал инновационное приложение для шумоподавления и привлек более 8,5 миллионов долларов от инвесторов из Кремниевой долины. Фонд «Стартап Армения» способствует развитию инновационной, технологической и самодостаточной стартап-экосистемы. В то время как Granatus Ventures, венчурный фонд, базирующийся в Ереване и Лондоне, представляет собой технологический фонд, ориентированный на Армению, предоставляющий инвестиции, опыт и сети стартапам по всему миру, которые используют потенциал Армении как развивающегося технологического центра.



Правительство Республики Армения утвердило пятилетнюю Цифровую стратегию Армении [3].

Пятилетняя Цифровая стратегия определяет следующие цели, которые необходимо достичь к 2025 году:

- Армения будет включена в список 25 лучших стран в «Индексе развития электронного правительства» ООН.
- 80% городских и сельских населенных пунктов Республики Армения будут обеспечены широкополосным и качественным интернет-соединением, а также доступом к государственным цифровым услугам.
- Будет создан Национальный центр передового опыта в области кибербезопасности, который будет служить гарантом кибербезопасности государственных систем, обеспечивать защиту персональных данных, будет способствовать развитию киберграмотности.
- Хранить данные государственного и частного секторов Республики Армения на технологиях облачной инфраструктуры можно будет на базе специально созданного Центра хранения, разработки и передачи данных. Инфраструктура также будет иметь региональное значение.
- Уровень навыков населения в области цифровизации и кибербезопасности будет повышаться посредством различных образовательных программ.
- Около 300 услуг, оказываемых государственными органами и органами местного самоуправления, будут оцифрованы и оказаны онлайн, в частности - около 150 лицензий и разрешений будут доступны онлайн: разрешения на строительство также будут полностью оцифрованы.

Какую роль блокчейн может сыграть в развитии цифровой экономики Армении?

Блокчейн был провозглашен сдвигом парадигмы, который переопределяет основы Интернета. Это связано с тем, что децентрализованный реестр всех транзакций устраняет посредников, снижает транзакционные издержки и повышает масштабируемость, безопасность и эффективность. Однако, возможно, наиболее важной особенностью блокчейна является то, что он устраняет необходимость доверия между сторонами, использующими сеть.

Одна из стратегий могла бы заключаться в том, чтобы Армения последовала примеру другой страны с аналогичным населением и сосредоточилась на технологических инновациях – Сингапур. Правительство Сингапура запустило Сингапурскую программу инноваций в области блокчейна (SBIP) стоимостью 8,9 млн долларов США. Проект является результатом сотрудничества Enterprise Singapore, Управления развития СМИ Infocomm и Национального исследовательского фонда Сингапура. И он пользуется поддержкой Валютного управления Сингапура, центрального банка страны и финансового регулятора.

Подобная инициатива в Армении могла бы помочь превратить страну в признанного мирового лидера в области блокчейна, подобно Crypto Valley в Швейцарии. Между тем, благоприятная и продуманная правовая база для цифровых активов и блокчейна послужит привлечению международных компаний, занимающихся блокчейном, Интернетом вещей, финансовых технологий и т. д., желающих начать свою деятельность в Армении. «Цифровая Армения» могла бы последовать примеру Эстонии, предоставив идеальную среду для международных технологических компаний, желающих переехать и работать удаленно, что становится все более распространенным после пандемии.

Армения известна своим постоянным развитием ИТ-сектора и завоевала репутацию главного кавказского центра разработки программного обеспечения, промышленных вычислений и электроники.

Благодаря растущему количеству инвестиций в эту сферу, ИТ являются одним из наиболее значимых секторов экономики Армении. По данным Национальной статистической службы Армении, в прошлом году сектор ИКТ вырос на 5,3%, а его стоимость оценивается более чем в 170 миллионов долларов [5].



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ВАЛОВАЯ ПРИБЫЛЬ, КАК ИНДИКАТОР КОНКУРЕНТОСПОСОБНОСТИ ПРЕДПРИЯТИЯ

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Abstract. It is emphasized that one of the critically important aspects of successful enterprise management is the analysis of its financial condition. Financial condition is understood as the ability of the enterprise to finance its activities. The results of production and economic activities are reflected in the financial position of the enterprise. In this context, gross profit is a crucial economic indicator for any commercial organization. The specifics of forming all types of profit at the enterprise are illustrated using the example of an agricultural enterprise. The results of the conducted research confirm the key role of gross profit in shaping the financial indicators of enterprise activities. This conclusion places the task of seeking reserves to increase the profit from the realization of all types of products before the leaders and specialists of enterprises.

Keywords: gross profit, net profit, revenue, cost of sales, sales profitability, cost recovery.

Аннотация. Выделено, что одним из критически важных аспектов успешного управления предприятием является анализ его финансового состояния. Под финансовым состоянием понимается способность предприятия обеспечивать финансирование своей деятельности. Результаты производственно-хозяйственной деятельности отражаются в финансовом положении предприятия. В этом контексте, валовая прибыль выступает важным экономическим показателем для любой коммерческой организации. Особенности формирования всех видов прибыли на предприятии проиллюстрированы на конкретном примере сельскохозяйственного предприятия. Результаты проведенного исследования подтверждают ключевую роль валовой прибыли в формировании финансовых показателей деятельности предприятий. Этот вывод ставит перед руководителями и специалистами предприятий задачу поиска резервов для увеличения прибыли от реализации всех видов продукции.

Ключевые слова: валовая прибыль, чистая прибыль, доход, себестоимость продаж, рентабельность продаж, окупаемость затрат.



Валовая прибыль — это один из ключевых финансовых показателей, который отражает разницу между выручкой от реализации продукции или услуг и себестоимостью их производства. Этот показатель имеет важное значение при анализе финансового состояния предприятий. Вот несколько ключевых моментов, связанных с валовой прибылью:

Роль в финансовом анализе:

- Эффективность производства: Валовая прибыль указывает на эффективность производственных процессов предприятия.
- Маржинальность: Этот показатель помогает определить маржинальность продукции, что важно при принятии решений о ценообразовании.
- Анализ трендов:
- Динамика: Изменения в валовой прибыли со временем могут указывать на - эффективность управления затратами и изменения в рыночных условиях.
- Сравнение с конкурентами:
- Конкуренентоспособность: Сравнение валовой прибыли с конкурентами в отрасли может дать представление о конкурентоспособности предприятия.

Факторы, влияющие на валовую прибыль:

- Ценообразование: Уровень цен на товары и услуги.
- Эффективность производства: Управление затратами и оптимизация производственных процессов.
- Спрос: Изменения в спросе на продукцию.

В целом, валовая прибыль является важным индикатором, который помогает понять, насколько хорошо предприятие управляет своими производственными процессами и какова его финансовая производительность. Одним из важнейших условий успешного управления предприятием является анализ его финансового состояния. Под финансовым состоянием понимается способность предприятия финансировать свою деятельность. Оно характеризуется обеспеченностью финансовыми ресурсами, необходимыми для нормального функционирования предприятия, целесообразным их размещением и эффективным использованием, финансовыми взаимоотношениями с другими юридическими и физическими лицами, платежеспособностью и финансовой устойчивостью. Результаты производственно-хозяйственной деятельности находят свое отражение в финансовом состоянии предприятия [1, с.8-9].

К основным исходным финансовым результатам относятся доходы от реализации продукции, себестоимость реализованной продукции, прибыль от реализации продукции (валовая прибыль), операционная прибыль, прибыль до налогообложения и чистая прибыль [2, с.13].

Следовательно, при оценке эффективности произведенной и реализованной продукции следует учитывать объемы валовой и/или операционной прибыли. Важно отметить, что в анализе эффективности каждого вида продукции (или услуги) можно использовать валовую прибыль, в то время как операционную прибыль следует рассматривать при оценке эффективности всей совокупности производимой продукции в целом. Прибыль до налогообложения и чистая прибыль применяются для оценки эффективности деятельности предприятия в целом. Давайте рассмотрим особенности формирования всех видов прибыли на примере сельскохозяйственного предприятия SRL «Cumnuc Agro» в Чадыр-Лунгском районе за 2022 год. Для анализа динамики формирования валовой прибыли предприятия за последние 12 лет рассмотрим показатели, представленные в таблице 1, чтобы проследить изменения в чистой прибыли предприятия в зависимости от объема валовой прибыли.

Таблица 1. Показатели результативности сбытовой деятельности SRL «Cumnic Agro» за 2011 - 2022 годы (тыс.лей)

Год	Доход от реализации продукции	Себестоимость реализованной продукции	Прибыль	
			валовая	чистая
2011	18286	10982	7304	5783
2012	12916	9319	3597	1559
2013	16219	11558	4661	2804
2014	16479	12109	4370	1851
2015	19036	12935	6103	3151
2016	19906	12494	7412	4422
2017	27503	19965	7539	3625
2018	22912	19111	3801	737
2019	21716	21309	407	-2406
2020	25145	22902	2243	455
2021	26469	19990	6479	4332
2022	36774	27677	9097	5091
В среднем	21947	16696	5251	2617

Источник: данные финансовой отчетности предприятия

Для выявления среднегодовых изменений в показателях валовой и чистой прибыли давайте рассмотрим их динамику на графике (рис. 1).

Из рисунка 1 видно, что валовая прибыль предприятия за последние 12 лет характеризуется незначительным возрастающим трендом. В среднем за год валовая прибыль предприятия увеличивалась примерно на 7,5 тыс. лей ($y = 7,486x + 5202$). Однако чистая прибыль демонстрирует нисходящую тенденцию. Согласно уравнению линейного тренда, в среднем за год ее величина снижалась на 99,4 тыс. лей ($y = -99,37x + 3263$). Этот отрицательный тренд чистой прибыли обусловлен опережающими темпами роста расходов операционной деятельности над доходами.

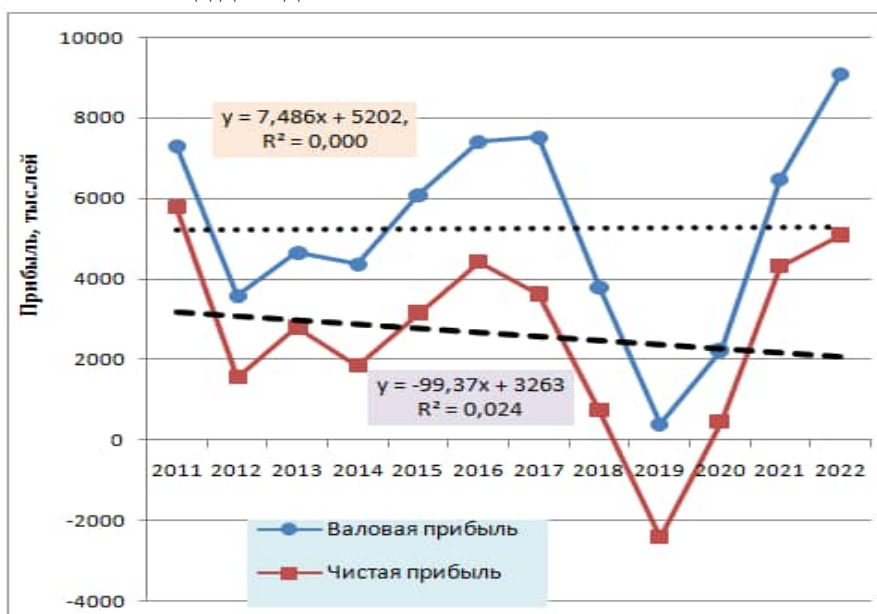


Рис.1. Динамика показателей валовой прибыли и чистой прибыли SRL «Cumnic Agro» за 2011 - 2022 годы

Источник: выполнено по данным таблицы 2

В ходе исследования важно также оценить валовую прибыль в контексте относительных показателей. Как известно, абсолютные значения не всегда отражают эффективность экономических показателей. Поэтому рекомендуется сравнивать величину валовой прибыли с объемом реализованной продукции для более точной оценки эффективности.

Таким экономическим показателем, как известно, является рентабельностью продаж. Соотношение цены реализованного товара к его себестоимости (или дохода от реализации всего объема продукции к совокупным затратам) по определению профессора Пармакли Д.М. называется окупаемостью затрат [3,с.139-144].

Давайте рассмотрим зависимость между окупаемостью затрат и рентабельностью продаж, представив ее на графике (рис. 2). Из графика видно, что с увеличением окупаемости затрат растет и значение рентабельности продаж.

На основе многочисленных исследований можно выделить четыре зоны рентабельности продаж и предложить градацию значений валовой прибыли. В случае убыточного производства предприятие терпит убытки вместо получения прибыли, и такую зону мы называем зоной убыточности. Зону прибыльности можно разделить на три части. При рентабельности от нуля до 0,2 лей/лей присутствует зона низкой рентабельности. В пределах рентабельности от 0,2 до 0,4 лей/лей предприятие функционирует в зоне умеренной рентабельности. Когда рентабельность продаж превышает 0,4 лей/лей, что соответствует объему валовой прибыли на уровне 40% и более от величины доходов от реализации, компания характеризуется высокой эффективностью производственной деятельности, и тогда мы находимся в зоне высокой рентабельности продаж.

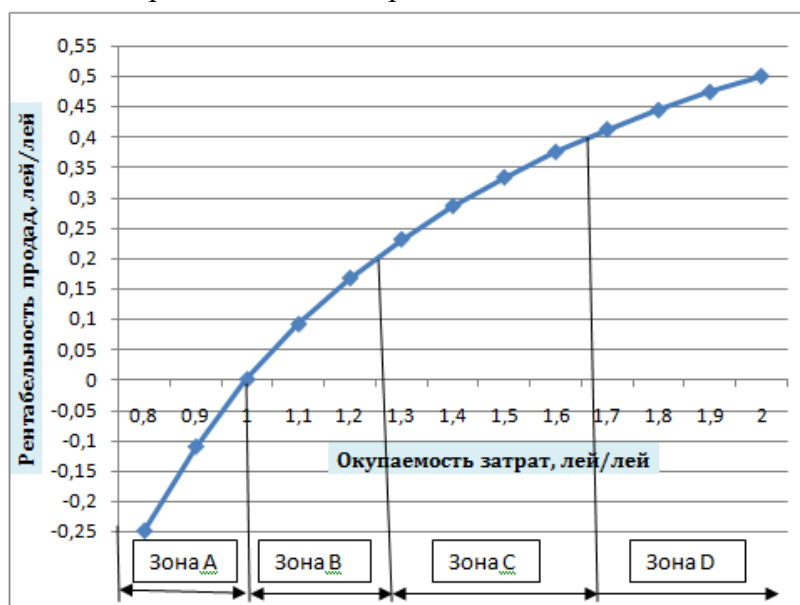


Рис.2. Зависимость рентабельности продаж от уровня окупаемости затрат

Источник: выполнено автором по данным таблицы 2

- Зона А – зона убыточности
- Зона В – зона низкой рентабельности
- Зона С – зона умеренной рентабельности
- Зона D – зона высокой рентабельности

При анализе показателей рентабельности продаж становится ясным, что в течение средних 12 лет доля валовой прибыли в общем объеме доходов от реализации составляет 24% (рис. 3). В течение девяти лет из двенадцати предприятие показывало рентабельность продаж выше среднего уровня. Однако в течение трех лет, с 2018 по 2020 год, эффективность продаж находилась в зоне низкой рентабельности. Согласно уравнению линейного тренда, на

предприятия наблюдалась убывающая тенденция эффективности продаж. В среднем за год рентабельность продаж снижалась почти на 0,02 лей/лей ($y = -0,018x + 0,364$).

Проведенное исследование подтверждает ключевую роль валовой прибыли в формировании финансовых показателей деятельности предприятий. Этот вывод подчеркивает необходимость для руководителей и специалистов предприятий поиска резервов для увеличения прибыли от реализации всех видов продукции. Для достижения этой цели предстоит улучшать качество продукции, оказывающее прямое воздействие на цену реализации, и развивать маркетинговую деятельность предприятия. В параллельном порядке следует предпринимать шаги по сокращению затрат на содержание административно-управленческого аппарата, коммерческих и прочих расходов предприятия.

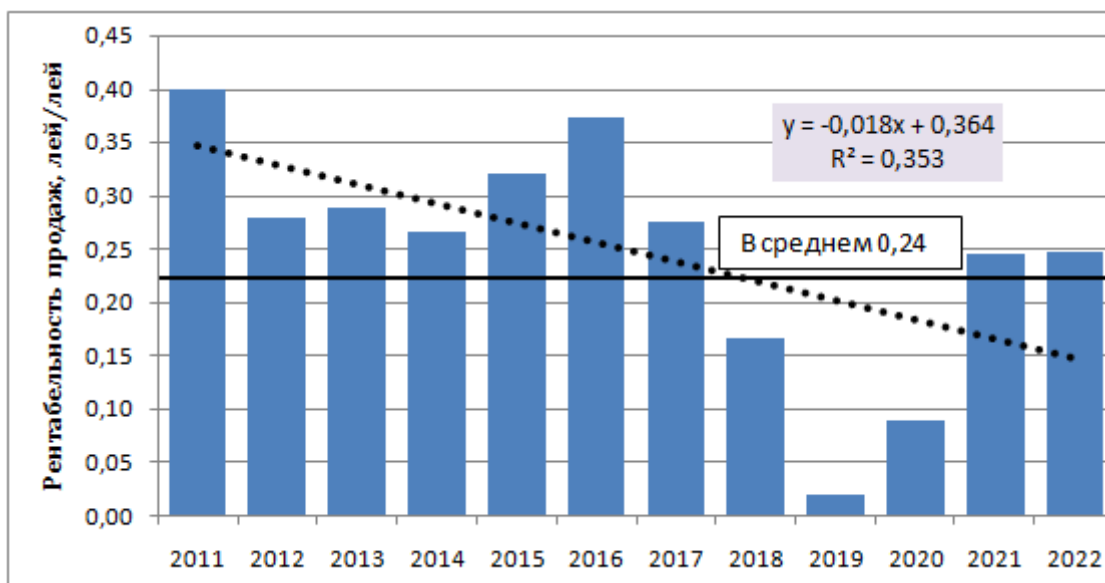


Рис.3. Динамика рентабельности продаж SRL «Cumnuc Agro» за 2011 - 2022 годы

Источник: расчеты автора

Валовая прибыль играет значительную роль в оценке конкурентоспособности предприятия. Вот несколько аспектов, по которым валовая прибыль служит индикатором конкурентоспособности:

Эффективность Управления Затратами:

- Сравнение Себестоимости: Высокая валовая прибыль может свидетельствовать о том, что предприятие эффективно управляет своими производственными издержками и себестоимостью товаров или услуг.

Маржинальность Продукции:

- Уровень Цен и Затрат: Валовая прибыль является показателем маржинальности продукции. Более высокие уровни валовой прибыли могут означать, что предприятие может удерживать конкурентоспособные цены при сравнительно низких затратах.

Инновации и Качество Продукции:

- Дополнительные Затраты на Исследования и Развитие: Если предприятие вкладывает средства в инновации и повышение качества продукции, это может сказаться на его валовой прибыли и повысить конкурентоспособность.

Экономии Масштаба (эффект масштаба производства):

- Увеличение Производства: При увеличении объема производства предприятие может достичь экономии масштаба, что влияет на снижение себестоимости и повышение валовой прибыли.

- Сравнение с Конкурентами:



Относительные Значения: Сравнение валовой прибыли с конкурентами в отрасли позволяет определить, насколько предприятие конкурентоспособно в свете финансовой производительности.

- Ценообразование:

Гибкость в Установлении Цен: Предприятие с более высокой валовой прибылью может иметь большую гибкость в установлении конкурентоспособных цен на свою продукцию.

- Финансовая Устойчивость:

Долгосрочная Успешность: Повышенная валовая прибыль может способствовать финансовой устойчивости предприятия в долгосрочной перспективе.

- Отражение Эффективности Бизнес-Модели:

Устойчивость Бизнес-Модели: Валовая прибыль может быть индикатором того, насколько успешно предприятие реализует свою бизнес-модель и достигает целей.

- Атрактивность для Инвесторов:

Привлекательность для Инвесторов: Высокая валовая прибыль делает предприятие более привлекательным для потенциальных инвесторов.

В целом, валовая прибыль представляет собой важный показатель, который аналитики и руководители используют для оценки финансового здоровья и конкурентоспособности предприятия на рынке.

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СОЦИАЛЬНО-ЭКОНОМИЧЕСКАЯ ОЦЕНКА ЭФФЕКТА ВНЕДРЕНИЯ ТЕХНИЧЕСКИХ РЕШЕНИЙ «УМНОГО ГОРОДА»

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Abstract: The article shows the relevance of the study of assessing the effect of the introduction of technical and software solutions of the smart city as a basis for further system planning of their development and scaling, and provides examples of the most successful practices for the implementation of smart city projects.

Keywords: Economic and social effects, smart city, technical and software solutions.



Повышение качества жизни населения в настоящее время неразрывно связано с внедрением современных технологий, таких как интернет вещей, большие данные, искусственный интеллект, виртуальная и дополненная реальность, ГИС-навигация, разного рода приложения для использования городских сервисов, цифровых платформ получения государственных услуг и др.

Государственными и частными компаниями разрабатываются различного рода технические и программные решения, использующие широкий диапазон технологий, которые могут применяться для более эффективного управления энергоэффективностью, мобильностью в городе, его благоустройством, вовлеченностью жителей в решение оперативных и стратегических вопросов развития города. К ним относятся платформенные решения, обеспечивающие управление разнородными распределенными объектами, сбор и учет информации о состояниях объектов управления, различные системы диспетчеризации расхода и учета ресурсов, системы управления дорожным движением, цифровые решения для управления отходами, освещением, доступа к государственным и частным организациям из одного приложения, обеспечения видеонаблюдения и др.

Усилия компаний сейчас в большей степени направлены на распространение технологий «умного города», а не на их воздействие на городское развитие. Расширение диапазона данных технологий не должно становиться самоцелью. Главное, чтобы они были направлены на создание более эффективной и комфортной для проживания среды, стимулирование экономического роста, повышения уровня жизни и вовлеченности граждан. Именно эти «конечные эффекты» внедрения технологий «умного города» и должны быть ориентиром для мониторинга достижения целей их внедрения.

Необходимо отметить, что жители современных городов, все чаще используют многочисленные цифровые сервисы, привыкают экономить свое время и усилия (дистанционное оформление документов, решение вопросов «в один клик» и т.д.).

На сегодняшний день весьма важными и актуальными являются вопросы, касающиеся оценки эффекта от внедрения тех или иных решений «умного города». Полученные результаты являются основой для принятия решения органами власти по дальнейшему их развитию и масштабированию. В Республике Беларусь наибольшее распространение получили технические и программные решения «умного города» такие как «умная поликлиника», «умная школа», «умная остановка», системы диспетчеризации расхода энергоресурсов (вода, газ, электричество, тепло), системы видеоконтроля, «умное освещение», цифровые решения для управления отходами, автоматизированные системы управления дорожным движением, мобильное приложение «Мой город», сервис самообслуживания в торговых точках, технологии точечного земледелия и др. Как показывают результаты опроса, эти решения наиболее востребованы населением.



Рисунок 1. Результаты анкетирования респондентов

В течение 2022 и 2023 гг. учреждением образования «Белорусская государственная академия связи» при поддержке Министерства связи и информатизации Республики Беларусь и содействии Регионального отделения Международного союза электросвязи для региона СНГ были организованы семинары «Цифровое развитие административно-территориальных единиц» для государственных служащих районных и городских администраций четырех областей Республики Беларусь. В ходе семинаров проведено анкетирование его участников на предмет выявления заинтересованности в развитии цифровых технологий в их административно-территориальных единицах. Результаты анкетирования представлены на рисунке.

Как видно из рисунка, в наибольшей степени жители городов заинтересованы во внедрении и развитии цифровых сервисов в здравоохранении и образовании, самых чувствительных для населения социальных сферах, реализации умного освещения, системы учета и регулирования расхода ресурсов, автоматизированной системы управления дорожным движением, умной остановки и информационного портала для туристов и жителей региона. Это обусловлено повседневым их использованием.

Менее 50 % респондентов высказались за внедрение систем общественной безопасности. Это связано с низким уровнем преступности по сравнению с другими странами и жители во многом привыкли к безопасной жизни. Тем не менее, по отдельным районам этот сервис находится в тройке первоочередных проектов для внедрения, особенно там, где размещены исправительные колонии.

Умные контейнеры, управление инженерными системами городской инфраструктуры, умные парковки – это сервисы, в которых в большей степени должны быть заинтересованы городские власти, а также непосредственно эксплуатирующие организации, так как их внедрение позволит получить существенный экономический эффект. Реализация подобных проектов в развитых в цифровом отношении странах дает как экономический, так и социальный эффект.

В процессе исследования технических и программных решений «умного города» определены «выгоды для общества» как приложения, которые приносят пользу людям и предприятиям и обеспечивают повышение эффективности выполняемых работ, снижение производственных и временных издержек, личную безопасность для граждан, повышение уровня комфорта и качества жизни населения. Типичными показателями «конечных эффектов», полученных в результате реализации решений «умного города» могут быть экономия расходов на содержание сетей наружного освещения, на оплату потребляемых



энергоресурсов жилищно-коммунальным комплексом, снижение уровня преступности и травматизма, сокращение времени на дорогу к месту работы, удовлетворенность жизнью или городом. Расчет стоимостного эквивалента общественных выгод заключается в суммировании величин всех выявленных на определенной территории экономических и социальных эффектов за несколько лет реализации проекта «умный город».

Поэтому в процессе проведения комплексного исследования по оценке социального и экономического эффекта внедрения технических решений «умного города» рассмотрены преимущества и недостатки реализации проектов, проблемные вопросы, возникающие на этапе внедрения. На основании их анализа сформулированы предложения по дальнейшей реализации наиболее эффективных в экономическом и социальном плане решений «умный город».

Социально-экономические эффекты реализации проектов и технических решений имеют как прямой, так и косвенный. При этом, косвенные эффекты часто гораздо более значимые чем прямые. При рассмотрении социально-экономического эффекта часто принимают во внимание, что определенные мероприятия по реализации технических решений имеют положительный эффект на общество и экономику и эффективно используют ресурсы для достижения поставленных целей [1].

Оценка социального эффекта – это процесс измерения влияния конкретного проекта на социальные аспекты общества, такие как уровень бедности, равенство, доступ к образованию и здравоохранению, социальная справедливость и т. д. Она позволяет оценить, насколько эффективными были предпринятые меры, и какие положительные или отрицательные изменения произошли в обществе в результате этих мер.

В данной статье рассмотрены лишь некоторые примеры внедрения технических и программных решений «умный город» и полученный при этом социальный и экономический эффект.

Умный учет ресурсов представляет собой интеллектуальную инфраструктуру, а именно комплекс технологий и устройств, созданных для сбора, анализа и управления потреблением электроэнергии, воды, газа и других ресурсов. Система включает использование умных счетчиков, модемов и программного обеспечения для мониторинга и анализа данных. Разработка и интеграция комплексных интеллектуальных решений в области управления энергоресурсами на базе технологий Интернета вещей (IoT) осуществляется в процессе цифровизации сферы ЖКХ. Для этого применяются инновационные решения, основанные на беспроводных LPWAN-технологиях нового поколения: LoRaWAN и NB-IoT. Механизм передачи LPWAN (Low-power Widearea Network) обеспечивает радиосвязь на расстоянии до 15 км в сельской местности. Это значит, что при необходимости можно собирать данные с приборов, расположенных в самых труднодоступных местах (колодцы, подвалы), а также в удаленных регионах (лесные массивы, реки). При этом сами приборы не нужно подключать к источникам питания: они работают автономно, от батареи, не требующей замены в течение 5–10 лет.

Результаты эксплуатации двух жилых 60-квартирных домов в одном из городов Беларуси с установленной системой диспетчеризации энергоресурсов показали, что экономия составила от 25 до 27 % за год. При этом можно отметить важные аспекты использования умного учета ресурсов и его социальную значимость:

– своевременная и достоверная информация о реальном потреблении на объектах. Как правило, потребители подают показания в разные дни и не всегда они достоверные, что приводит к отсутствию данных о реальном потреблении;

– удаленный мониторинг и управление. Использование систем умного учета ресурсов позволяет удаленно контролировать функционально-техническое состояние, как приборов учета, так и системы в целом, что сокращает необходимость физической проверки. Ресурсоснабжающая организация имеет возможность своевременно предпринимать меры по устранению неисправностей;



– автоматизация и своевременность расчетов за потребляемые ресурсы. Сбор и обработка показаний с приборов учета происходит автоматически без участия специалистов ресурсоснабжающих организаций и потребителей;

– повышение осведомленности потребителей, снижение воровства. Конечные пользователи получают возможность отслеживать свое потребление ресурсов в реальном времени и принимать более осознанные решения относительно их использования, что способствует экономии и более эффективному использованию ресурсов. Также помимо классического пломбирования умные приборы содержат механизмы предотвращения и фиксации несанкционированного воздействия для изменений показаний (магниты, электромагниты, радио).

Существенный эффект достигается при внедрении **систем видеоконтроля и видеоаналитики**. Видеонаблюдение и системы охраны являются актуальными и востребованными средствами обеспечения безопасности объектов различного назначения. Видеонаблюдение позволяет контролировать ситуацию на объекте, выявлять и предотвращать правонарушения, а также фиксировать доказательства для судебных разбирательств. Оно также способствует повышению дисциплины и порядка среди сотрудников и посетителей объектов. Видеонаблюдение является основой охранных систем контроля и безопасности банков, магазинов, коммерческих организаций, так как обладает высокой эффективностью и использует современные технологии. Использование систем видеонаблюдения также обеспечивает экономию средств предприятия, так как позволяет оптимизировать штат охранников и уменьшить потери от воровства.

Так внедрение системы видеонаблюдения в г. Орша только за год позволило существенно снизить преступность в регионе и повысить уровень раскрываемости преступлений. Выше показателя аналогичного периода прошлого года удельный вес преступлений, по которым установлены подозреваемые лица, таких как **хулиганство (+28%)** и кражи (+8,6%). В 2023 году произошло снижение преступлений, совершенных в **общественных местах** на 20,8 % (по линии уголовного розыска -20 %). В целом по району снизилось количество зарегистрированных **бытовых преступлений (-33,3 %)**.

Также произошло снижение количества преступлений, совершенных в состоянии алкогольного опьянения как по направлениям всех служб (-19,3 %), так и по линии уголовного розыска (- 20,7%). По итогам января-октября 2023 года количество автоаварий снизилось на 21,9%, а количество ДТП с участием пешеходов – на 30,8 %.

Сегодня многие прибегают к стратегии **«умного освещения»**, которая является составной частью концепции «умных городов». Благодаря такой стратегии можно значительно экономить бюджет города, усилить социальную составляющую для населения.

По оценкам специалистов одной из основных статей затрат городского бюджета является уличное освещение, которое может составлять до 50% всего бюджета. Основными расходами города на освещение являются затраты на электроэнергию, на содержание и ремонт фонарей, на закупку новых фонарей и др. Кроме того, некоторые города стараются не только обеспечить надлежащее освещение на улицах, но и создать оригинальные световые инсталляции и декорации, например, на новогодние праздники. Это, безусловно, также требует значительных расходов. Использование «умного освещения» позволяет сократить эти затраты почти в два раза. Работа такой системы обеспечивается в основном за счет использования различных энергосберегающих устройств.

Как правило, требуется установка специальных светильников. На сегодняшний день общепризнано, что лучше всего для создания «умного» освещения подходят светодиодные светильники. Светильники в свою очередь должны быть освещены датчиками и подключены к системе автоматизированного регулирования их работы и функционирования. Благодаря различным инструментам управления умной системой освещения энергозатраты можно сводить к минимуму. Это достигается благодаря программированию системы на выполнение определенных функций. К примеру, светильники в парке могут включаться только тогда,



когда в зоне их расположение есть движущийся объект. И наоборот, когда в парке или на улицах нет людей, яркость освещения сводится к минимуму.

В Республике Беларусь в отдельных городах уже реализован проект «умного освещения» на основе интеллектуальной системы управления «Ситилайт» от ОАО «Связьинвест». Это позволило повысить гибкость эксплуатации: в случае изменения погодных условий либо некоторых чрезвычайных происшествий в случае неэффективной работы автоматических режимов диспетчер может включать/выключать, либо изменять уровень мощности светильников самостоятельно. Благодаря онлайн мониторингу за состоянием светильников, ремонтная бригада сразу узнает где и какой светильник вышел из строя и может быстро произвести его замену.

По данным за 2021 год в результате использования данной системы энергопотребление в городе в год уменьшилось с 1468 МВт/ч до 648 МВт/ч, т.е. на 55%. Эквивалентные выбросы CO₂ снизились с 1296 до 572 тонн, разница составила 724 тонны. Затраты в год снижены в 2,26 раза. Кроме этого дополнительная экономия связана:

- с уменьшением расходов на ремонт оборудования (светодиодные лампы долговечнее в 5–7 раз);

- с уменьшением расходов на утилизацию (старые лампы надо правильно и утилизировать, поскольку в них содержится ртуть, что является дорогостоящим процессом).

Нельзя не отметить и **социальный аспект «умного освещения»**. Установка «умного» уличного освещения имеет следующие преимущества:

- повышается уровень безопасности в общественных местах. Это возможно благодаря тому, что система программируется на увеличение яркости света в тех местах, где потенциально может находиться преступник. Благодаря качественному освещению на улице, камеры видеонаблюдения лучше передают картинку. Тем самым правоохранительные органы могут зафиксировать всех прохожих на том или ином участке;

- повышается уровень безопасности дорожного движения. Погодные условия – понижения температуры, туман, осадки ухудшают видимость и обзор дорожного полотна. Уличные светильники стандартного типа освещения в условиях непогоды не обеспечивают достаточную освещенность проезжей части. В этих условиях лучше использовать светильники, которые могут повысить уровень яркости и улучшить обзорность проезжей части;

- снижается уровень отражения света от мокрого асфальта или от корки мокрого снега за счет применения светильников нового поколения. Благодаря использованию smart-освещения предотвращаются сотни аварий и ДТП. Контроль за работоспособностью таких устройств ведёт специальная комиссия. На основании ряда исследований комиссия регулирует фонари, и подбирает оптимальный уровень освещения для той или иной местности.

В Республике Беларусь инициатива по внедрению цифровой системы контроля наполняемости заглубленных контейнеров для твердых бытовых отходов (ТБО) в настоящее время реализована частично в нескольких городах. Инициатива направлена на оптимизацию процесса вывоза ТБО.

ООО «НЬЮЛЭНД технолоджи» (Республика Беларусь) разработана система мониторинга наполненности и состояния мусорных баков «Абсолют: SmartBIN», предназначенная для оптимизации сбора и контроля вывоза твердых коммунальных отходов, вторичных материальных ресурсов, промышленных отходов и строительного мусора. Решение представлено аппаратно-программным комплексом, включающим датчики SmartBIN и программную платформу мониторинга «Абсолют: SmartCloud».

Система обладает следующим функционалом:

- мониторинг уровня наполненности контейнеров 24/7;
- отображение на карте местоположения, состояния и уровня загрузки контейнеров;
- контроль перемещения, возгорания, опрокидывания контейнеров;
- фиксация в системе факта опорожнения контейнера в мусоровоз или на полигоне;



- автоматическое построение оптимальных маршрутов вывоза мусора;
- контроль маршрута движения спецтранспорта, посещения контейнерных площадок;
- контроль наполненности мусоровоза;
- учет контейнеров и контейнерных площадок;
- уведомления о случаях внештатных ситуаций по e-mail, SMS, Telegram;
- сбор данных, аналитика и отчетность.

По результатам испытаний установлено, что при организации стабильной работы всей системы дистанционного сбора и передачи данных «Абсолют: SmartBIN» возможна оптимизация процессов вывоза мусора и снижение соответствующих затрат. Для этого необходимо, чтобы все мусорные баки или контейнеры были оборудованы соответствующими датчиками, подключенными к платформе «Абсолют: SmartCloud», и оказаться от вывоза отходов в соответствии с утвержденным графиком.

В целом внедрение такой системы может позволить операторам планировать маршруты с учетом реальных данных. При этом предполагается **снижение расхода топлива** на 30–35 %, выброса CO₂ (привязка к топливным расходам, сокращение выбросов) на 50–60 %. Кроме того, **социальный и экономический эффект** состоит в повышении качества оказания услуг по сбору и вывозу мусора; оптимизации логистики спецтехники; снижении затрат на топливо, эксплуатационных расходов; увеличение моторесурса спецтехники, в поддержании чистоты вокруг контейнеров и на контейнерных площадках.

Таким образом, оценка социального и экономического эффекта внедрения технических и программных решений «умного города» позволяет городским властям и частным компаниям принимать правильные и своевременные решения по дальнейшему их развитию и масштабированию, что, несомненно, направлено на повышение комфорта для населения, улучшения условий для бизнеса и повышения инвестиционной привлекательности административно-территориальных единиц.

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БАНКОВСКИЙ СЕКТОР РЕСПУБЛИКИ МОЛДОВА В ПЕРВОМ ПОЛУГОДИИ 2023 ГОДА

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Abstract. The first half of 2023 was quite calm for the domestic banking sector. Banks did not face any serious difficulties. The situation with the resource base has stabilized, and the leaders of the banking sector have registered record profits.

Key words: commercial banks, central bank.



Первая половина 2023 года прошла достаточно спокойно для отечественного банковского сектора. Банки не столкнулись с какими-либо серьезными трудностями. Ситуация с ресурсной базой стабилизировалась, а лидеры банковского сектора зарегистрировали рекордные показатели прибыли.

Собственные средства. Совокупные собственные средства банковского сектора на 30 июня 2023 года составили 20,56 млрд. леев и в абсолютном выражении выросли на 2,17 млрд. леев, или на 11,8% в относительном (таблица 1). При этом абсолютное большинство отечественных банков в первом полугодии 2023 года зарегистрировали рост по данному показателю. Абсолютным лидером по росту собственного капитала стал, Victoriabank, которому удалось увеличить собственные средства на 707,6 млн. леев. Активно увеличивали собственные средства Moldova Agroindbank (+ 575,5 млн. леев) и Moldindconbank (+ 480,1 млн. леев). Учитывая, нестабильность как во всем мире, так тем более у нас, хорошо, что собственных средств у банков больше и в случае форс мажорных обстоятельств, это поможет им справиться с потенциальными проблемами [1].

Таблица 1. Собственные средства банков (млн лей)

№	Наименование банка	31.12.2022	30.06.2023	Прирост в абсолютных показателях	Прирост в относительных показателях
1	Moldova Agroindbank	5 426,9	6 002,4	575,5	10,6
2	Moldindconbank	3 805,3	4 285,4	480,1	12,6
3	Victoriabank	2 881,9	3 589,5	707,6	24,6
4	OTP Bank	2 077,8	2 021,7	- 56,1	- 2,7
5	Eximbank	1 009,7	1 059,0	49,3	4,9
6	Energbank	779,0	867,6	88,6	11,4
7	ProCreditBank	756,7	844,1	87,4	11,6
8	FinComBank	606,0	674,3	68,3	11,3
9	BCR Chișinău	456,6	609,9	153,3	33,6
10	Comertbank	327,0	335,5	8,5	2,6
11	EuroCreditBank	267,8	273,3	5,5	2,1
	Всего	18 394,7	20 562,7	2 168,0	11,8

Источник: разработано автором на основе данных коммерческих банков РМ.

Депозиты. По данным на 30 июня 2023 года, остатки на всех видах счетов в леевом эквиваленте составили 106,55 млрд. В абсолютном выражении это на 11,58 млрд. леев больше, чем на 31 декабря 2022 года. Относительный прирост составил 12,2%. У трех банков зафиксирована отрицательная динамика, а у 8 зарегистрирован прирост остатков по счетам и депозитам (таблица 2). Самый сильный прирост зарегистрировали Victoriabank (+ 6,84 млрд. леев), Moldova Agroindbank (+ 2,35 млрд. леев) и Moldindconbank (+ 2,19 млрд. леев). Говоря о структуре привлеченных депозитов по субъектам, то здесь доминируют счета, открытые физическими лицами, на которые приходится 63,93 млрд леев или 60% (на 31.12.2022 г. – 62,2%). Более высокие процентные ставки по срочным депозитам, открытым в национальной валюте в конце 2022 года и первой половине 2023 года, были более привлекательны, чем те, которые номинированы в иностранной валюте. Все это привело к тому, что на счета в национальной валюте пришлось 64,1%, в то время как в иностранной – 35,9% (на 31.12.2022 г. это соотношение составляло 60% на 40%). [2]



Таблица 2. Динамика депозитных портфелей банков (млрд лей)

№	Наименование банка	31.12.2022	30.06.2023	Прирост в абсолютных показателях	Прирост в относительных показателях
1	Moldova Agroindbank	31,36	33,71	2,35	7,5
2	Moldindconbank	19,26	21,45	2,19	11,4
3	OTP Bank	13,88	14,16	0,28	2,0
4	Victoriabank	13,7	20,54	6,84	49,9
5	FinComBank	3,61	3,63	0,02	0,6
6	ProCreditBank	3,33	3,40	0,07	2,1
7	Eximbank	3,32	3,44	0,12	3,6
8	BCR Chișinău	2,23	2,03	- 0,2	- 9,0
9	Energbank	1,75	1,67	- 0,08	- 4,6
10	Comerțbank	1,43	1,45	0,02	1,4
11	EuroCreditBank	1,1	1,07	- 0,03	- 2,7
	Всего	94,97	106,55	11,58	12,2

Источник: разработано автором на основе данных коммерческих банков РМ.

Рассматривая долю банков на рынке депозитов, стоит отметить, что Moldova Agroindbank по-прежнему занимает лидерские позиции и на этом направлении. Хотя, его доля за последние полгода снизилась на 1,4% и на конец периода составляла 31,6%. При этом в доле рынка потеряли все, за исключением Victoriabank (таблица 3). [2]

Таблица 3. Доля депозитов банка в общей сумме депозитов в банковском секторе (в %)

№	Наименование банка	31.12.2022	30.06.2023	Отклонение
1	Moldova Agroindbank	33,0	31,6	- 1,4
2	Moldindconbank	20,3	20,1	- 0,2
3	OTP Bank	14,6	13,3	- 1,3
4	Victoriabank	14,4	19,3	4,9
6	FinComBank	3,8	3,4	- 0,4
7	ProCreditBank	3,5	3,2	- 0,3
5	Eximbank	3,5	3,2	- 0,3
9	BCR Chișinău	2,3	1,9	- 0,4
8	Energbank	1,9	1,6	- 0,3
10	Comerțbank	1,5	1,4	- 0,1
11	EuroCreditBank	1,2	1,0	- 0,2

Источник: разработано автором на основе данных коммерческих банков РМ.

Активы. Сумма активов отечественного банковского сектора на 30 июня 2023 года составила 144,6 млрд леев, что больше в абсолютном выражении на 13,16 млрд леев, а в относительном на 10% больше чем на 31 декабря 2022 года. Лидерами по росту банковских активов на балансе стали: Victoriabank (+ 7,46 млрд леев), Moldova Agroindbank (+ 3,13 млрд леев) и Moldindconbank (+ 2,25 млрд леев). Рассматривая тенденции по активам, то 7 банков зарегистрировали их прирост, в тоже время как 4 отечественных финансовых учреждений были вынуждены смириться с их уменьшением (таблица 4).



Таблица 4. Динамика активов банков Республики Молдова (млрд лей)

№	Наименование банка	31.12.2022	30.06.2023	Прирост в абсолютных показателях	Прирост в относительных показателях
1	Moldova Agroindbank	43,03	46,16	3,13	7,3
2	Moldindconbank	25,84	28,09	2,25	8,7
3	OTP Bank	18,61	18,85	0,24	1,3
4	Victoriabank	18,4	25,86	7,46	40,5
5	ProCreditBank	6,12	6,1	- 0,02	- 0,3
6	FinComBank	4,98	5,07	0,09	1,8
7	Eximbank	4,74	4,95	0,21	4,4
8	BCR Chișinău	3,11	2,94	- 0,17	- 5,5
9	Energbank	2,84	2,79	- 0,05	- 1,8
10	Comerțbank	2,16	2,20	0,04	1,9
11	EuroCreditBank	1,61	1,59	- 0,02	- 1,2
	Всего	131,44	144,6	13,16	10,0

Источник: разработано автором на основе данных коммерческих банков РМ.

Кредитный портфель. Совокупный кредитный портфель банковского сектора, продолжил увеличиваться, причем прирост был не значительный (на 0,36 млрд. леев) и составляет уже 61,99 млрд. леев (таблица 5). В относительном выражении рост кредитного портфеля составил 0,6%. Лидерами по наращиванию кредитных портфелей стали: Moldindconbank (+ 0,58 млрд. леев), Moldova Agroindbank (+ 0,57 млрд. леев) и FinComBank (+ 0,19 млрд. леев).

Таблица 5. Динамика кредитных портфелей банков (млрд лей)

№	Наименование банка	31.12.2022	30.06.2023	Прирост в абсолютных показателях	Прирост в относительных показателях
1	Moldova Agroindbank	22,92	23,49	0,57	2,5
2	Moldindconbank	12,59	13,17	0,58	4,6
3	OTP Bank	8,7	7,85	- 0,85	- 9,8
4	Victoriabank	5,74	5,79	0,05	0,9
5	ProCreditBank	3,6	3,4	- 0,2	5,6
6	Eximbank	2,14	2,08	- 0,06	- 2,8
7	FinComBank	2,02	2,21	0,19	9,4
8	BCR Chișinău	1,23	1,28	0,05	4,1
9	Energbank	1,05	1,11	0,06	5,7
10	Comerțbank	1,01	0,98	- 0,03	- 3,0
11	EuroCreditBank	0,63	0,63	-	-
	Всего	61,63	61,99	0,36	0,6

Источник: разработано автором на основе данных коммерческих банков РМ.

Качество совокупного кредитного портфеля за рассматриваемый период, ухудшилось. Если на конец 2022 года доля неблагоприятных кредитов в кредитном портфеле банков составляла 6,44%, то на 30 июня 2023 года, этот показатель увеличился на 0,67% (таблица 6). Особых успехов в улучшении своего кредитного портфеля достигли: EuroCreditBank (- 4,84%), Victoriabank (- 3,18%) и BCR Chisinau (- 1,68%). Наилучшие показатели по строке



«неблагоприятные кредиты» в своем портфеле демонстрируют BCR Chisinau (0,1%), EuroCreditBank (4,4%) и FinComBank (4,54%).

Таблица 6. Доля неблагоприятных кредитов в кредитном портфеле банков (в %)

№	Наименование банка	31.12.2022	30.06.2023	Отклонение
1	BCR Chișinău	1,78	0,1	- 1,68
2	Eximbank	3,45	6,86	3,41
3	FinComBank	3,55	4,54	0,99
4	Moldindconbank	5,44	6,33	0,89
5	ProCreditBank	5,64	5,22	- 0,42
6	OTP Bank	5,82	7,61	1,79
7	Comerțbank	7,05	8,57	1,52
8	Moldova Agroindbank	7,43	8,68	1,25
9	Victoriabank	8,48	5,3	- 3,18
10	Energbank	8,55	8,88	0,33
11	EuroCreditBank	9,24	4,4	- 4,84
	Всего	6,44	7,11	0,67

Источник: разработано автором на основе данных коммерческих банков РМ.

Относительное ухудшение качества кредитов было вызвано ростом процентных ставок по кредитам, а значит и увеличение сумм, которые должны выплачивать заемщики за полученные кредиты. Рост цен на кредит грозил банкам увеличением числа неплательщиков. В среднесрочной перспективе мы стали свидетелями увеличения числа тех, кто не смог обслуживать полученные кредиты или начал это делать с определенным опозданием. НБМ, в первом полугодии 2023 года начал снижать базовую ставку, что уже привело к падению ставок по привлекаемым депозитам и выдаваемым кредитам. В этих условиях, количество желающих получить кредит по сниженной ставке, автоматически возрастает, но и качество совокупного кредитного портфеля определенного банка может ухудшиться. [2]

Прибыль. Молдавские банки зафиксировали прибыль в размере 2,56 млрд леев, что на 57,9% больше, если сравнивать с первым полугодием 2022 года. Все банки увеличили свою прибыль, кроме одного - EuroCreditBank, который зафиксировал снижение на 12,1%. Наибольший прирост прибыли показал OTP Bank - в 7,4 раза, до 588,96 млн. леев. Moldova Agroindbank укрепил свои лидирующие позиции на рынке, получив прибыль в 641,43 млн. леев, что на 24,7% больше, чем в первом полугодии 2022 года. На третьем месте Moldindconbank с прибылью в 575,52 млн. леев, что на 29,4% больше, чем в первом полугодии 2022 года. Следовательно, четыре крупнейших банка аккумулировали около 86,9% всей прибыли банковского сектора Молдовы, тогда как за тот же период 2022 года на них приходилось 82% (таблица 7).

Таблица 7. Динамика прибыли банков Республики Молдова (млн лей)

№	Наименование банка	30.06.2022	30.06.2023	Прирост в абсолютных показателях	Прирост в относительных показателях
1	Moldova Agroindbank	514,22	641,43	127,21	24,7
2	Moldindconbank	444,93	575,52	130,59	29,4
3	Victoriabank	294,67	418,69	124,02	42,1
4	OTP Bank	79,64	588,96	509,32	639,5
5	ProCreditBank	70,81	80,6	9,79	13,8
6	Eximbank	52,66	56,04	3,38	6,4
7	FinComBank	52,47	78,27	25,8	49,2



8	BCR Chișinău	47,0	49,97	2,97	6,3
9	Energbank	33,98	41,16	7,18	21,1
10	Comerțbank	16,43	17,2	0,77	4,7
11	EuroCreditBank	14,9	13,09	- 1,81	- 12,1
	Всего	1 621,71	2 560,93	939,22	57,9

Источник: разработано автором на основе данных коммерческих банков РМ.

Перспективы. Банковский сектор завершил первую половину 2023 г. с хорошими финансовыми результатами, а все пруденциальные показатели выше регулируемых лимитов. НБМ, рассматривая приоритеты во втором полугодии 2023 году, с точки зрения надзора за деятельностью коммерческих банков, планирует сосредоточить свои усилия, прежде всего, на поддержании ими адекватного уровня ликвидных активов, а также на выявлении и надлежащего управления кредитным риском.

НБМ планирует сосредоточить усилия на действиях, предпринимаемых в контексте цифровизации платежных услуг и модернизации автоматизированной системы межбанковских платежей, а также реализации схемы мгновенных платежей в ближайшее время. Помимо этого, главный банк страны, проследит, чтобы коммерческие банки эффективно тестировали свои планы обеспечения непрерывности бизнеса и продемонстрировали способность поддерживать свою устойчивость во всех осуществляемых операциях и в любых экономических условиях.

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ИСПОЛЬЗОВАНИЕ УРАВНЕНИЙ ПОЛИНОМИАЛЬНЫХ ТРЕНДОВ В ЭКОНОМИЧЕСКИХ ИССЛЕДОВАНИЯХ

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Аннотация. Приводятся некоторые особенности оценки динамики базовых экономических показателей деятельности субъектов хозяйствования, а также обновленные варианты их прогнозирования. Показаны возможности применения графического метода исследований, в рамках которого выявляются уравнения полиномиальных трендов. Их использование служат методической основой оценки и прогнозирования показателей деятельности предприятий, проведения многогранных экономических исследований. Статья выполнена на конкретном примере деятельности автотранспортного предприятия за 2016-2022 годы. Представленные особенности использования уравнений полиномиальных трендов для анализа и прогнозирования экономических показателей деятельности предприятий отличается простотой. Они могут найти широкое применение, как в учебных целях, так и среди специалистов субъектов хозяйствования.

Ключевые слова: график, линейный и полиномиальный тренды, прогнозирование, доход, себестоимость, прибыль.

Abstract. Some features of assessing the dynamics of basic economic indicators of the activities of business entities are presented, as well as updated options for their forecasting. The possibilities of using a graphical research method are shown, within the framework of which equations of polynomial trends are identified. Their use serves as a methodological basis for assessing and forecasting enterprise performance indicators and conducting multifaceted economic research. The article is based on a specific example of the activities of a motor transport enterprise for 2016-2022. The presented features of using polynomial trend equations for analyzing and forecasting economic performance indicators of enterprises are simple. They can find wide application, both for educational purposes and among specialists of business entities.

Key words: graph, linear and polynomial trends, forecasting, income. cost, profit.

В современных условиях повышается самостоятельность предприятий в принятии и реализации управленческих решений, их экономическая и юридическая ответственность за результаты хозяйственной деятельности. Объективно возрастает значение финансовой устойчивости хозяйствующих субъектов. Все это повышает роль экономического анализа [1, с. 3]. Традиционными приемами анализа являются наблюдение и способ сравнения. В экономических исследованиях важно не только грамотно их использовать, но и находить новые приемы оценки достигнутых результатов хозяйствования. Важно также достоверно прогнозировать показатели деятельности на предстоящие годы.

В этой связи предлагаются некоторые особенности оценки динамики базовых экономических показателей деятельности субъектов хозяйствования, а также обновленные варианты их прогнозирования. Для этого широко используем графический метод исследований. Графический метод настолько прочно вошел в арсенал средств научного обобщения и методике научных исследований, что современную науку невозможно

представить себе без его применения. Особенно велика роль этого метода в статистических исследованиях, где изучаются сложные взаимосвязи, тенденции, закономерности социально - экономических явлений и процессов в динамике и пространстве [2, с. 3].

Исследование проведем на базе деятельности автотранспортного предприятия SA «Garant Auto» за 2016 - 2022 гг.

Исходные основные показатели деятельности представлены в таблице 1.

Таблица 1. Основные показатели деятельности SA «Garant Auto» за 2016- 2022 годы (тыс. лей)

Год	Доход от реализации услуг	Себестоимость услуг	Прибыль от реализации услуг
2016	3281,1	1956,2	1324,8
2017	3336,7	1950	1386,7
2018	3499,5	2437,5	1062
2019	3811,6	2687,4	1124,2
2020	2062	1212,3	849,7
2021	2567,1	1482,9	1084,3
2022	3624	2405,2	1218,8

Источник: по данным финансовой отчетности предприятия SA «Garant Auto»

Выполнив графики, в которых отражены экономические показатели деятельности предприятий в динамике, важно показать линейные и полиномиальные тренды. Линейные тренды позволяют увидеть изменения показателей во времени, т.е. оценить их восходящий или нисходящий характер. Кроме того по данным уравнений линейных трендов судят о среднегодовых изменениях показателей.

Представим на графике исходные показатели деятельности предприятия и выявим среднегодовые темпы изменений (рис.1). Как показывают данные уравнений линейных трендов в среднем за год доход от реализации услуг снижался на 69,57 тыс. лей ($y = -69,57x + 3447$), себестоимость оказанных услуг уменьшались на 29,01 тыс. лей ($y = -29,01x + 2134$), прибыль имела характер нисходящей тенденции. В соответствии с которой ежегодное снижение превысило 40,53 тыс. лей ($y = -40,53x + 1312$).

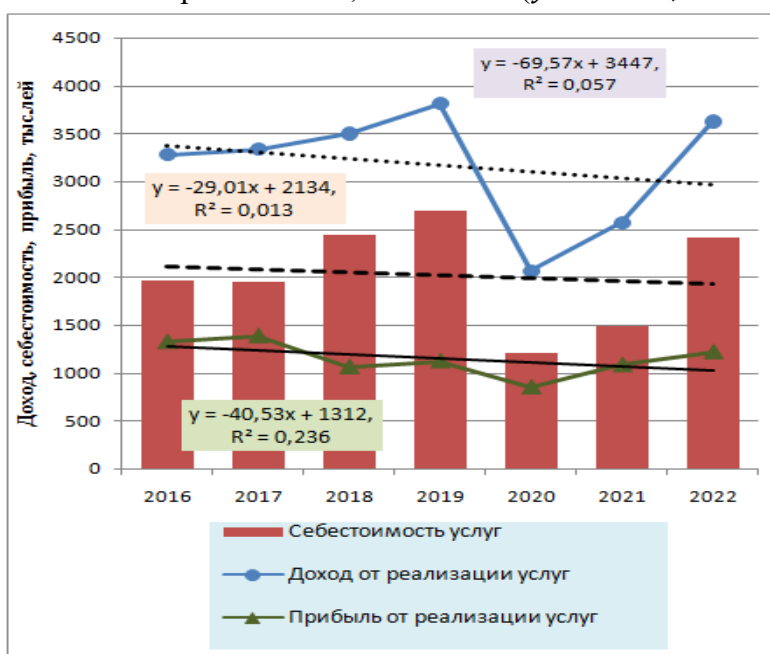


Рис. 1. Динамика доходов, себестоимости и прибыли от реализации услуг в SA «Garant Auto» за 2016 – 2022 гг.

Источник: выполнено по данным таблицы 1

Уравнения полиномиальных трендов второй степени позволяют оценить характер изменений показателей в рамках выбранного периода исследований. В нашем случае как показано на рисунке 2 с 2016 по 2022 годы отмечается нисходящая тенденция динамики прибыли. В соответствии с уравнением линейного тренда в среднем за год прибыль снижалась на 40,53 тыс. лей. Полиномиальный тренд показывает, что в первый период исследования (с 2016 по 2019 годы) снижение показателя прибыли усиливалось, а во втором периоде (с 2019 по 2022 годы) темпы снижения прибыли существенно ослабевали.

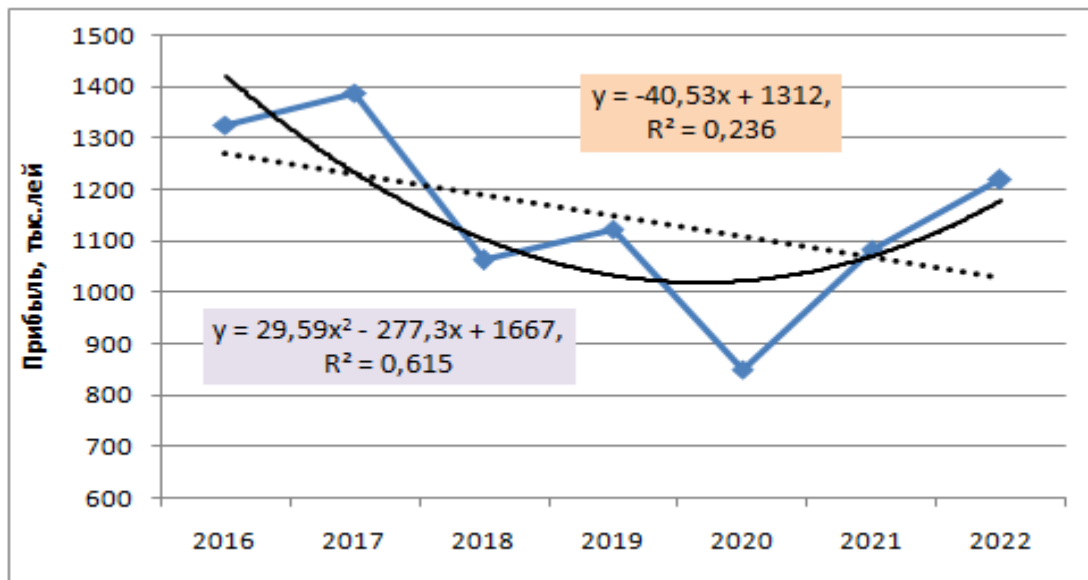


Рис. 2. Динамика прибыли от реализации услуг в SA «Garant Auto» за 2016 – 2022 годы

Источник: выполнено по данным таблицы 1

Действительно, если построить графики динамики прибыли по указанным периодам, то отмеченные изменения темпов прибыли становятся очевидными (рис3). Так, в первом периоде среднегодовой темп снижения прибыли составлял 92,65 тыс. лей, а во втором периоде отмечается рост в среднем за год на 51,84 тыс. лей.

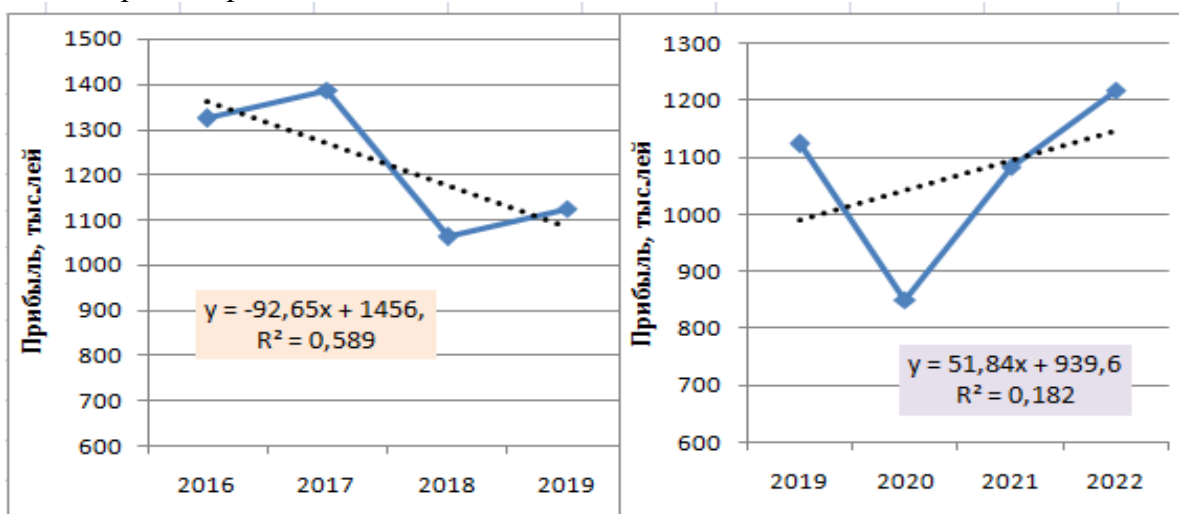


Рис. 3. Динамика прибыли в SA «Garant Auto» за 2016 – 2019 годы и 2019 - 2022 годы

Источник: расчеты автора

Одним из наиболее простых, наглядных и доступных методов является графоаналитический метод прогнозирования при помощи анализа тренда, отражающих тенденцию развития экономических явлений за 5 и более лет.

Прогнозирование экономических показателей на основе трендовых моделей, как и большинство других методов экономического прогнозирования, основано на идее экстраполяции. Под экстраполяцией обычно понимают распространение закономерностей, связей и соотношений, действующих в изучаемом периоде, за его пределы. В более широком смысле слова ее рассматривают как получение представлений о будущем на основе информации, относящейся к прошлому и настоящему.

Профессор Пармакли Д.М. предлагает величину прогнозного значения показателей рассчитывать с использованием линейного и полиномиального трендов. Прогнозное значение показателей определяется как средняя величина, рассчитанная по линейному и полиномиальному трендам [3, с. 31 - 32].

Вполне обосновано возникает вопрос: какой степени уравнение полиномиального тренда следует использовать при прогнозировании. Чтобы ответить на этот вопрос выполним графики динамики прибыли с указанием полиномиальных уравнений третьей (рис. 4), четвертой (рис. 5) и пятой степени (рис. 6).

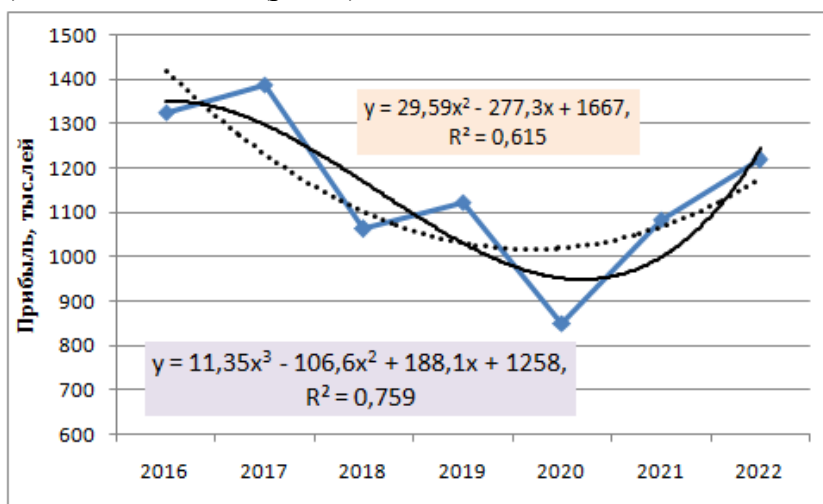


Рис. 4. Динамика прибыли в SA «Garant Auto» за 2016 – 2022 годы (указано уравнение полиномиального тренда третьей степени)

Источник: расчеты автора

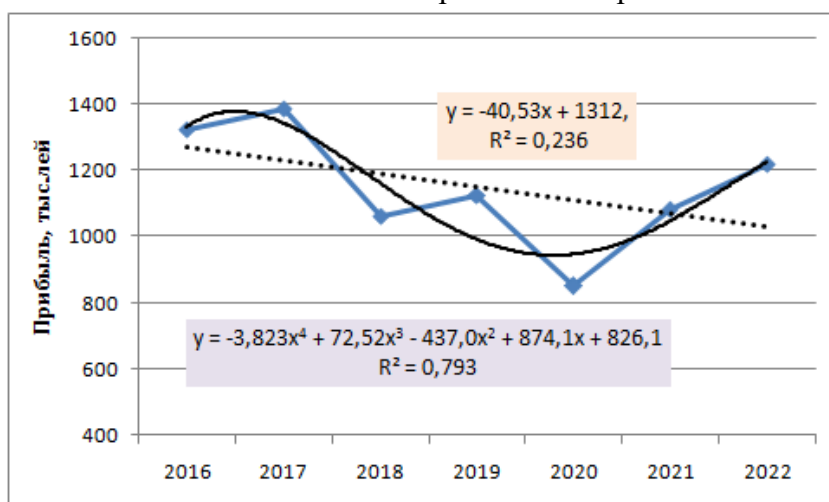


Рис. 5. Динамика прибыли в SA «Garant Auto» за 2016 – 2022 гг. (указано уравнение полиномиального тренда четвертой степени)

Источник: расчеты автора

Преимуществом положением обладает те уравнение тренда, у которого коэффициент аппроксимации (R^2) выше.

У уравнения полиномиального тренда третьей степени $R^2 = 0,759$, уравнения четвертой степени $R^2 = 0,793$, уравнения пятой степени $R^2 = 0,793$. Так как у уравнений четвертой и пятой степени показатель коэффициента аппроксимации одинаков, то будем использовать в расчетах уравнение четвертой степени.

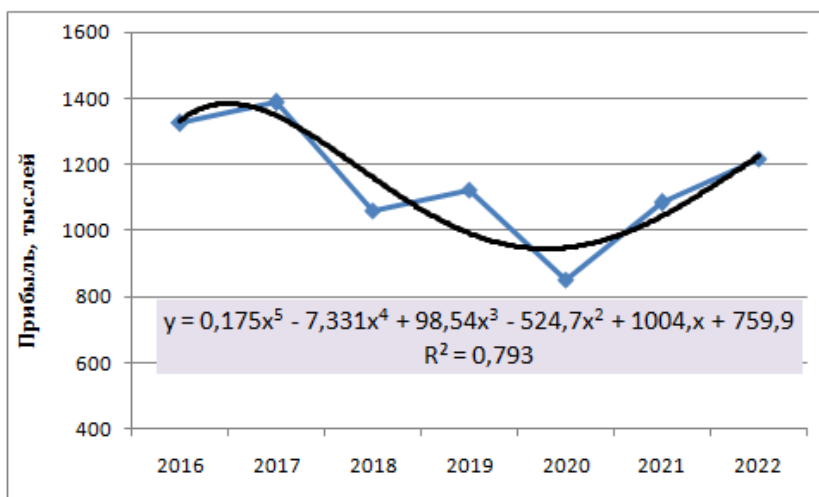


Рис. 6. Динамика прибыли в SA «Garant Auto» за 2016 – 2022 годы (указано уравнение полиномиального тренда пятой степени)

Источник: расчеты автора

В 2023 году прибыль от реализации услуг составит:

в соответствии с уравнением линейного тренда

$$P_p = -40,53 \cdot 8 + 1312 = 988 \text{ тыс. лей,}$$

в соответствии с уравнением полиномиального тренда четвертой степени

$$P_p = -3,823 \times 8 \times 8 \times 8 \times 8 + 72,52 \cdot 8 \cdot 8 \cdot 8 - 437 \times 8 \times 8 + 874,1 \times 8 + 826,1 = 1322 \text{ тыс. лей.}$$

Следовательно, прогнозное значение прибыли на 2023 год составит

$$1155 \text{ тыс. лей } \left(\frac{988+1322}{2} \right).$$

Представим на графике методику прогнозирования показателей прибыли от реализации услуг (рис.7).

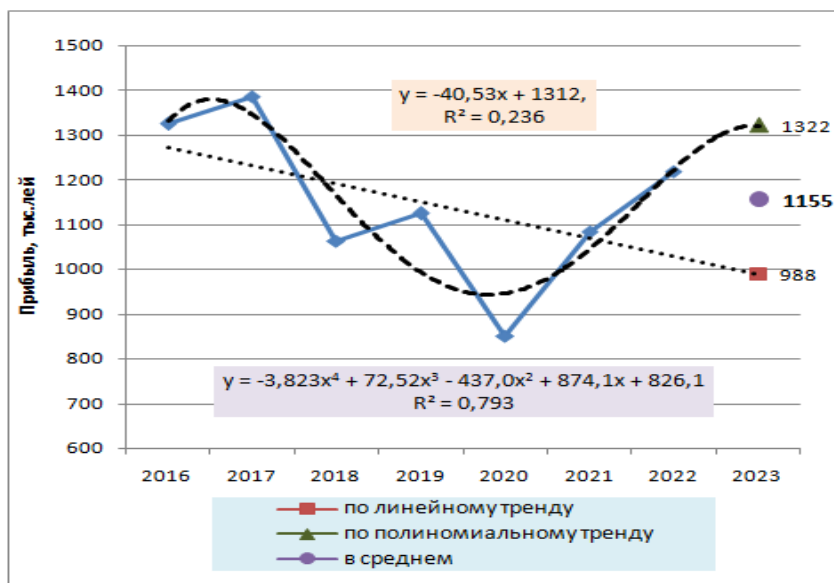


Рис. 7. Динамика прибыли в SA «Garant Auto» за 2016 – 2022 гг.

Источник: расчеты автора



Представленные особенности использования уравнений полиномиальных трендов для анализа и прогнозирования экономических показателей деятельности предприятий отличается простотой. Они могут найти широкое применение, как в учебных целях, так и среди специалистов субъектов хозяйствования.

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ПРОБЛЕМЫ ПЕРЕХОДА СЕЛЬСКИХ СООБЩЕСТВ К УСТОЙЧИВОМУ РАЗВИТИЮ

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Annotation. The article examines the essence of the concept of sustainable development, developed at the initiative of the UN. This concept has not lost its popularity over the past decades. Sustainable development of relatively rural communities has a number of features. Rural residents are more conservative, so they are slower to adapt to new socio-economic conditions, which requires consideration when developing state and regional policies. The article presents some problems characteristic of rural communities in Belarus. According to the author, for the transition of rural communities to sustainable development, it is important to introduce the practice of developing local sustainable development strategies.

Keywords: sustainable development, concept, rural communities, problems, local strategy, integrated approach.

Концепция устойчивого развития представляет собой подход к развитию, который удовлетворяет потребности сегодняшнего поколения, не нанося вреда способности будущих поколений удовлетворять свои потребности. Данная концепция была разработана под эгидой ООН. Она стремится создать баланс между экономическими, социальными и экологическими аспектами развития, чтобы обеспечить долгосрочное благополучие человечества.

История устойчивого развития в Организации Объединенных Наций берет свое начало с Конференции ООН по проблемам окружающей человека среды, состоявшейся в Стокгольме в 1972 г. На конференции были приняты Стокгольмская декларация и План действий, в которых изложены принципы сохранения и улучшения окружающей среды, а также рекомендации по международным природоохранным действиям. Конференция создала Программу ООН по окружающей среде (ЮНЕП) – первую программу ООН, сосредоточенную исключительно на вопросах окружающей среды [2].



Международной комиссией по окружающей среде и развитию впервые в 1987 г. было использовано понятие устойчивого развития. «Устойчивое развитие предусматривает удовлетворение потребностей нынешнего времени, при этом, не подвергая угрозе возможность последующих поколений удовлетворять свои нужды» [3].

На Саммите Земли в Рио-де-Жанейро в 1992 г., Организация Объединенных Наций попыталась помочь правительствам стран мира переосмыслить принципы экономического развития и найти новые решения, позволяющие сократить загрязнение планеты и истощение ее природных ресурсов.

В июне 1997 г. в Нью-Йорке была созвана специальная сессия Генеральной Ассамблеи ООН по проблемам экологии и устойчивого развития, посвященная претворению в жизнь «Повестки дня на XXI в.».

6-8 сентября 2000 г. на встрече глав государств и правительств стран-членов ООН в Нью-Йорке были согласованы восемь Целей развития тысячелетия, к достижению которых в 2015 г. договорились стремиться все государства-члены ООН.

В 2015 г. на Саммите ООН по устойчивому развитию была принята Повестка дня на период до 2030 г. и семнадцать целей устойчивого развития [2].

Устойчивое развитие предполагает, что экономический рост должен быть постоянным и соответствовать потребностям всех членов общества, а также уважать природные экосистемы. Основные принципы устойчивого развития включают в себя уважение к окружающей среде, социальную справедливость, экономическую эффективность, доступ к ресурсам для всех и участие общества в принятии решений.

Устойчивое развитие также подразумевает учет долгосрочных последствий деятельности человека для окружающей среды и общества в целом. Это означает, что при принятии решений необходимо учитывать экологические, социальные и экономические аспекты, чтобы минимизировать негативное воздействие на природу и общество.

Одним из ключевых элементов устойчивого развития является развитие новых технологий и инноваций, направленных на улучшение качества жизни и уменьшение потребления природных ресурсов. Также важную роль играет образование и повышение осведомленности людей о проблемах устойчивого развития.

В целом, концепция устойчивого развития ориентирована на создание равновесия между потребностями общества, эффективным использованием ресурсов и сохранением природы для будущих поколений [4].

Устойчивое развитие сельских сообществ – это концепция, направленная на обеспечение устойчивости и благополучия сельских общин, учитывая их социальные, экономические и экологические потребности.

Сельские сообщества отличаются консерватизмом и медленными темпами развития, кардинально отстают от уровня и качества городской жизни, имеют специфические социально-экономические и экологические проблемы территориального развития, местные органы власти отличаются крайне ограниченными финансовыми и административными полномочиями. Обозначенные проблемы типичны для многих государств и являются глобальной проблемой, которую должна решить система управления устойчивым развитием.

Для достижения устойчивого развития сельских сообществ важно учитывать следующие аспекты:

1. Экономическая устойчивость. Развитие сельских сообществ должно обеспечивать уровень жизни, экономическое благополучие и трудовую занятость для их жителей. Продвижение малого и среднего предпринимательства, развитие сельскохозяйственных технологий, создание рынков сбыта и инфраструктуры – все это способствует экономической устойчивости сельских сообществ.

2. Экологическая устойчивость. Сельские сообщества в большей степени, чем города зависят от окружающей природной среды, поэтому важно обеспечить устойчивое использование природных ресурсов, сохранение биоразнообразия, бережное обращение с



почвой, водными ресурсами и растительным покровом. Внедрение экологически чистых технологий, устойчивое сельское хозяйство и защита окружающей среды способствуют экологической устойчивости сельских общин.

3. Социальная устойчивость. Данная составляющая включает в себя создание условий для развития образования, здравоохранения, культуры, спорта и других сфер жизни сельских жителей. Развитие социальной инфраструктуры, обеспечение доступа к качественным услугам и сохранение традиционных культурных ценностей способствуют устойчивости и сохранению сельских сообществ.

4. Управление и участие. Важным аспектом устойчивого развития сельских сообществ является их участие в процессах принятия решений, управления и планирования. Местное самоуправление, участие общественности в принятии решений и учет мнения местных жителей способствуют устойчивости развития.

Устойчивое развитие сельских сообществ предполагает законодательную, экономическую и социальную поддержку для создания благоприятных условий для жизни и развития сельского населения, сохранение экологического баланса и биоразнообразия, и повышение жизненного уровня населения.

В Беларуси существует ряд проблем, затрудняющих достижение устойчивого развития сельских сообществ. Вот некоторые из них:

1. Устаревшая инфраструктура. Многие сельские районы Беларуси сталкиваются с проблемой устаревшей инфраструктуры, включая качество дорог, водоснабжения, доступность сети Интернет. Это затрудняет доступ к основным услугам и препятствует экономическому развитию.

2. Экологические проблемы. В ряде сельских районов возникают экологические проблемы, такие как загрязнение почвы и воды, что угрожает здоровью местного населения и окружающей среде. Особую проблему в Беларуси имеют последствия катастрофы на Чернобыльской атомной станции. Более 20% территории страны загрязнены радиацией, что ограничивает социально-экономическое развитие. В свою очередь это усугубляет положение местного населения, актуализируются проблемы безработицы, распространения девятиного поведения (особенно пьянство) и иждивенческих настроений.

3. Экономическая нестабильность. Сельское хозяйство продолжает играть значительную роль в экономике Беларуси, однако сельские жители сталкиваются с проблемами доступа к финансированию, рынкам сбыта, сокращаются трудовые ресурсы села, что затрудняет устойчивое экономическое развитие.

4. Угрозы утраты традиционных ценностей и образа жизни. Глобализация и изменения в образе жизни ведут к утрате традиционной культуры и образа жизни сельского населения, что проявляется в росте социальных и психологических проблем, правонарушений, семейно-бытовых конфликтов.

5. Доступность образовательных и медицинских услуг. В ряде сельских районов Беларуси существует недостаток учреждений здравоохранения. Ежегодно закрываются десятки сельских школ по причине малого количества учащихся, что негативно влияет на привлекательность таких деревень для жизни молодежи.

Решение обозначенных проблем требует комплексного подхода, включающего в себя модернизацию инфраструктуры, развитие экологически чистых технологий (ветроэнергетика, солнечные электростанции и т.д.), финансовую поддержку для развития сельского хозяйства (доступность кредитов и земель для организации и расширения фермерских и личных подсобных хозяйств), сохранение и поддержку традиционной культуры и образа жизни (в том числе благодаря развитию агроусадеб и агротуризма), а также обеспечение доступа к качественным образовательным и медицинским услугам.

Особую роль в достижении устойчивости сельских сообществ может сыграть практика разработки локальных стратегий устойчивого развития. Такие научно-управленческие документы могут учесть все особенности, проблемы, риски, и в то же время, преимущества и



перспективы того или иного сельского населенного пункта. В рамках стратегий устойчивого развития можно разработать конкретные рекомендации по социально-экономическому развитию сельского населенного пункта. Особую роль в переходе к устойчивости любого сельского сообщества играет поддержка частной инициативы, организация и развитие малого бизнеса в сельской местности.

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НАКОПЛЕНИЕ ЧЕЛОВЕЧЕСКОГО КАПИТАЛА В УСЛОВИЯХ АГЛОМЕРАЦИОННЫХ ТРАНСФОРМАЦИЙ В РЕСПУБЛИКЕ БЕЛАРУСЬ

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Abstract. The main aspects of the formation of Minsk agglomeration are briefly considered. The numerical composition of human resources in the Minsk agglomeration is analyzed. The factors that determine the quantitative change in the value of human capital of Minsk agglomeration are studied.

Keywords: human capital, population, employment, unemployed, agglomeration, Minsk region.

Минская агломерация является наиболее крупным территориальным образованием в пределах Республики Беларусь, объединяющим столицу Беларуси и Минский район аналогичной области. Центральным звеном Минской агломерации является г. Минск, население которого на начало 2023 года составляет 1 955 471 человек. Несмотря на внушительные размеры, которые по оценкам специалистов составляют около 12,3 тыс. км², данное социально-экономическое пространственное объединение является сравнительно молодым, формирование которого началось примерно во второй половине прошлого века [1]. Вместе с тем, нельзя не отметить весомое влияние данного объединения на сопряженные административно-территориальные формирования.

С позиции пространственной ориентации Минскую агломерацию можно охарактеризовать, как моноцентрическую, сегментную, лучевую, расположенную вдоль транспортных коридоров. С некоторой долей условности территорию Минской агломерации можно разделить на следующие пространственные зоны:

- центральная, получившая название «Компактный Минск», ядром которой выступает г. Минск, являющийся отдельной административно-территориальной единицей, обладающий статусом столицы республики и регламентированными границами, концентрирующий значительный ресурсный потенциал, позволяющий оказывать влияние и воздействовать на сопряженные агломерационные зоны;
- срединную, которую называют «Большой Минск», охватывает территории, сопряженные с кольцевой автодорогой;
- периферийная, включает территорию ареалов городов-спутников [2].

Следует отметить, что пространственное развитие Минской агломерации, интенсивность ее социально-экономических трансформаций во многом обусловлены динамикой изменения численного состава населения, проживающего в рамках данного формирования. Одним из основных и практикоориентированных подходов оценки городских агломераций является анализ количественного и качественного состава населения, формирующих ее основу. Избегая вариативности оценочных исследований, обусловленных подвижностью и неустойчивостью территориальных границ Минской агломерации, анализ динамики изменения ее количественной величины целесообразно осуществлять на основе численного состава населения (рисунок 1).

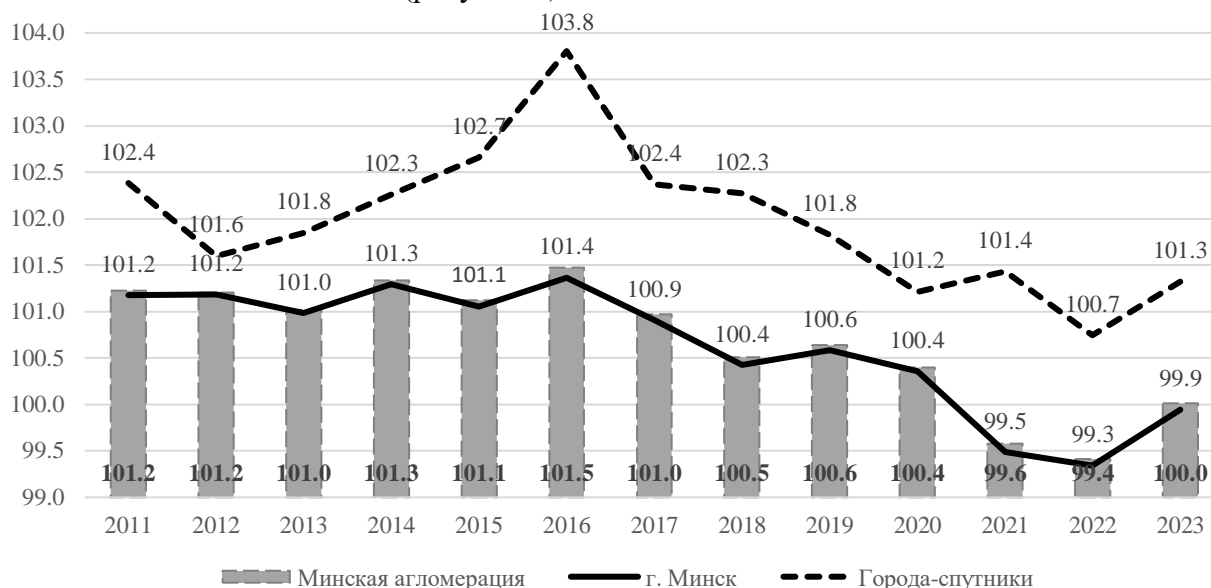


Рис. 1. Темпы изменения численности населения Минской агломерации, к предыдущему году, %. Источник: рассчитано на основе [3].

Представленные на рисунке 1 данные, свидетельствуют, что направленность изменения численности населения, как индикатора потенциала Минской агломерации, не всегда является идентичной в г. Минске и городах-спутниках. В последние несколько лет для столицы республики характерно снижение темпов изменения населения, кумулятивный эффект которых вызвал сокращение численности населения почти на 25 тыс. человек.

Несмотря на некоторую неустойчивость динамики изменения численности населения в городах-спутниках, в целом тренд исследуемого показателя характеризуется положительной динамикой. За период 2010-2023 гг. общая численность населения в Дзержинске, Фаниполе, Логойске, Заславле, Руденске и Смолевичах увеличилась почти на 24 тыс. человек [1]. Таким образом, можно констатировать, что совокупная оценочная величина минской агломерации практически не изменилась в исследуемом периоде.

Несмотря на разновекторность тенденций изменения численности населения в разрезе столицы и городов-спутников, следует отметить преобладающее воздействие Минска, обусловленное почти 20-кратным превышением численности населения (рисунок 2).

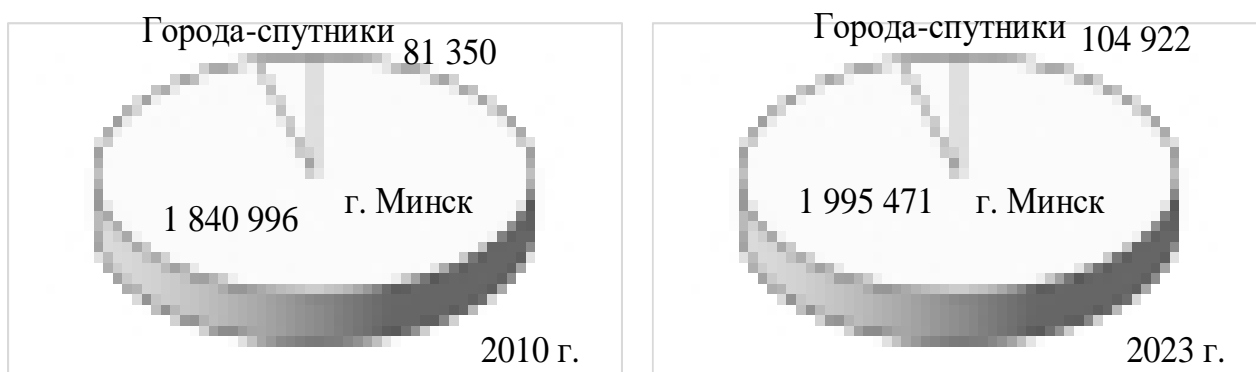


Рис. 2. Численный состав Минской агломерации, чел. Источник: рассчитано на основе [3]

Анализ данных, представленных на рисунке 2 позволяет отметить наличие следующих тенденций:

в исследуемом периоде удельный вес населения, проживающего в городах-спутниках, увеличился с 4,2 до 5,0 %. Параллельно с этим сократилась доля населения столицы в Минской агломерации с 95,8 до 95,0 %;

в абсолютном выражении численность населения в г. Минске увеличилась практически на 154,5 тыс. чел, в городах-спутниках – почти на 23,6 тыс. человек;

в относительном выражении прирост численности населения в г. Минске составил 8,4 %, городах-спутниках – 29,0 %.

Все вышеизложенное позволяет отметить следующее: увеличение численности населения Минской агломерации осуществляется вследствие его интенсивного прироста в пригородных зонах. Следует констатировать, что устойчивое экономическое и экологическое развитие столицы и других населенных пунктов, расположенных в центральной и срединной зонах формирующейся Минской агломерации, определяется не только количественным составом населения. Важным фактором выступает имеющейся резерв трудовых ресурсов, использование которого будет способствовать увеличению экономической эффективности Минской агломерации (рисунок 3-4).

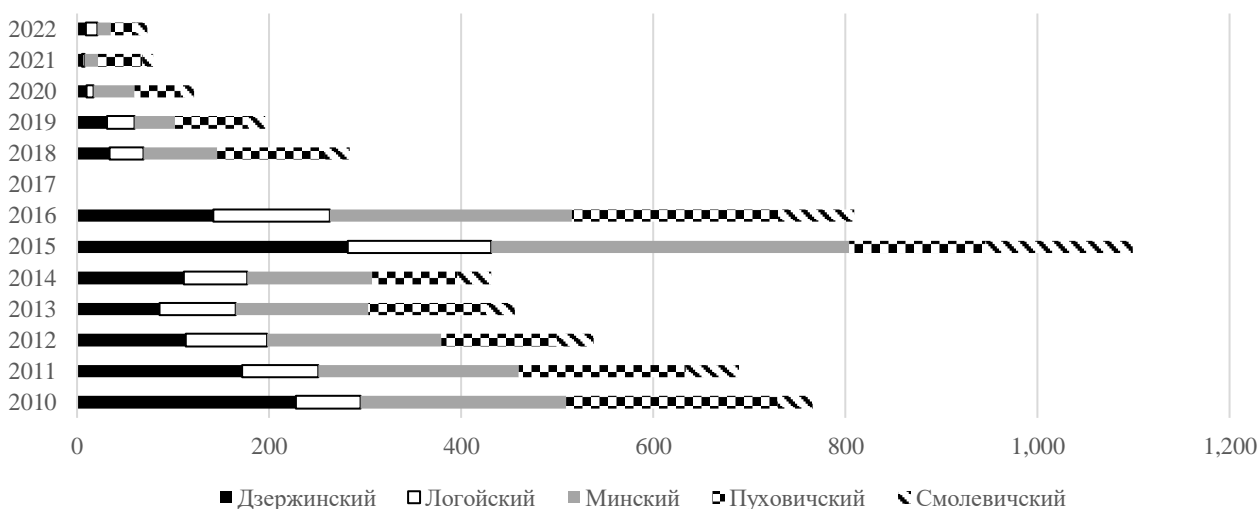


Рис. 3. Численный резерв трудовых ресурсов в разрезе отдельных районов Минской агломерации, чел. Источник: рассчитано на основе [4]

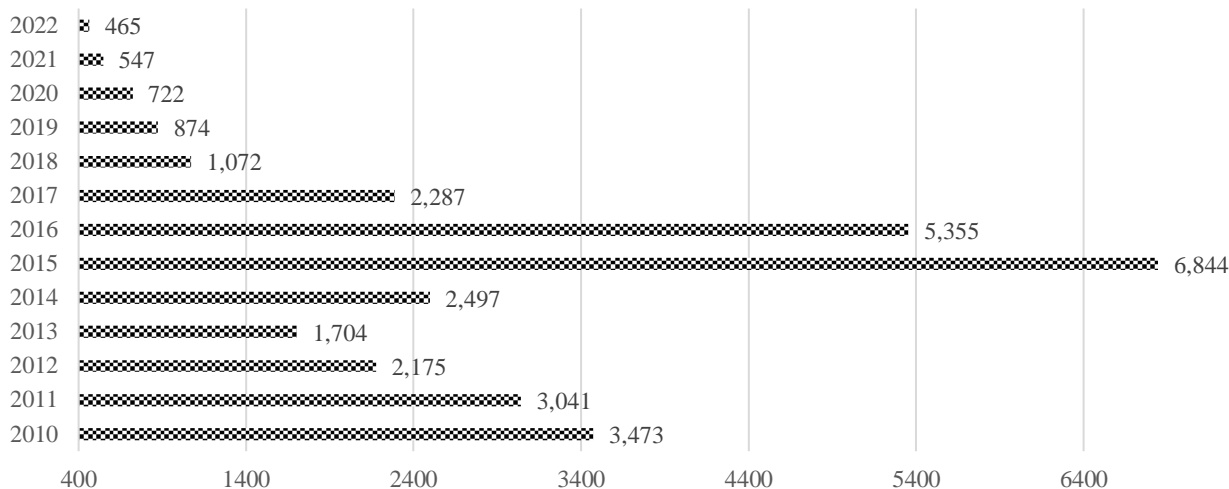


Рис. 4. Численный резерв трудовых ресурсов в г. Минске, чел. Источник: рассчитано на основе [4]

Несмотря на то, что численность безработных, зарегистрированных в органах по труду, занятости и социальной защите существенно ниже, нежели официальные данные, полученные по результатам выборочного обследования домашних хозяйств, имеющийся потенциал трудовых ресурсов свидетельствует о дополнительных резервах роста Минской агломерации за счет численного состава населения (таблица).

Таблица – Состав и структура численности безработных (по данным выборочного обследования домашних хозяйств)

Территория Республики Беларусь	Тип местности	2014	2015	2016	2017	2018	2019	2020	2021	2022
г. Минск	городская местность, тыс. чел.	54,3	55,0	54,3	44,1	40,8	40,8	35,7	40,3	38,7
Минская область	Всего по типам местности	30,2	30,6	38,5	37,6	33,7	26,9	28,4	24,2	23,8
	городская местность, тыс. чел.	18,6	16,0	21,2	20,4	20,8	19,2	18,9	15,5	14,8
	городская местность, %	61,6	52,2	55,2	54,3	62,3	71,4	66,4	64,2	62,3
	сельская местность, тыс. чел.	11,6	14,6	17,2	17,2	12,6	7,7	9,6	8,7	9,0
	сельская местность, %	38,4	47,8	44,8	45,7	37,7	28,6	33,6	35,8	37,7

Примечание: рассчитано на основе [5].



Согласно представленные данным, численность безработных, проживающих в Минской области составляет 23,8 тыс. человек, что практически на 5,5 порядков выше данных, имеющих в органах по труду, занятости и социальной защите. Проецируя этот срез на столицу республики, следует отметить, что согласно выборочным обследованиям домашних хозяйств, реальная численность безработных более, чем 82,2 раза выше.

Особого внимания заслуживает количественный анализ сельского населения Минской области, доля которого на протяжении исследуемого периода постоянно увеличивается на начало 2023 года составляет 45,2 %. Параллельно с этим, увеличивается давление на региональные рынки труда вследствие несоответствия их конъюнктуры реальным потребностям экономики. В результате сложившихся институциональных условий, существенно возрастает удельный вес безработных в сельской местности (рисунок 5).



Рисунок 5. Динамика изменения удельного безработных в разрезе городской и сельской местности Минской области, % Источник: рассчитано на основе [5]

Проведенное исследование формирования и развития Минской агломерации позволяет выявить несовершенство нормативного правового законодательства, обусловленного достаточно слабой пространственной поляризацией в государственных программных документах социально-экономического развития Беларуси. Сложившаяся практика территориального планирования зачастую исходит из необходимости «сжатия» территории и отказа от реализации каких-либо перспективных проектов на малонаселенных территориях. В частности, отсутствие Национальной стратегии пространственного развития является одной из причин недостаточной эффективности разработки и реализации территориальных стратегий различных уровней. При этом механизм реализации государственной программы территориального устройства должен базироваться на приоритетной значимости городов и создании на их основе опорных точек пространственного развития экономики, связывающих через систему транспортных магистралей сельское пространство. Реализация такого подхода будет способствовать прогрессивному развитию сельских территорий, увеличению миграционных потоков местного населения за счет мультипликативного эффекта ускоренной социально-экономической трансформации и инфраструктурной модернизации городских поселений.

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УДК 657.1

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НЕКОТОРЫЕ ВОПРОСЫ БУХГАЛТЕРСКОГО УЧЕТА И НАЛОГООБЛОЖЕНИЯ РАСХОДОВ, СВЯЗАННЫХ С ПОДГОТОВКОЙ И ПЕРЕПОДГОТОВКОЙ КАДРОВ

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Abstract. Issues related to training and retraining of personnel have always been relevant in enterprise accounting. This article discusses some of the features of such expenses and their reflection in financial and tax accounting.

Keywords: expenses, recognition, financial accounting, tax accounting, reflection, accounting records.

В практике деятельности предприятий и организаций часто возникают вопросы, связанные с расходами по подготовке и переподготовке кадров.

Основными нормативными документами, регулирующими порядок учета данных расходов, являются:

- статьи 18,19,24,88,90 Налогового Кодекса РМ р.2 «Подходный налог»;
- инструкция Государственной налоговой службы N 14 от 19.12.01"Об удержании подходного налога у источника выплаты»;
- Национальный Стандарт Бухгалтерского Учета (НСБУ) «Расходы».

В финансовом учете статья расходов по подготовке и переподготовке кадров определена п.21 НСБУ «Расходы» [1].

Вместе с тем на практике возникают некоторые особенности как в финансовом, так и в налоговом учете [2,3,4].

Рассмотрим это на конкретных примерах.



Пример 1. В связи с переходом предприятия SRL «Epsilon» на автоматизированную форму учета «1С-Бухгалтерия-8.3» было оплачено 1500 лей предприятию SRL «Consulting-Prim» для прохождения курсов главным бухгалтером Руссу И. Оплата произведена по перечислению.

Согласно ст.24 гл.3 Налогового Кодекса «Вычеты» **разрешается вычет обычных и необходимых расходов**, оплаченных и понесенных налогоплательщиком в течение налогового года исключительно в целях осуществления предпринимательской деятельности [4].

Следовательно, данные расходы могут быть признаны как в налоговом, так и в Финансовом учете, поскольку они необходимы для деятельности предприятия. SRL«Epsilon» отразит соответствующие операции следующим образом:

1. На сумму оплаты за курсы:

Дт 544 «Прочие текущие обязательства» -1500 лей

Кт 242 «Текущие счета в национальной валюте»-1500 лей (основание-платежное поручение, счет)

2. Списание на расходы:

Дт 713 «Административные расходы» - 1500 лей

Кт 544 «Прочие текущие обязательства» -1500 лей (основание- налоговая накладная)

Пример2. SRL «Epsilon» 24.08.2023 оплатило за обучение своего сотрудника по контракту Цуркан Р.Т. на заочном отделении Молдавской Экономической Академии сумму 10200 лей.

В ст. 18 Налогового Кодекса в валовый доход работника включаются все виды доходов, а также льготы, предоставленные работодателем. В пункте, а) статьи 19 Налогового Кодекса отмечено, что к «облагаемым подоходным налогом льготам, предоставляемым работодателем, относятся выплаты, осуществляемые работодателем в **целях возмещения личных расходов работника**, а также выплаты в пользу работника, осуществленные другим лицам, за исключением выплат в бюджет социального страхования и взносов по обязательному государственному страхованию» [4].

Следовательно, в августе месяце имеют место следующие бухгалтерские записи:

1. На сумму оплаты по контракту:

Дт 544 «Прочие текущие обязательства» -10200 лей

Кт 242 «Текущие счета в национальной валюте»-10200 лей (основание-платежное поручение, счет)

2.Списание на расходы:

Дт 713 «Общие и административные расходы» -10200 лей

Кт 544 «Прочие текущие обязательства» -10200 лей (основание - налоговая накладная).

Исходя из вышеизложенного следует, что сумма 10200 лей должна быть отражена записью 24.08.2023. в «Личной карточке учета подоходного налога» за 2023 год и обложена по ставке статьи 15 Налогового Кодекса, т.е.12% Цуркан Р.Т. Кроме того, при составлении «Декларации о подоходном налоге лица, занимающегося предпринимательской деятельностью» предприятие SRL «Epsilon» должно указать эту сумму в **приложении 2D** следующим образом:

Таблица 1. Выписка из приложения 2 D Декларации предприятия SRL «Epsilon» за 2023 год

Корректировки	Код	В финансовом учете	В налоговом учете	Разница
А	1	2	3	/гр.3-гр.2/
Личные и семейные расходы /НК,ст.23/	0301	10200	0	-10200

Источник: разработана автором



Следовательно, **в налоговых целях на вычет данная сумма не признается.**

Пример 3. По условиям контракта, заключенного между предприятием SRL «Epsilon» и Руссу Н, последний при собственной отставке по ст.85 КЗОТ РМ (по собственному желанию), - должен возместить предприятию сумму оплаты 10200 за обучение на заочном отделении 2023-2024 учебного года в Молдавском Техническом Университете. Иванеску Н. подал в отставку 27.11.2023 и возместил 28.11.2023 через кассу предприятия SRL «Epsilon» 10200 лей. (в приложении 2D «Декларации о подоходном налоге лица занимающегося предпринимательской деятельностью» предприятия SRL «Epsilon» за 2023 сумма-10200 лей нашла отражение). Справочно: сумма подоходного налога, удержанного с дохода за обучение и отраженного в Личной карточке работника за 2023 год-1224 лея.

Исходя из условий данного примера, в ноябре 2023 года в бухгалтерии предприятия «Альфа» должны быть даны следующие бухгалтерские записи.

1. На сумму возврата Иванеску Н. денежных средств по условиям контракта при увольнении:

Дт 241«Касса» - 10200 леев,

Кт 612«Другие доходы от операционной деятельности»-10200 лей

2. На сумму подоходного налога, удержанного при оплате за обучение по контракту в 2023 году с Рессу Н.:

Дт 531 «Обязательства персоналу по оплате труда» субсч.5311«Обязательства по оплате труда»-1224 лея

Кт 534 «Обязательства бюджету» субсчет 5342«Обязательства по подоходному налогу от оплаты труда» - 1224 лея

Кроме всего изложенного необходимо отметить и то, что по истечении налогового года лица в пользу которых были оплачены контракты за обучение, должны представить в налоговую инспекцию по месту прописки «Декларацию физического лица о подоходном налоге».

При учете расходов на подготовку и переподготовку кадров, бухгалтерия предприятия, руководствуясь указанными статьями налогового кодекса, должна четко подходить при определении данных расходов, и выделить из них **как обычные и необходимые, признанные в налоговом и финансовом учете, так и личные, которые признаны в финансовом, но в налоговом учете не признаются.**

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БУХГАЛТЕРСКИЙ УЧЕТ КАК ИНФОРМАЦИОННАЯ ТЕХНОЛОГИЯ И СИСТЕМА УПРАВЛЕНИЯ ПРОИЗВОДСТВОМ

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Abstract. Important foreign interpretations of the content, meaning and morality of accounting are presented, and some historical aspects of its development are revealed. Two new, simpler and clearer forms of tables “List of accounting accounts” of section II of the moldovian General chart of accounts are proposed, a significant shortcoming of its terminology and a way to eliminate this shortcoming are indicated. The role of accountants in modern conditions of management and development of a market economy is revealed.

Key words: information technology, mystery of origin and educational function of accounting, roman accounting, economic concepts.

В современных сложных социально-экономических условиях развития Республики Молдова важную роль играет бухгалтерский учет. Он представляет собой сложную систему взаимосвязанных элементов, целевой функцией которой является полное и своевременное обеспечение управления всесторонней информацией о хозяйственно-финансовой деятельности различных субъектов.

Глубокую и всестороннюю характеристику бухгалтерского учета дал всемирно известный российский ученый, доктор экономических наук профессор Я. В. Соколов, отмечавший, что «бухгалтерия – это великая наука, мост между экономикой и правом» [16, с. 766], и мечтавший «написать такой учебник по бухгалтерскому учету, в котором не будет ни одной проводки» [15, с. 72]. По его мнению, бухгалтерский учет:

«ведется ради людей, заинтересованных в его данных;

распадается на науку (счетоведение) и практику (счетоводство);

имеет дело не с самими хозяйственными процессами, а с их информационным отражением – первичными (сопроводительными) документами;

поставляет достаточно значимую и надежную информацию для принятия действенных управленческих решений, при этом значимость ее должна быть относительно, а не абсолютно достаточной;

придает пользователям уверенность в том, что его (учета) данные необходимы, но их убедительность всегда находится в пределах определенной вероятности и каждое решение, которое принимается на их основе, несет в себе определенную степень риска;

считает своим предметом факты хозяйственной жизни и использует моделирование как метод их регистрации и анализа:

изучает факты хозяйственной жизни, раскрывая их природу с экономической и юридической точек зрения, образуя два параллельных теоретических среза: бухгалтерское право и экономический анализ;

использует те методологические приемы, которые отражают интересы наиболее влиятельных групп потенциальных участников хозяйственных процессов;

отражает не абсолютную истину, а компромисс интересов тех, кто формирует бухгалтерскую методологию, и тех, кто влияет на нее;

включает множество теорий, объясняющих хозяйственные процессы» [17, с. 4-5].



Авторитетный украинский ученый, доктор экономических наук профессор Ф. Ф. Бутынец утверждает, что «учет представляет собой сложную динамическую информационную систему предприятия, в которой факты хозяйственной деятельности трансформируются в информационные ресурсы» (перевод с украинского языка – В. Щ.) [3, с. 6].

Последний российский балансовед XX века, доктор экономических наук профессор В. В. Ковалев писал, что бухгалтерский учет «можно трактовать как науку, посвященную объяснению, предсказанию и формированию тенденций развития учетной практики как области человеческой деятельности, информационно обеспечивающую принятие управленческих решений в отношении экономических субъектов. Как прикладное научное направление учет предназначен для толкования сущности фактов хозяйственной жизни экономического субъекта, обеспечения их формализованного описания, классификации, оценки и представления в виде, который удовлетворяет запросы лиц, имеющих отношение к данному субъекту, и позволяет им принимать эффективные управленческие решения инвестиционно-финансового характера» [7, с. 95].

Американские специалисты Б. Нидлз, Х. Андерсон и Д. Колдуэлл полагают, что «бухгалтерский учет есть система, которая осуществляет измерение, обработку и передачу финансовой информации об определенном хозяйствующем субъекте» [11, с. 12]

Французский ученый Ш. Пангло сформулировал следующее определение бухгалтерского учета как науки: «бухгалтерский учет – это раздел политической экономии, т.е. прикладная политическая экономия. И как последняя имеет своим предметом капитал, точно так же все понятия бухгалтерского учета должны быть выведены из понятия капитала» [18, с. 157].

Другой известный российский ученый, доктор экономических наук профессор К. Ю. Цыганков отмечает, что бухгалтерский учет есть «информационная технология, предназначенная для формирования и представления данных о состоянии и движении капитала» [21, с. 40].

Бухгалтерский учет составляет основу информационно-аналитического обеспечения современных бизнес-процессов и является основным поставщиком экономической информации для внутренних и внешних пользователей, а также выработки и принятия эффективных управленческих решений. Его важное значение дополнительно раскрывается ниже.

«Если нельзя отрицать, что с самых примитивных времен человек нуждался в счете, то еще очевиднее, что усовершенствованное и обобщенное применение счетоводства ему необходимо теперь, дабы, от прогресса к прогрессу, он умел подвигаться вперед к достижению этой лучшей будущности, этого социального земного рая, о котором он мечтает уже столько столетий и который он узнает только будучи более предусмотрителен и имея больше порядка во всех своих деяниях» – французский профессор счетоведения Э. Леотэ [8, с. 162].

«Счетоводство, предоставляя собственнику ясную картину его доходов и расходов, помимо других выгод в экономической жизни, приносит домашнему и коммерческому хозяйству еще одну важную выгоду морального свойства: оно налагает на человека честного известную узду в отношении его вожделений, удерживая его от роскоши и расточительности и указывая ему, что, живя выше своих средств, он расточает не только свое собственное достояние, но и чужое» – итальянский бухгалтер П. Ригобон [14, с. 47-48].

По мнению российского автора оригинальных и очень интересных работ по бухгалтерскому учету М. Ю. Медведева, «как наука учет великолепен Он не собрание сиюминутных правил, а фундаментальная дисциплина – наравне с астрономией и биологией и сродни математике с физикой. Когда-нибудь он изменит жизнь человечества, как изменили ее многие технические изобретения – автомобиль, самолет, телефон, телевизор, компьютер.



Эта наука достойна более светлой и лучшей участи, тем паче что ее влияние на экономику огромно» [10, с. 5].

«Счетоводство, – указывал французский экономист и бухгалтер Л. Сэй, – не производит богатства. Будучи наукою или просто методом, оно дает лишь возможность хозяевам промышленных предприятий знать положение своих дел, отдавать в них отчет другим лицам, заинтересованным или не заинтересованным, а также иметь контроль над служащими» [19, с. 138].

В романе немецкого писателя И. В. Гёте коммерсант говорит: «не знаю человека, чей кругозор был бы шире, должен быть шире, нежели кругозор настоящего коммерсанта. Сколь многому учит нас порядок в ведении дел! Он позволяет нам в любое время обозреть целое, не отвлекаясь на возню с мелочами. Какие преимущества дает купцу двойная бухгалтерия! Это одно из прекраснейших изобретений ума человеческого, и всякому хорошему хозяину следует ввести ее в свой обиход» [6, с. 30].

Бухгалтерский учет выполняет различные функции, состав которых в специальной литературе определяется не однозначно. Чаще всего к ним относят информационную, контрольную, оценочную и аналитическую функции. Мы считаем, что такое мнение недостаточно обоснованное и его следует дополнить воспитательной функцией.

В современных условиях развития рыночной экономики и управления ее хозяйствующими субъектами важное значение имеет нравственность бухгалтерского учета. «Учет, – отмечают украинские специалисты, – является бухгалтерским только тогда, когда он является справедливым, отражает порядочность в отношениях между людьми. Эти фундаментальные принципы определяют нравственность учета. Формируя национальную систему бухгалтерского учета, государство должно взять на вооружение такую важную категорию, как нравственность бухгалтера, что предусматривает формирование и применение профессионального суждения бухгалтера при отражении в учете тех или иных хозяйственных операций с соблюдением нравственных принципов. О безнравственности бухгалтера, определяющей его правовой статус, можно говорить тогда, когда возбуждено уголовное дело, или когда должностное лицо обвиняется в совершении преступления путем фальсификации учетных данных. Следовательно, нравственность учета – это вполне актуальная, реальная категория, которая, как лакмусовая бумажка, проверяет новую украинскую систему учета на ее объективность и справедливость» (перевод с украинского языка – В. Щ.) [4, с. 24].

Определенный научный и практический интерес представляют тайна происхождения бухгалтерского учета и бухгалтерия древних римлян. По первому вопросу К. Ю. Цыганков пишет, что система бухгалтерского учета, созданная как минимум семь столетий назад, используется и сейчас во всем мире. Разработать ее «могли только выдающиеся профессиональные методологи в результате многовековых целенаправленных усилий. Однако, согласно господствующей в литературе гипотезе, бухгалтерия создана дилетантами – средневековыми купцами, не имевшими определенных целей, в результате спонтанных озарений и случайных находок в течение ста лет. Во-первых, это неправдоподобно. Во-вторых, средневековая гипотеза представляет историю учетной мысли в крайне негативном свете: систему, созданную дилетантами за столетие, не смогли ни усовершенствовать, ни понять профессионалы всего мира за пять столетий» [20, с. 52].

«Бухгалтерия древних римлян, – поясняет нам О. О. Бауэр, российский историк бухгалтерского учета, – была, сравнительно, хорошо развита и, как у *банкиров* (*argentarii*) и *купцов*, так и в общественном и домашнем хозяйстве у *patres familias*, применялась с успехом, соответственно условиям тогдашнего времени. ...

Каждый плательщик должен был подтвердить цензору под присягой, что в *кодекс* занесено все действительно принадлежащее ему имущество.

Неправильное показание имущества лишало его права полноправного гражданина, должности и ранга.



Во избежание таких последствий и для успокоения своей совести, каждый порядочный *pater familias* (Отец семейства (лат.) – *Прим. ред.*) не только вел подробный *счет* о своих приходах и расходах, но также о состоянии всего своего имущества. Такие записи совершались сначала во *вспомогательных книгах*, откуда заносились в *кодекс*.

Римляне рассуждали так: кто не обладает умением управлять домашним хозяйством, тот, тем более, не может управлять делами государства; а потому, желавший быть назначенным на какую-нибудь высокую официальную должность, должен был сначала доказать свои администраторские способности по своим *домашним книгам*, которые велись лично им, так как он считал это своим долгом, как в интересах государства, так и своих собственных» [1, с. 21-23].

Для правильной и эффективной организации молдавского бухгалтерского учета важное значение имеет Общий план счетов бухгалтерского учета, утвержденный приказом Министерства финансов № 119 от 6 августа 2013 г. Он позволяет одинаково отражать однородные хозяйственные операции на различных предприятиях и обобщать экономическую информацию по министерствам, ведомствам, отраслям и всему народному хозяйству в целом. Он также обеспечивает единообразную методологию бухгалтерского учета, способствует ее совершенствованию, облегчает проведение аудита, контроля, экономического анализа и компьютеризации учетных процессов.

Вместе с тем данный нормативный документ нуждается в совершенствовании и поэтому нами в 2010-2023 гг. внесено много разных предложений, которые опубликованы в Сборниках международных научно-практических конференций Экономической академии, Комратского, Бельцкого, Государственного, Европейского, Славянского и Тараклийского университетов Республики Молдова. Сейчас мы предлагаем две новые более простые и ясные формы таблиц «Перечень счетов бухгалтерского учета» раздела II Общего плана счетов бухгалтерского учета (табл. 1) и [22, 23].

Как показывает наше исследование, в наименованиях счетов и субсчетов раздела II Общего плана счетов бухгалтерского учета необоснованно одни экономические понятия (термины) (и их большинство) даются во множественных, а другие в единственных числах. Такой разницей в терминологии существенно снижает качество (ценность) данного нормативного акта и затрудняет пользование им. Поэтому с целью устранения этого недостатка мы приводим далее вначале неправильные наименования счетов, включающие экономические понятия (термины) в единственных числах, как в действующем минфиновском документе, а затем, через косую линию – предлагаемые правильные наименования счетов во множественных числах с выделением **жирным** их окончаний:

~ 215 «Незавершенное производство» / «Незавершенные производства, **работы и услуги**»,

~ 222 «Поправки (оценочный резерв) по безнадежной дебиторской задолженности» / «Поправки (оценочные резервы) по безнадежной дебиторской задолженности»,

~ 231 «Дебиторская задолженность по доходам от использования третьими лицами активов субъекта» / «Дебиторская задолженность по доходам от использования третьими лицами **активов субъектов**»,

~ 243 «Текущие счета в иностранной валюте» / «Текущие счета в **иностраннных** валютах»,

~ 253 «Оценочные резервы для убытков по ссудам/займам, не оплаченным в срок» / «Оценочные резервы для убытков по ссудам/займам, не оплаченным в **сроки**»,

~ 343 «Резервы от переоценки» / «Резервы от **переоценок**»,

~ 831 «Торговая надбавка» / «**Торговые** надбавки».

Бухгалтерский учет на практике ведут специалисты, именуемые бухгалтерами. Раскрывая их роль в жизни современного общества, российский доктор экономических наук профессор М. Л. Пятов пишет: «мы – бухгалтеры – являемся уникальными специалистами, способными понимать и оценивать происходящие в компании процессы на основе первичного



наблюдения за ними Посредством баланса как универсальной финансовой модели фирмы, мы можем оценивать управление ресурсами компании в комплексе с анализом структуры источников их финансирования. Мы поставляем данные всем звеньям управленческой системы компании, при этом мы одни понимаем взаимообусловленность этих данных, начиная от источников и методов их формирования и интерпретации» [13, с. 65].

Таблица 1. Перечень счетов бухгалтерского учета

Номера			Наименования классов и групп счетов, счетов и субсчетов
групп счетов	счетов	суб-счетов	
КЛАСС 1. ДОЛГОСРОЧНЫЕ АКТИВЫ			
11			НЕМАТЕРИАЛЬНЫЕ АКТИВЫ
	111		Незавершенные нематериальные активы
	112		Нематериальные активы в эксплуатации
		1121	Концессии, лицензии и товарные знаки
		1122	Авторские права и охранные документы
		1123	Программное обеспечение
		1124	Прочие нематериальные активы
	113		Амортизация нематериальных активов
		1131	Амортизация концессий, лицензий и товарных знаков
		1132	Амортизация авторских прав и охранных документов
		1133	Амортизация программного обеспечения
		1134	Амортизация прочих нематериальных активов
	114		Обесценение нематериальных активов
	115		Положительный гудвилл
	116		Отрицательный гудвилл
	117		Обесценение положительного гудвилла
	...		
КЛАСС 9. ЗАБАЛАНСОВЫЕ СЧЕТА			
	911		Долгосрочные материальные активы, полученные в операционный лизинг (аренду, имущественный найм)
	912		Ценности, полученные для монтажа
	...		
	918		Бланки строгой отчетности
	919		Списанная безнадежная дебиторская задолженность
	920		Условная дебиторская задолженность
	921		Условные обязательства
	922		Предоставленные гарантии
	923		Полученные гарантии
	924		Налоговые убытки
	925		Налоговые льготы

И в заключение отметим, что в Республике Молдова к настоящему времени фактически отсутствуют высококачественные и конкурентоспособные учебники, учебные пособия и монографии по бухгалтерскому учету, анализу хозяйственно-финансовой деятельности, контролю и аудиту, а также сами эти науки. Поэтому весьма актуален такой очень важный вопрос: что необходимо срочно делать для исправления этого явно ненормального, катастрофического положения? Очень правильный, конкретный и полный ответ на него должны срочно и совместно выработать молдавские научно-педагогические кадры



соответствующего профиля, высшие органы государственного управления (Министерства финансов и экономики, Правительство, Президентура) и авторитетные зарубежные специалисты.

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ПУТЬ К РОСТУ: ИННОВАЦИИ В ФИРМЫ ПО ОКАЗАНИЮ БУХГАЛТЕРСКИХ УСЛУГ

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Abstract. The work of an accountant in the modern world is very different from what it was even 10 years ago. The demands of a fast-paced, interconnected world have taken the role of the accountant to a whole new level. More data needs to be collected and more tools are available to make life easier.

New accounting technologies are being developed specifically to improve the efficiency, transparency and scalability of the accounting function and, in turn, the businesses they serve. Accounting innovation is a great investment in building a more sustainable business for the future. This gives the firm a competitive advantage and creates more informed and savvy management.

Keywords: accountant, accounting technology, innovation, Caseware, innovative thinking.

Важность бухгалтерского учета в бизнесе связана со способностью отслеживать финансовое состояние и надежность организации. Без бухгалтера владельцы бизнеса не смогли бы проанализировать свое финансовое состояние или узнать, является ли их бизнес прибыльным.

Дальнейшее развитие и благоприятное состояние компании, зависит от нескольких факторов и одним из них является информация финансового учета, набор данных, которые прозрачно отражают ситуацию в компании и имеют важное значение для разработки стратегии. Бухгалтерия, приходит на помощь менеджменту и бизнесу, обеспечивая его данными о расходах, убытках и выплатах, которые признаются в соответствии с некоторыми принципами, четко определенными, в соответствии с действующим законодательством.

Согласно новому опросу специалистов в области бухгалтерского учета, бухгалтеры должны стать более опытными в финансовом прогнозировании и использовании специального программного обеспечения для бухгалтерского учета, если они хотят приносить пользу в будущем.

В то время как большинство (56%) бухгалтеров говорят, что в настоящее время они выполняют задачи по планированию и прогнозированию вручную, которые можно было бы автоматизировать, только 43% считают, что это продолжится и после 2023 года.

В ближайшие несколько лет профессия бухгалтера будет играть более консультативную роль для клиентов, консультируя по таким вопросам, как финансовое планирование и стратегия, а автоматизация возьмет на себя большинство аналитических задач и задач ввода данных. Данные выводы являются частью нового отчета специалистов по программному обеспечению для автоматизации бухгалтерского учета Caseware, в котором анализируется то, что, по мнению бухгалтеров, станет крупнейшими изменениями в отрасли в ближайшие пять лет, особенно в области навыков и использования технологий.

Согласно опросу 4100 специалистов по бухгалтерскому учету и финансам в Великобритании, в то время как 41% бухгалтеров считают аналитические навыки одними из самых важных сегодня, этот показатель падает до 37%, когда их спрашивают, какие навыки будут наиболее важны в течение следующих пяти лет.



Необходимость точной записи данных считают самым важным навыком для бухгалтера сегодня 61% респондентов, а в ближайшие полвека станет менее важной, и только 41% считают, что это останется ключевым навыком в будущем.

Эти тенденции к снижению контрастируют с ростом “современных навыков” и использования специфического программного обеспечения.

Четверть бухгалтеров считают финансовую отчетность жизненно важным навыком сегодня, 30% говорят, что она станет наиболее важной и в 2024 году. Аналогичным образом, в то время как 24% бухгалтеров говорят, что умение использовать конкретное программное обеспечение важно сегодня, 33% считают, что в ближайшем будущем его важность возрастет.

Однако вопрос о том, обладают ли бухгалтеры необходимыми навыками для повышения квалификации в будущем, остается под вопросом среди работников отрасли, при этом 62% бухгалтеров согласны с тем, что в секторе растет дефицит квалифицированных кадров. Этот показатель вырос по сравнению с 51% в аналогичном исследовании, проведенном Caseware в 2020 году, и бухгалтера не видят улучшения в ближайшее время.

ШезХэмилл, директор Caseware, сказал: «Еще неизвестно, знаменует ли 2024 год начало эпохи полной автоматизации бухгалтерского учета, но бухгалтеры определенно ожидают, что отрасль пойдет именно туда. Большинство бухгалтеров признают, что технологии изменят их повседневную работу и что им придется взять на себя новую роль, которая будет в большей степени консультативной и направленной на повышение ценности для клиентов. И при том главной проблемой не является то, что автоматизация может привести к сокращению рабочих мест, а скорее в том, обладает ли отрасль в целом навыками, необходимыми для выполнения этой новой, более стратегической роли, ориентированной на планирование»[1].

Однако абсолютно понятно, что всем всегда будут нужны бухгалтерские услуги. В конце концов, надежный бухгалтерский учет необходим для управления бизнесом и домашним хозяйством. Поскольку все маленькие фирмы отдают второстепенные задачи, такие как бухгалтерский учет, на аутсорсинг, то создание бухгалтерской фирмы следует рассматривать как прибыльный бизнес.

В условиях растущей рыночной конкуренции предприятия постоянно пытаются расти. Инновации и новые технологии могут стать для них путем к этому росту.

Разные профессии по-разному воспринимают инновации. Когда речь заходит о бухгалтерских фирмах, считается, что инновации в бухгалтерской профессии происходят в основном от технологических компаний, предоставляющих бухгалтерское и сопутствующее программное обеспечение.

Согласно опросу, проведенному Робертом Халфом Management Resources, 41% финансовых директоров назвали технологии основным источником стресса на своей работе, заявив, что инновации в бухгалтерском учете развиваются так быстро, что за ними трудно угнаться.

Но просто технологию нельзя определить, как инновацию. Инновацию в фирме можно определить, как:

1. фирма переживает непрерывную трансформацию.
2. возможности фирмы по предоставлению услуг клиентам постоянно расширяются.
3. фирма регулярно трансформирует свои методы управления и операции.

Инновации могут быть применены на фирмах любого размера. Инновационный подход может быть применен любой фирмой, независимо от ее размера. В основном специалисты по бухгалтерскому учету придерживаются дальновидного подхода и стремятся предоставлять услуги, которые их клиенты будут ценить долгие годы. В целом, еще одной проблемой является определение способов достижения этой цели без необходимости применять чрезмерно рискованные или отнимающие много времени методы.

Любая фирма не может перестроить себя в одночасье и не может бросить все свои ресурсы на совершенствование своих услуг и операций. Подход фирмы к инновациям будет в



основном зависеть от размера и ресурсов фирмы, поскольку инновации могут быть для каждой фирмы, но универсального подхода к ним не существует.

Изучение предоставляемых услуг и способов их предоставления - один из наиболее плодотворных способов внедрения инноваций. На рынке доступно множество программных решений, и фирма может выбрать то, которое повысит эффективность его бизнес-процессов.

Как только фирма начнет достигать того, что уже делаете, быстрее и эффективнее, она может подумать о предоставлении дополнительных услуг. Например, чем меньше времени тратится на процессы ввода данных, тем больше времени может быть потрачено на предоставление необходимых консультационных услуг клиентам. Бизнесу нужно подумать об инновациях, которые могут сработать сегодня, которые могут отличаться от инноваций, которые могут сработать через годы.

Одним из эффективных способов найти то же самое может быть изучение программного обеспечения, которое используют компании-конкуренты. Участие в сетевых группах с фирмами аналогичного размера, в онлайн-форумах, чтобы задавать вопросы, и посещение конференций будет отличным решением.

Владельцам фирм среднего размера необходимо сосредоточиться на изучении жизнеспособности инновационных вариантов для внедрения в практику работы предприятия. Найм сторонних консультантов, которые могут сосредоточиться на машинном обучении (ML), искусственном интеллекте (AI) и технологии блокчейн, также может помочь фирме на пути к успеху. Независимо от размера бизнеса, внутреннее тестирование инноваций с помощью собственных транзакций и бухгалтерских книг - отличный способ научиться.

Подходя к инновациям с готовностью адаптироваться, фирмы любого размера и типа могут извлечь огромную выгоду. В условиях растущей рыночной конкуренции предприятиям очень сложно расти и процветать, полагаясь на устаревшие предложения услуг и технологии, поскольку сейчас клиентам доступно больше возможностей, чем когда-либо.

Инновации могут иметь разные перспективы в разных областях бухгалтерии, так как каждый бизнес нуждается в постоянных инновациях. Адекватные меры в этом направлении могут выделить фирму из толпы и проложить путь к постоянному успеху.

Выделяют следующие инновации в бухгалтерских технологиях:

– *Облачный бухгалтерский учет* - Ни одна другая технология не оказала такого большого влияния на бухгалтерский учет, как облако, в 21-м веке. Облачные приложения позволяют обрабатывать все - от расчета заработной платы и выставления счетов до налогов и льгот, при этом автоматизация является самым большим преимуществом облачного бухгалтерского учета.

– *Отчетность в режиме реального времени* - Благодаря усовершенствованиям технологии искусственного интеллекта бухгалтерия осознала важность отчетности в режиме реального времени и то влияние, которое она оказывает на оценку финансового состояния бизнеса. Теперь задержка между наступлением бухгалтерского события и моментом его регистрации в значительной степени устранена.

– *Мобильная бухгалтерия* – Мобильная бухгалтерия устранила необходимость в том, чтобы бухгалтера были метафорически прикованы к своим рабочим столам для выполнения своей работы. Бухгалтерские фирмы теперь могут добавлять квитанции, выверять счета, создавать дорогостоящие претензии или отправлять счета-фактуры - и все это со смартфона, ноутбука или планшета.

– *Оптическое распознавание символов* – технология OCR значительно помогла бухгалтерской отрасли. “Достижения в этой технологии позволяют компаниям использовать сканеры или даже камеры на мобильных устройствах для сбора печатной финансовой информации, такой как квитанции и счета-фактуры, и перевода текста в цифровые файлы”, - объясняет бухгалтер Билл Гербер. Повышение точности позволило сократить количество ошибок при переводе, а будущие обновления обещают еще больше повысить эффективность процедуры.



– Программное обеспечение для управления взаимоотношениями с клиентами – CRM-системы стали незаменимыми для бухгалтерских фирм, чтобы соответствовать рыночной конкуренции и ожиданиям. Сочетание этих систем с искусственным интеллектом и автоматизированными решениями помогает фирмам привлекать клиентов и автоматизировать рутинные задачи.

Как уже говорилось, инновации имеют решающее значение для бухгалтерских фирм, и вот несколько путей, которые эти фирмы могут использовать для успешного внедрения инноваций.

1. Определить свою группу покупателей и человека-представителя – группа покупателей относится к общей категории, такой как производители отдельной профессии. В рамках этой группы необходимо найти человека, представляющего собой яркий профиль предполагаемого пользователя. Примером человека-представителя является «сотрудник отдельной профессии, в которой он работает не менее 5 лет».

2. Понять рынок – получить полное представление о рынке и узнать, почему маркетплейсу нужно то, что вы продаете? Действия фирмы должны основываться на исследованиях рынка. Необходимо поговорить со всеми – потенциальными клиентами и лидерами отрасли, – чтобы узнать об их требованиях и болевых точках. Важно мыслить, как клиент и смотреть на рынок снаружи, а не изнутри.

3. Использовать концептуальные проекты – для воплощения идеи в услугу или продукт следует использовать концептуальные проекты, помогающие клиенту. Можно сказать, что это простая картина концепции инновации. Например, рост можно представить в виде табурета на трех ножках, где рост – это сиденье, поддерживаемое функциональными областями маркетинга, управления продуктами и продаж.

4. Анализировать положение на рынке – определить свое положение на рынке, конкретизировав конкурентные предложения и свои рыночные отличия. Опрос конкурентов может быть одним из самых надежных ресурсов. Только после глубокого анализа конкуренции фирма сможет предложить что-то абсолютно убедительное на рынке.

5. Дать название вашей инновации – дать привлекательное, отличительное и запоминающееся название вашей инновационной стратегии. Выбрать название, которое проливает свет на цель и ценность ваших предложений. Подходить к выбору необходимо творчески, например, вместо «бухгалтерского аутсорсинга» фирма может выбрать что-то более привлекательное, например «бухгалтерия консьержа».

Таким образом, внедрение программных продуктов в бухгалтерскую деятельность — это необходимое условие и фактор развития цифровой экономики в Республике Молдова, который должен способствовать как повышению качества бухгалтерских услуг, так и увеличению эффективности деятельности фирм, оказывающих бухгалтерские услуги.

Как обсуждалось ранее, инновации не работают с концепцией универсальности для всех, и, следовательно, они должны быть структурированы в соответствии с собственными бизнес-стратегиями и требованиями отдельного предприятия. Фирме необходимо внедрять новые технологии и позволить себе проявить творческий подход к новым идеям для внедрения инноваций на рынке.

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МЕТОДОЛОГИЯ АНАЛИЗА ФИНАНСОВЫХ ПОТРЕБНОСТЕЙ ПРОИЗВОДСТВЕННОГО ПРЕДПРИЯТИЯ

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Abstract. In the context of the global economic crisis, characterized primarily by a shortage of liquidity, the issues of meeting financial needs have become particularly relevant. Unlike other areas of the economy, industrial production has a long financial and commercial cycle, so its implementation is associated with a high risk of economic losses due to a lack or irrational use of financial resources at one or another stage of the cycle. In this regard, each industrial enterprise needs to solve a two-pronged problem: in the process of forming working capital, eliminate unnecessary costs for the acquisition of current assets, and organize their use in such a way that will ensure the maximum possible profit with minimal investment.

Key words: financial needs, financial resources, liquidity, inventory coverage, production cycle, asset turnover.

Действующими методиками анализа финансовых потребностей имеют ряд недостатков.

Изучение экономической литературы по рассматриваемому вопросу позволяет сделать вывод, что совершенствованию методики анализа в значительной мере препятствуют проблемы как теоретического, так и практического характера. До сих пор отсутствует единообразие взглядов ученых и практиков на природу оборотного капитала. Применяемые в процессе анализа коэффициенты не всегда позволяют достоверно определить результаты использования оборотного капитала, поэтому методики, основанные на использовании таких коэффициентов, - принять правильные управленческие решения, направленные на формирование и повышение эффективности их использования. Кроме того, традиционно используемая для целей анализа информационная база, основанная на данных финансовой отчетности, содержит в себе существенные ограничения для проведения такого анализа.

Указанные проблемы требуют глубокого изучения с целью нахождения путей повышения качества экономического анализа финансовых потребностей.

В условиях рыночных отношений аспекты обеспечения финансовых потребностей промышленных предприятий приобретают особую значимость. Являясь самостоятельной экономической категорией, оборотные активы оказывают эффективное воздействие на процесс производства и реализации продукции. Им принадлежит решающая роль в обеспечении финансовой устойчивости и платежеспособности экономического субъекта, прибыли и рентабельности. Эффективность функционирования оборотных активов во многом определяет эффективность деятельности предприятия. Сложность и многообразие задач, связанных с использованием оборотных активов, ускорением их оборачиваемости и отдачи, вызывают необходимость глубоких исследований в этой области.

Анализ финансовых потребностей охватывает следующие этапы:

- выявление потребности предприятия в оборотном капитале;
- определение источников финансирования оборотного капитала;
- анализ влияния состояния оборотных активов на ликвидность;
- расчет скорости оборота и определения эффективности их использования;
- анализ прибыли, полученной в результате использования оборотного капитала.



Общепринятые методики анализа, как правило, предполагают реализацию вышеперечисленных этапов посредством использования в качестве учетно-аналитической базы лишь данных финансовой отчетности организации. Однако финансовая отчетность формируется по правилам, установленным государством, и она не учитывает в полной мере информационные потребности менеджмента предприятия. В этой связи, предложено использовать для анализа оборотных активов отчеты, которые должны отражать те же аспекты хозяйственной деятельности, что и формы финансовой отчетности, однако информационное наполнение первых отличается от информационного наполнения последних. Это позволит не только получить более подробную информацию для последующего анализа финансовых потребностей, но и разработать новые, более корректные способы расчета аналитических показателей [1, с. 174].

В процессе исследования был проведен сравнительный анализ методик, основанных на данных финансового и управленческого учета.

При определении финансовых потребностей следует учесть, что, во-первых, за их счет осуществляются производственные затраты предприятия и их нехватка может привести к перебоям в производственном процессе. Во-вторых, поступление доходов от продаж часто не совпадает со временем отгрузки продукции и началом нового производственного цикла, то есть со временем потребления материальных ресурсов. В этих условиях предприятие должно предусмотреть такой размер оборотного капитала, который позволит начать новый кругооборот, не дожидаясь окончания предыдущего. Кроме того, для бесперебойной работы предприятие должно обладать оборотным капиталом достаточными не только для формирования оборотных активов и осуществления производственных, коммерческих и управленческих расходов, но и для финансирования деятельности всех обслуживающих хозяйств организации [2, с. 87].

Следовательно, необходимо на начало первого производственного цикла саккумулировать такую сумму оборотного капитала, чтобы, пока авансированные в него оборотные средства не завершат свой кругооборот и не вернуться в виде доходов от продаж, предприятие могло бы осуществлять затраты, связанные как с производственно-бытовой деятельностью, так и с административно-хозяйственной работой. Если обозначить сумму средств, авансированную в каждую стадию производства и реализации как x_i , то общую сумму средств, необходимых в планируемом периоде (x), можно рассчитать по формуле:

$$\sum_{i=1}^n x = nx_1 + (n-1)x_2 + (n-2)x_3 + \dots + 2x_{n-1} + x_n, \quad (1)$$

Где: n - количество стадий производства и реализации в планируемом периоде;

x_i - сумма средств, авансированная в соответствующую стадию производства.

Если же к данной сумме затрат прибавить административные расходы (a_0) и расходы по реализации (c_0), которые необходимы для функционирования предприятия в течение первого производственно-коммерческого цикла, то формула примет следующий вид:

$$\sum_{i=1}^n x = nx_1 + (n-1)x_2 + (n-2)x_3 + \dots + 2x_{n-1} + x_n + a_0 + c_0 \quad (2)$$

Предложенный подход существенно экономит трудозатраты при определении потребности в оборотного капитала по сравнению с общепринятыми методами. Кроме того, он ориентирован на производственно-коммерческий цикл, а не на общую сумму затрат периода, что позволяет избежать ошибок в расчетах планируемой суммы оборотного капитала при изменении масштабов деятельности.

В условиях рыночной экономики все финансовые ресурсы, с помощью которых осуществляется формирование оборотных активов, имеют свою стоимость, поэтому анализ источников оборотного капитала играет существенную роль.

С одной стороны, входящие потоки ресурсов, необходимых для выполнения производственной программы, вызывают отток денежных средств. С другой стороны,



реализация произведенной продукции приводит к притоку денежных средств. Таким образом, в результате использования оборотного капитала в производственно-коммерческом цикле на отчетную дату у предприятия складывается некоторая структура оборотных активов, сформированных для осуществления им своей деятельности и противостоящих им обязательств.

Традиционный способ анализа ликвидности состоит в сравнении активов и пассивов бухгалтерского баланса, агрегированных в четыре группы по следующему принципу: активы – по степени убывания ликвидности имущества, пассивы – по степени удлинения сроков погашения обязательств. При этом для вывода о том, что баланс является ликвидным, каждая из первых трех групп активов должны быть не меньше соответствующих групп обязательств.

Практический опыт дает возможность утверждать, что анализ ликвидности активов предприятия, основанный на использовании данных управленческой отчетности, позволяет аналитикам проводить более успешные исследования для целей планирования приобретения активов и осуществления платежей и принимать наиболее корректные решения по управлению финансовыми потоками предприятия.

Важнейшим фактором влияния оборотных активов на результаты деятельности предприятия является их оборачиваемость.

Однако основополагающим фактором значения традиционно используемых показателей оборачиваемости (коэффициент оборачиваемости оборотного капитала, длительность оборота и условное высвобождение или привлечение средств) является размер полученной доходов от продаж, который зависит не только от скорости оборота оборотного капитала, но и от заложенной в выручку прибыли. В общепринятой практике расчета оборачиваемости данный факт не находит отражения, что не позволяет провести всеобъемлющий анализ финансовых результатов деятельности организации.

Оборачиваемость оборотного капитала обусловлена физическим переходом активов из одного состояния в другое. Исходя из формулы «Деньги – Товар – Производство – Товар' – Деньги'», измерителем, отражающим количество активов, участвующих в одном обороте, может служить количество сырья, которое одновременно используется в узком месте производства какой-либо группы (вида) продукции. Тогда, используя данные отчета об исполнении бюджета, в котором отражаются не только финансовые, но и нефинансовые показатели, можно рассчитать управленческий коэффициент оборачиваемости ($K'_{об}$):

$$K'_{об} = \left(\frac{Z_0^{OM}}{Q_0} * Q_1 \right) / Z_{загр}, \quad (3)$$

где: Q_0 – плановое количество продаж;

Q_1 – фактическое количество продаж;

Z_0^{OM} – плановая сумма затрат сырья (в количественном выражении), основных материалов, относимых на данную продуктовую группу;

$Z_{загр}$ – нормативные затраты сырья в количественном выражении при полной загрузке узкого места (стадии производства или участка, характеризующегося недостаточным или минимальным количеством производственных мощностей).

Этот показатель целесообразно рассчитывать для каждого вида (группы) продукции.

Выражение $\frac{Z_0^{OM}}{Q_0} * Q_1$ характеризует нормативное количество затрат сырья и основных

материалов, приходящееся на фактический объем производства и реализации. Нетрудно заметить, что в вышеприведенном расчете оборачиваемости отождествляются значения доходов от продаж по принципу признания доходов (или доходов от продаж по факту отгрузки) и доходов от продаж по факту оплаты. Данный показатель характеризует скорость прохождения оборотным капиталом стадий производства и хранения готовой продукции на складе. Чтобы рассчитать количество полных циклов (до момента оплаты), управленческий



коэффициент оборачиваемости $K'_{об}$ необходимо скорректировать на соотношение доходов от продаж по факту оплаты и доходов от продаж по факту отгрузки.

$$K''_{об} = \left(\frac{Z_0^{OM}}{Q_0} * Q_1 \right) / Z_{загр} * (N_{опл} / N_{отгр}) \quad (4)$$

где: $K''_{об}$ – управленческий коэффициент оборачиваемости оборотного капитала до момента поступления денег на предприятие;

$N_{опл}$ – выручка по оплате;

$N_{отгр}$ – выручка по отгрузке.

Предложенный метод расчета оборачиваемости позволяет оценить оборачиваемость каждого вида (группы) продукции.

При этом под полной загрузкой узкого места понимается работа не всех мощностей, имеющих в данном месте возникновения затрат, а только той их части, которая используется непосредственно для производства рассматриваемого вида продукции.

Подставляя значения $K'_{об}$ и $K''_{об}$ в формулу расчета средней продолжительности одного оборота в днях ($D_{об}$) можно получить среднюю продолжительность оборота для оборачиваемости при определении доходов от продаж по принципу признания доходов $D'_{об}$ и среднюю продолжительность оборота для оборачиваемости при определении доходов от продаж по факту поступления денежных средств на предприятие $D''_{об}$

Сумму высвобожденных (дополнительно привлеченных) оборотного капитала (леев) предложено рассчитывать по формуле:

$$\begin{aligned} & \text{Дополнительное привлечение} \\ & \text{средств в оборот в} \\ & \text{анализируемом периоде} \end{aligned} = \frac{\begin{aligned} & \text{Доходы от продаж} \\ & \text{(переменные затраты)} \\ & \text{Длительность} \\ & \text{анализируемого периода} \end{aligned}}{\begin{aligned} & D'_{об1} \\ & - \\ & D'_{об0} \end{aligned}} \quad (5)$$

В результате исследования сделан вывод, что для расчета суммы высвобожденных (дополнительно привлеченных) оборотного капитала должен использоваться показатель $D'_{об}$, поскольку дебиторская задолженность является частью оборотного капитала. В случае, когда $D'_{об1} < D'_{об0}$, для расчета высвобожденных средств должен использоваться показатель «выручка». Если же $D'_{об1} > D'_{об0}$, то для расчета средств, дополнительно привлеченных в оборот, должен использоваться показатель «переменные затраты», поскольку именно они будут возрастать при увеличении длительности производственно-коммерческого цикла. Постоянные же затраты останутся неизменными за период.

Важным преимуществом предложенного способа расчета оборачиваемости является то, что он позволяет определить, какую часть доходов от продаж предприятие получило за счет ускорения оборачиваемости, а какую – за счет изменения цены. Аналогично, изменение суммы прямых затрат может быть вызвано изменением количества оборотов, изменением цен на потребленное сырье или расценок на труд, а также экономией (перерасходом) сырья или увеличением (уменьшением) времени работы основных производственных рабочих.

Зная длительность производственно-коммерческого цикла, можно рассчитать длительность его стадий: производства, хранения готовой продукции до реализации и дебиторской задолженности до оплаты готовой продукции покупателями. При этом на практике данные показатели удобнее рассчитывать не в хронологическом, а в обратном порядке.

Длительность стадии дебиторской задолженности можно определить, сравнивая длительность оборотов до отгрузки продукции покупателю ($D'_{об}$) и до момента оплаты покупателем отгруженной ему продукции ($D''_{об}$). Соответственно, длительность нахождения оборотного капитала в состоянии дебиторской задолженности (в днях) представляет собой разницу между этими показателями.

$$D_{дз} = D''_{об} - D'_{об}, \quad (6)$$

где $D_{оз}$ – длительность нахождения оборотного капитала в состоянии дебиторской задолженности.

Длительность периода нахождения готовой продукции на складе можно рассчитать, используя данные карточек складского учета: время прибытия продукции на склад, а также время выбытия со склада. Следовательно, продолжительность нахождения оборотного капитала в виде запасов готовой продукции (в днях) можно рассчитать по средней гармонической:

$$\bar{D}_{гп} = \frac{\sum_1^n V_i D_{гпi}}{\sum V_i} \quad (7)$$

где $\bar{D}_{гп}$ – средняя продолжительность нахождения оборотного капитала в виде запасов готовой продукции;

$D_{гпi}$ – продолжительность нахождения на складе каждого вида готовой продукции;

V_i – количество готовой продукции соответствующего вида (группы) в натуральном выражении, находящееся на складе в натуральном измерении;

n – количество партий, «прошедших» через склад в течение анализируемого периода.

Зная длительность периода нахождения оборотного капитала в виде запасов готовой продукции и дебиторской задолженности, а также общую длительность производственно-коммерческого цикла, можно рассчитать длительность нахождения оборотного капитала в сфере производства ($D_{пр}$). Этот показатель может рассчитываться как разность между длительностью производственного цикла и длительностью нахождения оборотного капитала в виде запасов готовой продукции и дебиторской задолженности (в днях):

$$D_{пр} = D''_{об} - D_{оз} - D_{зн}, \quad (8)$$

Как показало исследование, управленческий коэффициент оборачиваемости, рассчитанный через затраты сырья, как правило, превышает коэффициент оборачиваемости, рассчитанный традиционным способом. В исследовании раскрыты причины подобных расхождений: на практике в ходе осуществления производственно-коммерческого цикла предприятие несет ряд затрат, непосредственно с ним не связанных, например, управленческие расходы, которые не авансируются в кругооборот, а компенсируются за счет полученной доходов от продаж, признаваясь расходами периода. Однако, как правило, в бухгалтерском учете данные расходы относят на себестоимость готовой продукции и остатки незавершенного производства, тем самым увеличивая сумму оборотного капитала, участвующих в расчете коэффициента оборачиваемости и уменьшая его значение.

В исследовании также предлагается уделить внимание структуре капитала. Зная структуру капитала, направленного на формирование оборотного капитала, можно рассчитать его цену. Предлагается использовать средневзвешенную цену капитала (WACC), которую можно рассчитать следующим образом:

$$WACC = C_i * D_i \quad (9)$$

где: C_i – цена источника с учетом налогового эффекта, %.

D_i – доля источника в общей сумме пассивов, направленных на формирование оборотного капитала.

В зависимости от полученных значений могут быть сделаны следующие выводы:



- 1) Собственник предприятия равно выигрывает, продолжая операции в выбранном направлении или вкладывая средства банковские депозиты. Решение о развитии избранных направлений должно приниматься исходя из маркетинговых задач (поддержание доли рынка или уход с него, поддержание имиджа и миссии предприятия), а также степени риска деятельности;
- 2) Вложение оборотного капитала в выбранное направление деятельности эффективно, рыночная стоимость предприятия увеличивается, данное направление следует развивать;
- 3) Рыночная стоимость предприятия уменьшается. Вложенный в оборотные средства капитал уменьшается за счет потери альтернативной доходности.

Таким образом, показатель средневзвешенной цены капитала (WACC) дополняет действующий инструментальный методики анализа прибыли, полученной в результате обеспечения финансовых потребностей, путем использования не только относительных величин (рентабельность), но и абсолютных. А предложенные в ходе исследования методические подходы позволяют исключить влияние факторов, искажающих расчеты оборачиваемости оборотного капитала на всех стадиях производственно-коммерческого цикла, а также определить оборачиваемость каждой продуктовой группы, что имеет особое значение при проведении сравнительного анализа оборачиваемости различных видов продукции.

Таким образом, учитывая предложенные и апробированные методические подходы и дополненный инструментальный методики анализа оборотных активов, цель исследования достигнута.

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К ВОПРОСУ О НОВОМ МЕХАНИЗМЕ ВОЗМЕЩЕНИЯ НДС И АКЦИЗОВ ИЗ БЮДЖЕТА АВТОНОМНО-ТЕРРИТОРИАЛЬНОГО ОБРАЗОВАНИЯ ГАГАУЗИЯ, РЕСПУБЛИКА МОЛДОВА

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Abstract. In this publication the author investigates the new mechanism of VAT and excise tax refund from the budget of ATU Gagauzia, Republic of Moldova, introduced from November 01, 2023 through amendments to the Tax Code of RM, identifies contradictions and problems that limit the implementation of the new mechanism. Based on the results of the analysis, the author makes recommendations to improve the taxation system.

Keywords: taxation, VAT, VAT refund mechanism, Gagauzia.



Аннотация. В данной публикации автор проводит исследование вопроса о новом механизме возмещения НДС и акцизов из бюджета АТО Гагаузия, Республики Молдова, введенного с 01 ноября 2023 года посредством изменений в Налоговый кодекс РМ, выявляет противоречия и проблемы, ограничивающие внедрение нового механизма. По результатам анализа автор высказывает рекомендации по усовершенствованию системы налогообложения.

Ключевые слова: налогообложение, НДС, механизм возмещения НДС, Гагаузия.

Развитие налоговой системы Республике Молдова (РМ) берёт свое начало с момента объявления статуса независимого и суверенного государства, с 1991 года. На протяжении более 32-ти лет происходил процесс усовершенствования налогового законодательства, где знаковым моментом стало принятие в 1997 году Налогового кодекса (НК) РМ, а в последующем ежегодно в него вносились изменения и дополнения. Основанием для принятия Налогового кодекса стала статья 132 Конституции РМ, которая дает трактование налоговой системе, а именно «ч. (1) Налоги, сборы и любые другие доходы государственного бюджета, бюджета государственного социального страхования и бюджетов районов, городов и сел устанавливаются согласно закону соответствующими представительными органами. Ч. (2) Любое иное налогообложение запрещено.» [1].

НК РМ установил общие принципы налогообложения в РМ, правовое положение налогоплательщиков, Государственной налоговой службы и других участников отношений, регулируемых налоговым законодательством, принципы определения объекта налогообложения и ведения учета доходов и вычитаемых расходов, порядок и условия привлечения к ответственности за нарушения налогового законодательства, а также порядок обжалования действий Государственной налоговой службы и ее должностных лиц [2]. Одновременно нужно отметить, что в ст. 2 НК РМ даётся отличная от трактовки в Конституции РМ понятие налоговой системы «Налоговая система Республики Молдова представляет собой совокупность предусмотренных НК РМ налогов (пошлин) и сборов, принципов, форм и методов их установления, изменения и отмены, а также мер по обеспечению их уплаты» [2]. На основе этого можно констатировать наличие разного трактования одного и того же понятия в ключевых для системы налогообложения правовых документах.

Целью настоящей публикации является проведение анализа порядка и процедуры возмещения косвенных налогов в РМ и сложившейся противоречивой ситуации с возложением данных обязательств на бюджет автономно-территориального образования (АТО) Гагаузия (Гагауз Ери) Республики Молдова.

В соответствии с целью исследования были выделены следующие задачи:

- исследовать действующий механизм, определяющий порядок и процедуру возмещения косвенных налогов согласно действующего налогового законодательства РМ;
- выявить факты соответствия или противоречий в действующем налоговом законодательстве РМ, которые содействуют или ограничивают возможность введения механизма возмещения косвенных налогов из бюджета АТО Гагаузия (Гагауз Ери) РМ;
- провести анализ исполнения доходной части бюджета АТО Гагаузия (Гагауз Ери) РМ по налогу на добавленную стоимость и его возмещения из государственного бюджета РМ за период 2018-2023 годы;
- выявить проблемы и препятствия, связанные с исполнением АТО Гагаузия (Гагауз Ери) РМ процедуры возмещения налога на добавленную стоимость и на основе этого выработать рекомендации.

Объектом исследования является механизм возмещения налога на добавленную стоимость и наличие возможности его применения в процессе администрирования бюджета АТО Гагаузия (Гагауз Ери).



В системе общегосударственных налогов согласно ст. 6 НК РМ относят такие косвенные налоги, как налог на добавленную стоимость и акцизы.

Под *налогом на добавленную стоимость* (далее – НДС) согласно ст. 93 НК РМ понимают государственный налог, представляющий собой форму изъятия в бюджет части стоимости поставленных товаров, оказанных услуг, подлежащих налогообложению на территории РМ, а также части стоимости облагаемых товаров, услуг, импортируемых в РМ [2].

Под *акцизом* согласно ст. 119 НК РМ понимают государственный налог, взимаемый прямо или косвенно со следующих потребительских товаров: этиловый спирт и алкогольные напитки; обработанный табак; нефть и ее производные; икра осетровых и ее заменители; духи и туалетная вода; предметы одежды из меха; транспортные средства, указанные в приложении 2 к разделу IV НК РМ; иные товары, указанные в приложении 1 к разделу IV НК РМ [2].

Эти налоги являясь государственными налогами поступают в государственный бюджет РМ и этот механизм действует с момента их введения в стране. Начиная с 2000 года, 100% сумм отчислений подоходного налога с юридических лиц, собранного на территории административно-территориальных единиц с особым правовым статусом, 100% суммы НДС на товары и услуги, произведенные и оказанные на территории АТО с особым правовым статусом и 100% сумм акцизов, на подакцизные товары, произведенные на территории АТО с особым правовым статусом, в виде отчислений поступают, как источники доходов в центральный бюджет автономно-территориального образования с особым правовым статусом Гагаузия согласно п.п. с), d) ч. (4) ст. 5 закона РМ «О местных публичных финансах» [3].

Этому знаковому событию предшествовала значительная работа, проделанная представителями руководства АТО Гагаузия. Несмотря на расширение доходной части бюджета АТО Гагаузия, нужно признать, что действующий механизм не соответствует положениям ч. (5) ст. 111 Конституции РМ (Бюджет автономно-территориального образования Гагаузия формируется в соответствии с нормами, установленными органическим законом, регламентирующим особый статус Гагаузии) [1] и статьи 18 органического закона РМ № 344 «Об особом правовом статусе Гагаузии (Гагауз Ери)» (ч. (1) Бюджет Гагаузии формируется из всех видов платежей, установленных законодательством Республики Молдова и Народным Собранием. Ч. (2) Взаимоотношения бюджета Гагаузии и государственного бюджета устанавливаются в соответствии с законами Республики Молдова о бюджетном устройстве и о государственном бюджете на соответствующий год в виде фиксированных платежей из всех видов налогов и платежей.) [4].

В разные периоды руководство АТО Гагаузия обращалось и к руководству РМ, и международным организациям (Совет Европы, ОБСЕ, дипломатические миссии зарубежных стран, аккредитованных в РМ), обозначая данный факт не соблюдения РМ взятых на себя обязательств, так как согласно ст. 25 закона РМ № 344 «Об особом правовом статусе Гагаузии (Гагауз Ери)», а именно, «Республика Молдова является гарантом полной и безусловной реализации полномочий Гагаузии, определенных настоящим законом» [4].

Статус-кво сохранялся достаточно долго до 2023 года, до момента, когда в Парламенте РМ была выдвинута законодательная инициатива по изменению ст. 6 НК РМ в части дополнения её ч. 11 – закон РМ «О внесении изменения в ст.6 НК РМ № 1163/1997» № 285/2023 от 05.10.2023г. [5].



Таблица 1

Поправки в ст.6 НК РМ № 1163/1997	
Первоначальный текст поправки	Окончательный текст поправки
(11) Возмещение суммы налогов и сборов, взысканных согласно положениям настоящего кодекса и других принятых в соответствии с ним нормативных актов, осуществляется из государственного бюджета и местных бюджетов, источником дохода которых они являются, за исключением возмещения суммы налога на доходы физических лиц, которое осуществляется из государственного бюджета.	(11) Возмещение суммы налогов и сборов, взысканных согласно положениям настоящего кодекса и других принятых в соответствии с ним нормативных актов и переплаченных или подлежащих возмещению согласно законодательству, осуществляется из государственного бюджета и местных бюджетов, источником дохода которых являются соответствующие налоги и сборы, за исключением возмещения суммы налога на доходы физических лиц, которое осуществляется из государственного бюджета.
Возмещение суммы налогов и сборов, уплаченных хозяйствующими субъектами автономного территориального образования с особым правовым статусом, осуществляется из его бюджета в пределах имеющихся доходов. Суммы, не покрытые возмещением, компенсируются целевыми трансфертами из государственного бюджета в соответствии с законодательством.	Возмещение суммы НДС и акцизов, уплаченных хозяйствующими субъектами автономного территориального образования с особым правовым статусом, осуществляется из его бюджета. В случае, когда после завершения исполнения бюджета сумма, подлежащая возмещению в связи с этими видами доходов, превышает сумму поступлений, разница покрывается посредством трансфертов специального назначения из государственного бюджета в следующем бюджетном году.

Источник: *составлено автором*

Следует отметить, что с 2015 года была создана и функционировала на постоянной основе Рабочая группа Парламента Республики Молдова и Народного Собрания Гагаузии (НСГ) по обеспечению, в рамках конституционных норм, функциональности АТО Гагаузия и положений законодательства Республики Молдова об особом статусе АТО Гагаузия. Посредством данной диалоговой площадки обсуждались проблемные вопросы взаимоотношений между центром и автономией, гармонизации действующего законодательства РМ и местных законов АТО Гагаузия, проекты законодательных актов. Последнее заседание прошло 5 декабря 2023 года. К сожалению участие депутатов НСГ было приостановлено Постановлением НСГ от 12 декабря 2023 года [6].

Нужно отметить, что предложенные со стороны депутатов Парламента РМ поправки в НК РМ не обсуждались на заседаниях рабочей группы до того, как они были озвучены в мае 2023 года и были одним из вопросов обсуждения в повестке дня рабочей группы уже после официальной регистрации в Парламенте РМ данной законодательной инициативы, что естественно нарушило принципы, которые были согласованы с момента создания данной рабочей группы, а именно: координации действий, программирования в работе, партнерства. К слову, именно эти положения заложены в форме принципов региональной политики Европейского Союза (ЕС) и последние 19 лет страна проводит гармонизацию своего национального законодательства с регламентами и директивами ЕС.

Что должно измениться по мнению инициаторов в механизме администрирования НДС и акцизов в АТО Гагаузия?

1. Вводится впервые понятие механизма возмещения НДС и акцизов из бюджета АТО Гагаузия.

2. Благодаря возмещению НДС и акцизов из бюджета АТО Гагаузия государственный бюджет РМ якобы получает «экономия».

3. Данная законодательная инициатива сделана якобы в целях обеспечения соблюдения принципа справедливого налогообложения, исключения нагрузки на государственный бюджет путем упорядочивания процесса распределения бюджетных расходов.

Ключевым аргументом для появления данной законодательной инициативы, как вытекает из пояснительной записки к проекту закона РМ о изменении ст. 6 НК РМ стало следующее «В соответствии с особым статусом, полученным автономно-территориальной единицей в 1994 году, налоговые обязательства экономических агентов АТЕ не участвуют в формировании средств государственного бюджета» [7]. Данный аргумент вызывает удивление, так как именно отталкиваясь от этого и появилась вышеназванная законодательная инициатива.

Так в государственном бюджете РМ на 2024 год сумма НДС составляет 34176,0 млн. лей и сумма акцизов 10456,1 млн. лей, а учитывая, что в РМ действует обложением НДС и акцизами при импорте продукции и услуг, и применение 0% ставки НДС и акцизов на подакцизные товары при экспорте, можно сделать вывод, что данные статьи являются частью доходов государственного бюджета РМ формируемыми на границе и не имеют никакого отношения с местными бюджетами или бюджетом автономно-территориального образования Гагаузия (Гагауз Ери). А ведь экономические агенты из Гагаузии (имеющие юридический адрес в АТО Гагаузия) наряду с предприятиями из других территорий также участвуют во внешнеэкономической деятельности и подтверждением этому являются данные Национального Бюро Статистики РМ [8].

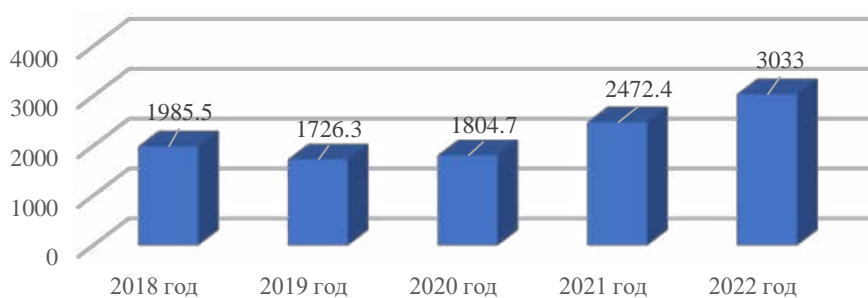


Рис. 1. Динамика объемов импорта экономическими агентами АТО Гагаузия (млн. лей)

Источник: составлено автором по данным НБС РМ

Из данных, представленных на Рис. 1 видно, что осуществляя импортные операции экономические агенты вносят значительный вклад в формирование государственного бюджета РМ. Так, если провести расчеты, то только от НДС поступило по годам: 2018 год – 397,1 млн. лей; 2019 год – 345,26 млн. лей; 2020 год – 360,94 млн. лей; 2021 год – 494,48 млн. лей; 2022 год – 606,6 млн. лей. Таким образом, аргументы, приводимые инициаторами законодательной инициативы ошибочны и создают иллюзорную картину того, что АТО Гагаузия никак не участвует в формировании доходов государственного бюджета РМ.

Отдельно нужно сказать о действующем в РМ механизме возмещения НДС и акцизов согласно правовых норм НК РМ и нормативных актов Правительства РМ.

Впервые понятие возмещение НДС появляется в Налоговом кодексе РМ в ч. (5) ст. 101 «Если причиной превышения суммы НДС на приобретаемые товарно-материальные ценности, услуги является осуществление субъектом налогообложения поставки, подлежащей обложению по нулевой ставке, то он имеет право на возмещение суммы превышения НДС на приобретаемые товарно-материальные ценности, услуги, уплаченной или подлежащей уплате, посредством расчетного счета в пределах стандартной ставки НДС, умноженной на стоимость поставки, подлежащей обложению по нулевой ставке. Возмещение НДС осуществляется в соответствии с инструкциями Государственной налоговой службы в срок, не превышающий 45 дней» в редакции НК РМ от 2000 года [2]. Данная норма появляется в национальном законодательстве РМ после вступления РМ во Всемирную Торговую Организацию в связи с синхронизацией и гармонизацией национального налогового законодательства.



В НК РМ в разделе термины и понятия нет четкого определения механизма возмещения, но сама процедура реализовывалась до сих пор на основе ст.ст. 101, 101³, 101⁵, 101⁶ НК РМ, а также нормативных актов – Постановление Правительства РМ № 93/2013 от 01.02.2013 г. «Об утверждении Положения о возмещении налога на добавленную стоимость» и Приказ министра финансов № 3/2023 от 13.01.2023г. «Об утверждении Положения о возмещении НДС для сельскохозяйственных производителей». НК РМ определяет, что возмещение НДС осуществляется в порядке, установленном Правительством РМ.

Сама процедура возмещения подразумевает следующий порядок: представление документов на возмещение со стороны экономического агента в Государственную налоговую службу, которая руководствуясь процедурами, утвержденными Правительством РМ направляет платежные документы в казначейскую систему для проведения процедур перевода причитающихся сумм к возмещению на счет экономического агента.

Разработчики закона РМ «О внесении изменения в ст.6 НК РМ № 1163/1997» № 285/2023 от 05.10.2023г. в пояснительной записки также приводят расчет сумм, которые якобы создают эффект «экономии» государственного бюджета РМ [7].

Таблица 2. Анализ возмещения сумм НДС из государственного бюджета РМ

Год	Сумма НДС, тыс. лей			
	Поступило в бюджет АТО Гагаузия	Возмещено из государственного бюджета РМ	Трансферты из государственного бюджета в форме компенсации	Эффект для государственного бюджета (экономия)
2018	88 309,7	103 908,4	15 598,7	88 309,7
2019	86 668,5	123 862,1	37 193,6	86 668,5
2020	83 760,7	117 198,6	33 437,9	83 760,7
2021	99 360,1	139 091,4	39 731,3	99 360,1
2022	105 103,8	162 254,1	57 150,3	105 103,8
ВСЕГО	463 202,8	646 314,6	183 111,8	463 202,8

Источник: [7]

За 2023 год были приведены следующие данные: план на 2023 год по НДС 106 500 тыс. леев, исполнено за 2023 год по НДС 117 844 тыс. леев, сумма возмещения НДС из государственного бюджета РМ составила за период с 01.01. по 31.10. составила 139 906,2 тыс.леев и прогноз к возмещению из бюджета АТО Гагаузия за период с 01.11. по 31.12. должен составить 13 717,7 тыс. леев. Прогноз суммы НДС в бюджете АТО Гагаузия на 2024 год 133 136,6 тыс. леев. По результатам поданных документов экономическими агентами Гагаузии, общая сумма составила около 28 млн. леев, что более чем в 2 раза больше пргнозной величины. При плане на 2023 год по суммам акцизов 3,7 млн. леев, уточненной сумме в бюджете АТО Гагаузия 2,2 млн. леев, общее исполнение составило 643 тыс. леев.

Приводимое экономическое и финансовое обоснования со стороны депутатов Парламента РМ в поддержку закона РМ (Таблица 2), меняющего механизм возмещения НДС и акцизов можно назвать игрой цифр. Более того, бюджетные средства нужно в соответствии с действующим законодательством РМ расходовать экономно и результативно, а следовательно, понятия «экономии» государственного бюджета в процессе межбюджетных отношений быть не может.

Инициирование нового механизма возмещения НДС из бюджета АТО Гагаузия обозначило следующие проблемы:

- нарушение со стороны депутатов Парламента РМ принципов, заложенных законом РМ «О публичных финансах и бюджетно-налоговой ответственности» № 181 от 25.07.2014г.: принцип годичности, принцип единства, принцип сбалансированности, принцип предсказуемости и устойчивости, принцип прозрачности [9].

- в нарушение ст. 17 данный закон не содержал качественно проведенной финансовой экспертизы, в связи с тем, что его принятие оказывало в конце календарного года финансовое



воздействие на бюджет АТО Гагаузия, а это подрывало бюджетное сальдо и создавало угрозу не исполнения бюджетных расходов [9].

- неэффективность механизма работы Рабочей группы Парламента Республики Молдова и Народного Собрания Гагаузии (НСГ) по обеспечению, в рамках конституционных норм, функциональности АТО Гагаузия и положений законодательства Республики Молдова об особом статусе АТО Гагаузия.

- при разработке закона РМ № 285/2023 от 05.10.2023г. не были проведены консультации по вопросам межбюджетных отношений между Министерством финансов РМ и Исполнительным комитетом Гагаузии.

- ст. 32 закона РМ «О публичных финансах и бюджетно-налоговой ответственности» определяет межбюджетные отношения (Бюджеты – компоненты национального публичного бюджета администрируются независимо друг от друга и могут вступать в межбюджетные отношения в соответствии со статьями 33–35) [9], а следовательно, любые изменения в бюджете АТО Гагаузия должны приниматься соответствующим представительным органом, т.е. Народным Собранием Гагаузии.

- механизм возмещения НДС и акцизов реализуется Главной налоговой службой на основании решений Правительства РМ, которое является администратором государственного бюджета РМ, но не является администратором бюджета АТО Гагаузия, поэтому для внедрения механизма возмещения на региональном уровне необходима разработка и утверждение собственных правовых документов.

- органы власти АТО Гагаузия в лице Народного Собрания Гагаузии и Исполнительного комитета Гагаузии не уделяют должного внимания по разработке местного законодательства Гагаузии в области налогообложения с целью создания комплексной и устойчивой системы, а также законодательных инициатив в национальное законодательство, регламентирующее сферу налогообложения, как результат, устаревшие местные законы в области налогообложения и практически полное отсутствие в НК РМ правовых положений касающихся АТО Гагаузия.

- с 2018 года в АТО Гагаузия после проведения реформы налоговых органов, де-факто было ликвидировано Главное управление налогового администрирования и контроля Гагаузии, и автономия осталась без соответствующего органа, ответственного за данную сферу, хотя юридически ни Исполнительный комитет Гагаузии ни Народное Собрание Гагаузии не принимало правового документа, которым Главное управление налогового администрирования и контроля ликвидировалось, упразднялось или объединялось в другим органов публичного управления. Этот шаг со стороны Главной налоговой службы РМ и Министерства финансов РМ поставили автономно-территориальное образование Гагаузия ниже, чем любая примария муниципия, города, села или коммуны, где существуют отделы по сбору налогов или соответствующие специалисты.

- реализация механизма возмещения НДС и акцизов, заложенного законом РМ № 285/2023 от 05.10.2023г. в том объеме, который предполагали депутаты Парламента РМ невозможно при действующей в настоящее время системе формирования доходов бюджета АТО Гагаузия, так как бюджетные расходы должны быть обязательно увязаны с бюджетными доходами. Исполнение данного механизма возможно только в том случае, если начнут реализовываться положения ст. 18. Закона РМ № 344.

- возникающая неопределенность с возмещением НДС и акцизов, может привести к тому, что экономические агенты, имеющие в настоящее время юридический адрес в населенных пунктах АТО Гагаузия, примут решение о переводе юридического адреса в соседние районы РМ, а это в свою очередь приведет к значительному снижению поступлений от НДС и акцизов в бюджет АТО Гагаузия.

Таким образом, обобщая вышеприведенные проблемы, можно отметить, что невнимание со стороны Парламента РМ и Правительства РМ к реализации положений ст. 18 закона РМ №



344 и привели к обострению противоречий в сфере межбюджетных отношений между государственным бюджетом РМ и бюджетом АТО Гагаузия.

Заключение. На основании вышеизложенного и проведенного анализа нормативно-правовых документов, автором предложены следующие рекомендации:

- Необходимо продолжить работу в рамках Рабочей группы Парламента Республики Молдова и Народного Собрания Гагаузии (НСГ) по обеспечению, в рамках конституционных норм, функциональности АТО Гагаузия и положений законодательства Республики Молдова об особом статусе АТО Гагаузия с акцентом на обсуждение вопросов в области экономики, бюджета, налогов и сборов, реализации положений ст. 18 закона РМ № 344.
- Инициировать переговоры на уровне исполнительных органов власти с целью предотвращения возникновения аналогичных правовых документов в будущем, важно посредством переговоров найти решения, которые усовершенствуют бюджетный процесс и содействуют укреплению бюджетной дисциплины, как на национальном уровне, так и на уровне автономии.
- Создать в Народном Собрании Гагаузии рабочую группу (с включением депутатов НСГ, представителей Исполнительного комитета Гагаузии, экспертов, представителей академической среды, экономических агентов Гагаузии) для выработки предложений по разработке местного законодательства в сфере налогообложения и инициатив со стороны Гагаузии в рамках процесса модернизации Налогового кодекса РМ.
- Следует изучать опыт межбюджетных отношений между регионами, автономиями и центральным Правительством других стран, особенно это важно при реализации РМ курса на сотрудничество и партнерство со странами ЕС.
- Любые инициативы в бюджетной сфере нужно принимать заблаговременно, чтобы не создавать угрозы для автономии в исполнении бюджетных обязательств.

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ВЛИЯНИЕ МАКРО- И МИКРОЭКОНОМИЧЕСКИХ ФАКТОРОВ НА УРОВЕНЬ ОПЕРАЦИОННОГО РИСКА ПРЕДПРИЯТИЯ

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Abstract. This study examines the impact of macro- and microeconomic factors on the operational risk of a company. It analyzes economic cycles, inflation, exchange rate fluctuations, business process management, personnel aspects, and technological readiness. The role of risk management systems is explored, and risk reduction strategies are proposed. The paper provides a comprehensive view of operational risk factors and offers practical recommendations for effective risk management.

Keywords: Operational risk, macroeconomic factors, microeconomic factors, business process management, technological readiness, risk management strategy.

Операционный риск, являющийся неотъемлемой частью современного бизнеса, представляет собой возможность потери из-за недостатков внутренних процессов, систем, человеческого фактора или внешнего взаимодействия. Его влияние на предприятия становится особенно значимым в условиях динамичной макроэкономической среды и изменяющихся микроэкономических факторов.

Макроэкономические аспекты, такие как инфляция, процентные ставки, курс валюты и уровень безработицы, играют ключевую роль в формировании условий для бизнеса. Инфляция, например, влияет на стоимость ресурсов, что может существенно увеличить операционные расходы предприятия. Высокие процентные ставки делают капитал менее доступным, увеличивая финансовые издержки и, таким образом, повышая операционный риск. Курс валюты оказывает своеобразный эффект, воздействуя на операционные расходы и доходы компании, особенно в условиях осуществления деятельности, связанной с международной торговлей. Уровень безработицы также способствует повышению уровня операционного риска, так как он оказывает влияние на доступность и квалификацию рабочей силы.

В то же время микроэкономические факторы проникают в самые глубокие слои управления предприятием. Качество производства и эффективность бизнес-процессов напрямую связаны с операционными рисками. Недостатки в управлении, низкое качество продукции или неэффективные процессы могут существенно увеличить вероятность возникновения рисков. Автоматизация также играет свою роль, способствуя снижению операционных рисков через повышение точности и эффективности.

Комбинированный эффект макро- и микрофакторов на уровень операционного риска предприятия требует внимательного исследования. Взаимодействие этих факторов может иметь критическое значение, особенно в специфичных отраслях.

I. Воздействие макроэкономических факторов на уровень операционного риска предприятия

Макроэкономические факторы оказывают значительное воздействие на операционный риск предприятий, формируя общую экономическую среду, в которой они функционируют. Рассмотрим несколько ключевых аспектов макроэкономических факторов и их влияние на операционный риск.



Инфляция, как увеличение общего уровня цен на товары и услуги, может оказать существенное воздействие на операционный риск предприятия. Повышение цен на ресурсы, сырье, труд и другие необходимые компоненты производства может значительно увеличить операционные расходы компании. Это особенно критично для предприятий, зависящих от определенных ресурсов, стоимость которых подвержена инфляции. Инфляция негативно влияет на прогнозирование бизнес-процессов из-за нестабильной ценовой среды. Предприятия сталкиваются с трудностями в определении будущих расходов, цен на продукцию и спроса на рынке. Кроме того, резкое увеличение цен может сказаться на покупательской способности потребителей, что в свою очередь может повлиять на спрос на продукцию или услуги компании. Финансовая неустойчивость клиентов создаёт дополнительные трудности для предприятия.

Стоит отметить, что предприятия могут столкнуться с угрозой конкурентоспособности из-за инфляционных влияний на их производственные издержки. Это может привести к уменьшению прибыльности и доли рынка.

С целью оценки зависимости уровня операционного риска от уровня инфляции, возможно использование метода регрессионного анализа.

Пусть уровень операционного риска, который количественно выражается в общей сумме затрат от реализации событий операционного риска предприятия X, является зависимой переменной, а уровень инфляции является независимой переменной.

Год	Уровень инфляции	Размер убытков от событий операционного риска, MDL
2013	15,50%	1 150 000,00
2014	16,40%	1 350 000,00
2015	17,70%	1 600 000,00
2016	21,30%	1 700 000,00
2017	23,40%	2 100 000,00
2018	25%	2 500 000,00
2019	24,20%	2 150 000,00
2020	19,10%	1 900 300,00
2021	15,70%	1 400 000,00
2022	12,50%	950 780,00
2023	10%	560 700,00

Источник: разработано автором, данные носят исключительно демонстративный характер

Модель:

$$\text{Операционный риск} = \beta_0 + \beta_1 * \text{Инфляция} + \varepsilon,$$

Где:

β_0 – константа,

β_1 – коэффициент регрессии,

ε – ошибка.

В результате выполнения регрессионного анализа был получен следующий вывод:

<i>Регрессионная статистика</i>	
Множественный R	0,971957137
R-квадрат	0,944700677
Нормированный R-квадрат	0,938556308
Стандартная ошибка	141619,76
Наблюдения	11



В этом примере множитель R равен 0,97195, что указывает на сильную линейную зависимость между уровнем инфляции и убытками от реализации событий операционного риска. Кроме того, R -квадрат равен 0,9447, что указывает на то, что 94,47% дисперсии убытков от событий операционного риска можно объяснить уровнем инфляции. Для смягчения воздействия инфляции на операционный риск, компании могут использовать стратегии, такие как эффективное управление затратами, индексированные контракты, диверсификация поставщиков и инвестирование в инструменты хеджирования.

Процентные ставки, контролируемые Национальным Банком, имеют прямое воздействие на доступность капитала для предприятий. Повышение процентных ставок может усложнить финансовые условия, что приведет к увеличению затрат на заемный капитал. Это может стать причиной операционных трудностей, особенно для компаний, зависящих от заемных средств для финансирования своей деятельности.

Влияние **курсов валюты** на операционные расходы и доходы становится критическим для предприятий, занимающихся международной торговлей. Перепады валютных курсов могут значительно изменить стоимость импортируемых сырьевых материалов и товаров, что повышает операционный риск. Предприятия должны использовать финансовые инструменты, такие как хеджирование, чтобы смягчить воздействие валютных колебаний.

Взаимосвязь уровня **безработицы** с трудовыми рисками также необходима для полного понимания макроэкономического воздействия. Повышение уровня безработицы может увеличить конкуренцию на рынке труда и снизить уровень удовлетворенности работников, что может привести к увеличению операционных трудностей и рисков в управлении персоналом.

Таким образом, успешное управление операционным риском требует глубокого понимания макроэкономических факторов и их воздействия на бизнес-процессы предприятия. Регулярный мониторинг экономической среды, разработка гибких стратегий и использование инструментов управления рисками помогут предприятиям адаптироваться к переменам, обеспечивая стабильность и устойчивость в долгосрочной перспективе.

II. Влияние микроэкономических факторов на уровень операционного риска

Эффективное управление **бизнес-процессами** является важным фактором для снижения операционного риска. В случае некорректного построения бизнес-процессов, неправильного документирования, вероятность возникновения событий операционного риска существенно возрастает. Кроме того, заметно повышение и уровня импакта от событий, которые могут иметь как финансовое выражение, так и нефинансовое: потеря доли рынка, ухудшение имиджа и др. Автоматизация, стандартизация и постоянное совершенствование процессов позволяют не только сокращать временные затраты, но и минимизировать возможность ошибок в операционной деятельности.

Будучи одним из факторов возникновения событий операционного риска, **человеческий фактор** требует грамотной оценки в рамках анализа возможных ошибок. Минимизация воздействия данного фактора тесно связана с построением бизнес-процессов, поскольку выстраивание контрольных точек, использование принципа «четырёх глаз» и др. способствует предотвращению реализации событий. Поскольку персонал играет важную роль в осуществлении бизнес-процессов (за исключением направлений с полной автоматизацией процессов), квалификация, мотивация и непрерывное обучение персонала оказывают прямое воздействие на операционный риск. Устойчивость к высокому обороту кадров и стратегии управления персоналом способствуют формированию корпоративной культуры, снижающей риск человеческого фактора.

В условиях современного мира, уровень **технологической готовности** определяет насколько компания способна интегрировать новые технологии и адаптироваться к изменениям. Внедрение современных IT-решений и постоянное обновление технологической инфраструктуры создают условия для снижения технического риска и обеспечивают



бесперебойность бизнес-процессов. Отсутствие интеграции современных технологических решений в процессы организации не только оказывает влияние на конкурентоспособность предприятия, но и может привести к технологическому сбою, например, в системе информационной безопасности или иных критических систем. Это, в свою очередь, может привести не только к повышению уровня операционного риска, но и к угрозам кибербезопасности, повышению юридического риска и др.

Выбор **бизнес-модели и стратегии** прямо влияет на уровень операционного риска. Гибкие стратегии и инновационные бизнес-модели позволяют предприятию лучше адаптироваться к изменениям на рынке и снижают риски, связанные с конкуренцией и рыночной нестабильностью.

В то же время, стабильность и надежность взаимоотношений с **поставщиками и партнерами** существенно влияют на операционный риск. Систематическое управление взаимоотношениями помогает предприятию предотвращать возможные проблемы в цепочке поставок и бизнес-процессах. В случае деятельности, переданной на аутсорсинг, особенно важным этапом при установлении деловых отношений с поставщиком является первоначальная оценка потенциальных рисков, а также способов их минимизации/контроля. Кроме того, необходимо разработать план обеспечения непрерывности деятельности, в случае возникновения перебоев в деятельности поставщика.

Уровень **удовлетворенности клиентов** также оказывают значительное воздействие на операционный риск. Изменения в предпочтениях клиентов, модных тенденциях или экономическом благосостоянии могут сильно влиять на спрос на продукцию или услуги компании. Неопределенность в спросе может создавать риски связанные с колебаниями объемов производства. Изменения в предпочтениях клиентов или технологические инновации могут требовать оперативных изменений в производственных процессах, что может повлечь за собой дополнительные риски и расходы. Активное участие в формировании клиентского опыта и систематический анализ обратной связи создают возможности выявлять потенциальные проблемы и предотвращать риски, связанные с недовольством клиентов.

Финансовое положение предприятия, его **ликвидность** и степень **задолженности** также оказывают влияние на операционный риск. Поддержание устойчивого финансового положения обеспечивает осуществлений инвестиций в развитие инструментов управления операционным риском, а также совершенствование внутренних бизнес-процессов.

Таким образом, макроэкономические факторы могут создавать нестабильные условия для бизнеса, в то время как микроэкономические факторы определяют способность предприятия адаптироваться к этим изменениям. Успешное управление операционным риском требует не только внимания к внутренним процессам предприятия, но и глубокого понимания внешних экономических условий. Адекватная стратегия, основанная на анализе этих двух уровней факторов, позволяет предприятию эффективно управлять операционным риском и обеспечивать устойчивость в динамичной экономической среде.

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**SEKŦİYA II. ÇİFTÇİLİK HEM İŞLETMÄK İNDUSTRİYASI/
SECŦIUNEA II. AGRICULTURĂ ŞI INDUSTRIA ALIMENTARĂ/
SECTION II. AGRICULTURE AND FOOD PROCESSING INDUSTRY/
СЕКЦИЯ II. СЕЛЬСКОЕ ХОЗЯЙСТВО И
ПЕРЕРАБАТЫВАЮЩАЯ ПРОМЫШЛЕННОСТЬ**

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**EVALUATION OF MORPHOMETRIC MEASUREMENTS FOR BW PREDICTION IN
HOLSTEIN MALE CATTLE GROWN ON PASTURES USING PATH
COEFFICIENT ANALYSIS**

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Abstract. This study used path analysis and a simple correlation coefficient to identify the factors that affect bodyweight in various artificial pastures. During the first year of the study, two distinct artificial pastures covering 1.5 hectares each were set up. A total of 20 male Holstein animals, were randomly assigned to the experimental regions. The animals' body weight (BW) and other morphometric parameters were ascertained. The findings demonstrated a strong correlation between bodyweight measures and bodyweight. There were found to be strong and positive relationships between body length and body weight (BL) (0.89**), Withers Height (WH) (0.88**), Heart Girth (HG) (0.93**), Hip Height (HH) (0.83**) and Hip Width (HW) (0.84**). Numerous morphometric variables had an indirect or direct impact on bodyweight. After being determined to be non-significant, the regression model's standardized correlation coefficients for BL and HH were eliminated. A determination coefficient (R^2 of 0.93) was achieved for the ideal multiple regression equation for animals. The measurements (HG, WH, HW, and BD) were shown to have statistically significant direct effects on cattle's body weight (BW), according to the results. It is possible to draw the conclusion that HG is a significant parameter to accurately estimate the bodyweight of cattle even under grazing settings.

Keywords: Morphometric measurements bodyweight, cattle, path analysis

Introduction

Body weight (BW) is one of the most economically important traits in especially beef production systems, whereby breeders want to select the best animals for breeding purposes[1]. It is important to be aware that feed rationing is dependent on the animal's live weight. Beef cattle's body

dimensions are utilized for a variety of objectives, such as estimating conformation, body weight, growth rate, and body condition. [2,3].

A technique called path analysis is frequently used to explore the indirect and direct effects of interacting predictor variables on dependent variable [4]. Animals' morphological features have been utilized to determine body weight [5]. Simple correlation coefficients between body weight and morphometric parameters or regression of body weight on a number of body measurements have been used to estimate body weights [6,7].

According to [8], during the selection process of certain traits for breeding purposes, some traits may be affected directly while others indirectly. Path analysis, on the other hand, is a mathematical method used to investigate the cause-effect relationship between dependent and independent variables [9]. Path analysis has been shown in studies to be a beneficial approach in animal breeding for estimating body weight using biometric features in different farm animal species [9,10,11].

The calculation of body weight (BW) using biometric features using the path analysis technique has not received much attention in the literature. Consequently, the purpose of this research was to identify both direct and indirect causal relationships between body weight (BW) and physical characteristics in male European-type cattle maintained on artificial grasslands.

Materials and Methods

Experimental location

This study was carried out in the Lake District, in Isparta Province (37°45'N, 30°33'E, elevation 1035 m) located in the Mediterranean region of Turkey on three consecutive years of 2010 and 2012.

Animal and pasture management

A total of 20 Holstein male cattle with an average 6 months old were included and allocated evenly to two artificially established pastures in the experiment which lasted for 90 days in 2011 and 2012, each year 20 Holstein beef animals were used and conducted at University Research Farm. Animals were initially weighed at the beginning of the experiments and were randomly divided according to their weights into two grazing groups' pastures. Each group was weighed and monitored on a fortnightly basis, using electronic weighing scale (True-Test 2000 SmartUnit).

Body measurements and data collection

Body measurements were taken while animals were standing in a crush before weighing. A plastic tape marked in centimetres (cm) was used for the measurement of most body traits except wither height, which was measured by measuring stick.

Statistical Analysis

The best linear regression equations for BW from other traits as independent variables, morphometric body traits were performed, using MINITAB V. 18, 2017, [12]. Pairwise correlations among body weight and morphological traits were also determined. Path coefficients were calculated using SPSS (2001). This was to allow direct comparison of values to reflect the relative importance of independent variables in explaining variation in the dependent variable. The path coefficient from an explanatory variable (X) to a response variable (Y) as described by [10] as shown below was used:

$$P_{Y.X_i} = b_i S_{X_i} / S_Y$$

where: $P_{Y.X_i}$ = path coefficient from X_i to Y ($i = BL, WH, HG, HH, BD$ and HW) b_i = partial regression coefficient, S_{X_i} = standard deviation of X_i , S_Y = standard deviation of Y

The following multiple linear regression model was adopted:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + \dots + e$$

where: Y = endogenous variable (body weight), a = intercept, b's = regression coefficients, e = error term.

Results and Discussion

Descriptive statistics of BW and body measurements of the animals grazed in on pastures are shown in Table 1.

Table 1. Descriptive statistics of BW (kg) and body measurements (cm) by pasture types

Variable	Mean	StDev	CoefVar	Minimum	Maximum
BW	223.29	37.22	16.67	149.00	318.00
HG	136.05	8.49	6.24	117.00	154.00
WH	110.80	5.16	4.66	101.00	121.00
BL	116.65	6.77	5.80	101.00	131.00
HW	33.950	2.524	7.43	28.000	39.000
BD	58.967	3.430	5.82	51.000	67.000
HH	116.14	4.04	3.48	107.00	127.00

There were no significant ($P > 0.05$) differences in animal performance between pasture types in final weight, total weight gain and daily live weight gain. Therefore they were not presented.

Pair-wise correlations among body measurement traits and BW of the animals are presented in Table 2.

Table 2. Pearson correlation coefficients between BW and body measurements. *

Traits	BW	HG	WH	BL	HW	BD
HG	0.929					
WH	0.877	0.835				
BL	0.890	0.896	0.905			
HW	0.839	0.768	0.705	0.780		
BD	0.864	0.780	0.789	0.805	0.755	
HH	0.834	0.797	0.851	0.787	0.705	0.781

*Significant at $P < 0.01$ for all correlation coefficients except

The body characteristics and BW had a correlation coefficient ranging from 0.71 to 0.93, respectively. Body weight and heart girth had the strongest association coefficient ($r=0.93$), which was marginally lower than Bozkurt's findings [13]. [13]and[6] and the lowest was between HW and WH and similarly between HW and HH ($r=0.705$) respectively. However, the results showed a highly significant and positive correlation between BW and all the body measurement traits ($P < 0.01$), respectively. These results were in line with [3, 7, 14, 15]. Our findings were similar to [6,13]but in disagreement with [11] who found that hip height and body length were good predictors, which might be due to breed variation.

Preliminary Regression analysis

Regression Equation

$BW = -445.2 + 2.148HG + 1.772WH - 0.630BL + 3.096HW + 2.307BD + 0.105HH$, producing $R^2=94.1\%$

Table 3. Significance of regression coefficients of each variable

Coefficients	Coef	SE Coef	T-Value	P-Value	VIF
Constant	-445.2	40.2	-11.08	0.000	
HG	2.148	0.367	5.85	0.000	5.93
WH	1.772	0.698	2.54	0.014	7.93
BL	-0.630	0.594	-1.06	0.293	9.86
HW	3.096	0.892	3.47	0.001	3.09
BD	2.307	0.720	3.21	0.002	3.72
HH	0.105	0.672	0.16	0.876	4.51

VIF=Variance Inflation Factor

Path coefficient analysis was utilized to investigate the effect of body measurement traits on body weight. Path correlation coefficients between body measurement traits and BW, direct effect and indirect effects of body measurement traits on BW are presented in Table 4.

Table 4. Path coefficient analysis on direct effect and indirect effects of body measurement traits on BW

Traits	Correlation Coef. on BW	Direct Effects	Indirect Effects				
			HG	WH	HW	BD	Total
HG	0.93	0.490**	-	0.175	0.130	0.134	0.439
WH	0.88	0.246**	0.379	-	0.117	0.135	0.631
HW	0.84	0.210**	0.346	0.144	-	0.139	0.629
BD	0.86	0.213**	0.353	0.166	0.132	-	0.651

** : significant at $P < 0.001$

The results indicated that the traits (HG, WH, HW and BD) were statistically significant as direct effects on BW of cattle. Path analysis allows the partitioning of correlation coefficients into component parts. The highest path correlation of HG on BW was of 0.93 (Table 4). Its direct effect was also the highest (path coefficient=0.490; $P < 0.001$). However, Heart Girth (HG) made the lowest total indirect influence (0.44) on the BW. Most of the indirect contributions of the variables were realized by HG. It could be concluded that WH and HG are important parameters for predicting bodyweight of cattle with a high degree of accuracy.

Conclusion

Heart girth was found to have the greatest direct and lowest total indirect effect on bodyweight, suggesting that it could be employed as an indirect selection criterion for BW and for management decisions.

The outcome of the path analysis indicated that there is a high degree of confidence in using the Heart girth as a predictor variable. Additionally, this study demonstrated that conducting research under more controlled circumstances will yield outcomes that are more precise and dependable.

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EFFECTIVE DEVELOPMENT OF VITICULTURE IN THE ATU GAGAUZIA

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Abstract. The article examines grape production indicators in the ATU Gagauzia over the past 12 years. The analysis of dynamics indicates an upward trend in the gross grape harvest, and the increase in production volumes is attributed to the intensive growth of yields. It is noted that viticulture is influenced by changes in agroclimatic conditions, making the selection of grapevine varieties and clones a crucial aspect of effective industry development. The effective development of viticulture in the ATU Gagauzia requires careful selection of grape varieties and clones. This choice impacts not only yield but also the ability to adapt to changing market demands. The correct selection of grape varieties and clones plays a key role in ensuring the success and sustainability of the autonomy's viticulture industry.

Key words: Adaptation, Clone, Gross Harvest, Variety, Yield.

The study of grapevines and their relationship with physio-geographical factors is a complex process. Scientists, investigating the impact of climatic conditions and the location of vineyards, seek to identify their influence on grape productivity and crop quality. Despite numerous attempts to establish a strict quantitative expression of the connection between grape characteristics and natural factors, this problem is far from a definitive solution. Grapevines respond to changes in climate and location, but the multifactorial and complex nature of these relationships makes them difficult to fully understand. Nevertheless, researching this issue remains at the forefront of attention in grape-growing and winemaking communities worldwide. New technologies and research methods continue to evolve, allowing scientists to further study the impact of natural factors on grapevines. This important research direction not only complements the knowledge of grape growers but also contributes to the development of sustainable and effective viticulture methods in the face of a constantly changing environment [2].

Viticulture, due to its objective conditions, is preferably situated in southern regions, shaping the specialization of this industry. However, the determination of the specialization of grape-growing and winemaking regions in the Republic of Moldova also involves the varietal composition, as well as ecological and economic feasibility. The assortment of grapes defines the primary directions of specialization in winemaking. Each variety expresses its best qualities in optimal soil and climatic conditions. When discussing the specialization of viticulture, the focus is primarily on specific grape



varieties rather than grapes in general. Consequently, alongside the specialization process, issues of varietal zoning are addressed. This implies that based on the agrobiological and technological characteristics of grape varieties in various ecological conditions, an optimal assortment is determined and proposed for varietal zoning [7, 8].

Different grape varieties exhibit varying degrees of adaptation to local climatic and soil characteristics. The selection of suitable varieties allows for the optimization of grape cultivation processes, enhances plant resilience to adverse conditions, and contributes to increased grapevine yields. Various grape varieties offer winemakers a wide range of taste and aromatic profiles. This satisfies the preferences of diverse consumers and allows for the creation of unique and high-quality wines. The diversity of grape varieties with different ripening periods helps in scheduling harvest activities, reducing the risks of losses due to weather conditions and other factors [1].

The selection by grape growers of varieties in demand on the market, taking into account their characteristics and prices, can enhance the economic efficiency of a vineyard enterprise. The diversity of grape varieties also helps mitigate the consequences of diseases and pests, as different varieties possess varying degrees of resistance. Thus, the variety of grape varieties represents not only the richness of the winemaking industry but also a strategic advantage for grape growers, contributing to the resilience and prosperity of the grape-growing business in the face of climate variability and changing consumer preferences.

The ATU Gagauzia holds a significant position among the leading grape producers in Moldova. This is attributed to the unique agro-climatic conditions, distinctive topography, and soil characteristics, as well as the traditional orientation of the local population, known for its high skills in grape growing and winemaking. The primary goal of viticulture in this autonomy is to establish a modern industry specializing in the production of high-quality grapes. This grape production should be competitive in markets and exhibit high economic efficiency [4].

The intensification of the viticulture industry involves the systematic improvement of technologies, equipment, and production organization. Within this process, high-yielding grape varieties and clones are introduced, and the latest scientific achievements and advanced practices are integrated.

The ATU Gagauzia, located in a risky agriculture zone, faces unstable weather conditions that can adversely affect grape production. Unfavourable factors, such as high temperatures and insufficient precipitation, often lead to crop losses, creating challenges for consistent production and profit generation. The economic assessment of grape production under such conditions becomes complex, as weather variability can impact the ability of enterprises to recover costs [5, 6].

Table 1. Grapevine varieties cultivated in the ATU Gagauzia

Technical varieties				Table varieties	ha
White Varieties	ha	Red Varieties	ha		
Sauvignon	340.8	Cabernet Sauvignon	920.2	Moldova	549.4
Aligote	337.4	Merlot	599.6	Ranii Magaracea	91.3
Chardonay	230.1	Saperavi	97.5	Alb de Suruceni	51.9
Rkațiteli	120.4	Feteasca neagră	74.5	Arcadia	42.0
Muscat ottonel	113.7	Pinot noir	49.5	Cardinal	33.0
Riesling de Rhin	106.2	Cabernet franc	36.0	Codreanca	31.7
Pervenet Magaracia	86.7	Rara neagra	31.2	Victoria	30.3
Feteasca alba	67.0	Pinot gris	19.6	Muscat de Hamburg	30.2
Pinot blanc	35.7	Syrah	17.9	Italia	13.6
Traminer rose	34.6	Isabella	16.8	Jemciug csaba	4.4
Muscat iantarnii	32.0	Malbec	15.4	Vostorg	4.1
Feteasca regală	25.0	Gamay freaux	3.6	Prezentabil	4.0
Muscat frontignian	23.6	Bastardo Magareceski	0.5	Lora	3.9
Viorica	22.2	Mixt of varieties	1.6	Jupiter	3.8
Bianca	18.1	All red varieties	1884.0	Ialovenschi ustoicivii	3.6



Alb de Onițcani	14.4		Kișmiş moldovenesc	1,0
Viognier	11.6		Original	0,2
Muscat Poloskey	9.8		Other table varieties	33,1
Riton	7.9		All table varieties	931.2
Chasselas alb	6.0			
Ugni blanc	3.9			
Suholimanski belfi	0.4			
All white varieties	1647.5			
Other variety	100.1			

Source: calculated by the author based on data from the Vine and Wine Register of the Republic of Moldova [9]

The Autonomous Territorial Unit of Gagauzia, situated in the southern part of the Republic of Moldova, with a moderately continental climate. Winter experiences unstable temperatures, frequent thaws, and frost-free days, impacting grapevine yields. January is the coldest month, averaging -2.5...-5.5°C, with potential drops to -28°C during prolonged Arctic air influence. The region lies in the Budjak Steppe, part of the Southern Moldovan Hilly Plain, characterized by wide valleys, ravines, steppes, and small elevations. Major rivers include Yalpug, Lunga, and Lunguța [3].

The total area of grape plantations in the ATU Gagauzia is 4562.8 hectares, cultivating both table and technical grape varieties (Table 1). Technical grape varieties include 22 white varieties covering a total area of 1647.5 hectares, 13 red varieties covering 1884.0 hectares, and an additional 100.1 hectares allocated for other varieties. Table varieties consist of 17 names and occupy an area of 931.2 hectares.

This diverse selection of grape varieties reflects the pursuit of an optimal combination of local climatic conditions and market demands. Technical varieties, with their diverse characteristics, enable grape growers to diversify their production and offer a variety of wines to the market. Table varieties, in turn, add additional variability, enriching the assortment and satisfying the preferences of diverse consumers. This multifaceted approach to grape variety selection contributes to both the stability of the grape sector and diversity in the wine market.

Furthermore, the division of areas for technical and table grape varieties reflects a strategic approach to meeting the needs of both raw material supply for winemaking and the end product for the final consumer. This extensive range of grapes in ATU Gagauzia provides grape growers with unique opportunities to adapt to changing market demands, ensuring stability and innovation in the region's winemaking industry and meeting the consumption needs for fresh grapes.

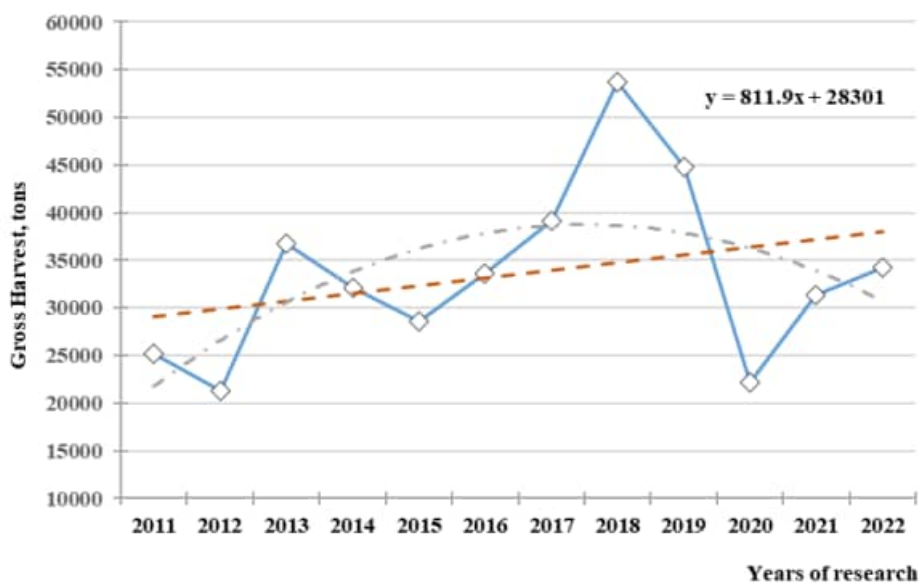


Figure 1. Dynamics of Gross Grape Harvest in the ATU Gagauzia for the Years 2011-2022

Source: calculated by the author based on data from the Agricultural Complex Management of the ATU Gagauzia

Let's consider the dynamics of grape production over the past 12 years (Figure 1). The analysis of the gross harvest revealed an upward trend in production. According to the linear trend equation, the average annual increase in production was 811.9 tons ($y = 811.9x + 28301$). Applying a polynomial trend provided a more accurate representation of the growth trend. The graph indicates that in the first half of the studied period, there was an acceleration in the pace of production growth, while in the second half, a noticeable slowdown in the growth rate occurred.

The analysis of grape production dynamics over the past 12 years provides crucial insights into industry changes. The observed upward trend indicates that grape growers in the region are successfully expanding their production, increasing harvest volumes each year. The linear trend equation, demonstrating an average annual production increase of 811.9 tons, serves as a valuable tool for forecasting future changes and planning development strategies. However, it's important to note that the application of a polynomial trend allows for a more refined understanding of the growth trend, considering potential variations in production dynamics during different periods of the study.

Examining the graph highlights an interesting aspect: in the first half of the studied period, there is an active acceleration in the pace of production growth, possibly linked to successful industry strategies. However, in the second half of the period, we observed a slowdown in the growth rate, which may require additional analysis to identify the reasons for this change. In summary, the results of the analysis of gross grape harvest dynamics provide essential data for grape growers and industry leaders, enabling them to adapt strategies considering growth trends and potential challenges in grape production in the region.

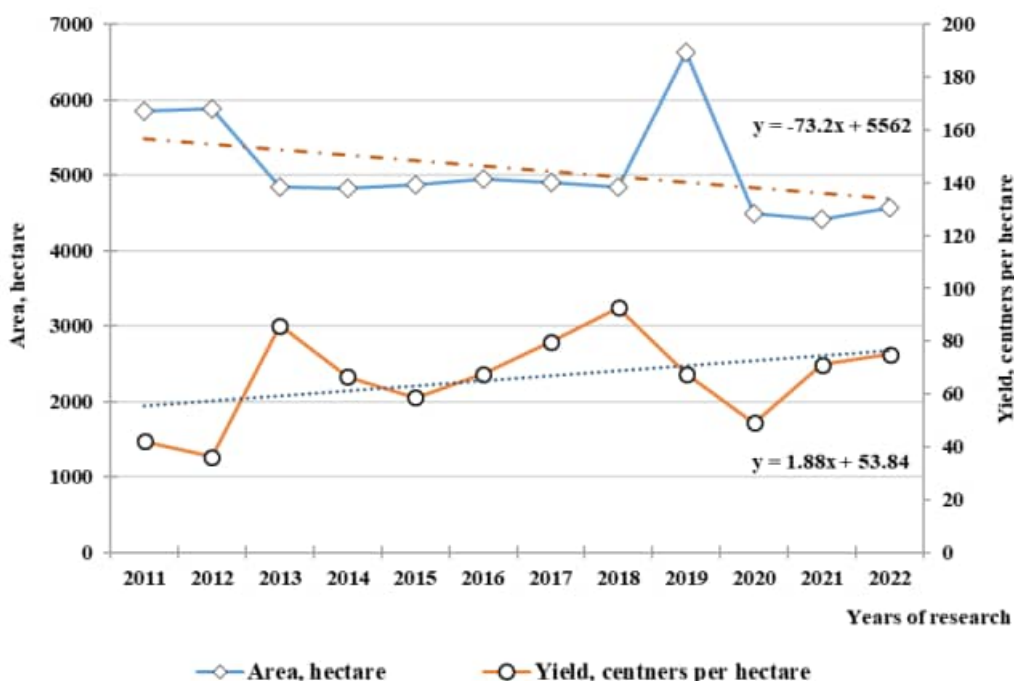


Figure 2. Dynamics of Vineyard Cultivation Areas and Grape Yield in the ATU Gagauzia for the Years 2011-2022

Source: calculated by the author based on data from the Agricultural Complex Management of the ATU Gagauzia

From 2011 to 2022, the grape-growing sector in the autonomy experienced a reduction in vineyard areas with an average annual decrease of 73.2 hectares, as confirmed by the linear trend equation ($y = -73.2x + 5562$) (Figure 2). During the same period, grapevine productivity consistently increased. According to the trend equation, the average growth rate was 1.88 centners per hectare annually ($y = 1.88x + 53.84$). Thus, the viticulture industry at ATU Gagauzia demonstrated development based on intensive factors: despite the decrease in the overall vineyard area over the examined period, stable increases in productivity ensured continuous growth in production volumes.



These data indicate that viticulture in autonomy has successfully adapted to changing conditions, employing intensive management methods and increasing productivity. The reduction in vineyard areas can be offset by efficiently utilizing available plots and implementing modern cultivation technologies. Sustainable yield growth points to the high potential of the region's viticulture industry. The development of viticulture in the ATU Gagauzia suggests that alongside the decrease in vineyard areas, an important factor is the increase in productivity per hectare. This can be achieved by implementing advanced soil cultivation methods, efficient fertilizer use, and the application of modern grape varieties and cultivation technologies. Such an approach not only supports the industry's stability but also contributes to the economic efficiency of vineyard enterprises in the face of climate variability and market demands.

Conclusion

1. The total area of vineyards in the ATU Gagauzia is 4562.8 hectares. Technical red grape varieties cover 1884.0 hectares (42.4%), and white varieties cover 1647.5 hectares (37.2%), while table grape varieties occupy 931.2 hectares (20.4%). Among the technical red varieties, Cabernet Sauvignon, Merlot, and Saperavi have the highest share, and among the white varieties, Sauvignon, Aligote, and Chardonnay are predominant. The table grape variety Moldova is the most prevalent among table grape varieties.
2. During the analysis of grape production dynamics in the ATU Gagauzia from 2011 to 2022, we examined the following indicators: Gross harvest, cultivated area, and yield of plantations; Yield stability; Potential yield level of plantations; Reserves for increasing productivity of cultivated areas.
3. The analysis of grape production dynamics over the past 12 years indicates an upward trend in the overall production volume ($y = 811.8x + 28301$), despite a decrease in the vineyard areas ($y = -73.2x + 5562$). This phenomenon is explained by the increase in grapevine yield at an average annual rate of 1.88 centners per hectare ($y = 1.88x + 53.84$). Thus, the grape industry in ATU Gagauzia is developing based on intensive factors. This fact attests to the successful development of viticulture at ATU Gagauzia and a strategy focused on increasing vineyard productivity.

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DEVELOPMENT OF STARTER CULTURE FOR THE PRODUCTION OF FERMENTED DAIRY PRODUCTS

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Abstract. The primary distinction between dairy products and fermented dairy products lies in the microbial fermentation process. Dairy products encompass a broad category derived from milk, including liquid milk and processed items, with inherent components such as water, proteins, lactose, fats, and minerals. Fermented dairy products, however, undergo intentional fermentation facilitated by specific microorganisms, typically lactic acid bacteria, transforming lactose into lactic acid. These bacteria, such as *Lactobacillus* and *Streptococcus* strains contributes to the unique flavor profiles of fermented dairy products like yogurt and sour cream but also enhances their safety by creating an environment that inhibits the growth of harmful bacteria.

Keywords: lactic acid bacteria, selection, fermented milk, dairy industry.

Introduction

Lactic acid bacteria (LAB) are a diverse category of gram-positive, nonspore-forming, catalase negative, and aerotolerant bacteria that contains a significant number of taxa (rods and cocci), [1]. Microorganisms known as LAB are responsible for food fermentation. Their morphology, glucose fermentation mechanism, temperature tolerance, and growth at different temperatures are used to classify them. Furthermore, LAB is identified by its fatty acid content and motility [2].

The scientific community has given probiotics a great deal of attention, as seen by the growing number of research projects and studies on the subject. Thanks to studies on the microbiome, people now recognize the importance of bacteria in managing disease rather than only seeing them as agents that cause illness [6]. Some of the usefulness of probiotics has been reported including reestablishing the composition and function of the microbial community, avoiding the formation of undesirable infections, and enhancing/improving the gastrointestinal tract function by supplying vitamins and amino acids to the host. Consequently, probiotic microbes are important to the food, feed, dairy, and fermentation sectors because they provide a non-pharmacological means of preserving the health of the host or consumer [7].



Controlling pathogenic and food-spoisoning bacteria is necessary to maintain food quality. Modern food processing technology is challenged by the side effects of chemical preservatives, which delay the growth of pathogens and increase the shelf life of food. As a result, interest in "Green technology," which refers to novel approaches to food processing, and the application of metabolites produced by microorganisms as biopreservatives emerged [14]. By eradicating or inactivating pollutants and pathogens, food preservation procedures increase the shelf life of food products. However, other nations use raw food without using any preserving methods, primarily because of their unique cultural cultures. For instance, drinking raw milk is popular in Ethiopia [15]. Therefore, it is currently not practicable to reduce milk contamination [16].

Thus, the main purpose of this article was to describe a systematic approach to the formulation of starter cultures for fermented milk products

Selection process

Selection of strains of lactic acid bacteria is the first step in the development of starter culture. Starter culture is a dry concentrate of bacteria and microorganisms that cause fermentation of milk and, during fermentation, form fermented milk products such as yogurt, kefir, cottage cheese, as well as cheeses of all types: from brine to hard types. The selected strain for this purpose must produce the desired effect in the finished product [16]. Starters are a group of active and desirable microorganisms capable of causing desired changes in a dairy product during fermentation. In order to produce fermented milk products, these carefully chosen microbes are purposefully added to milk to start and continue the required fermentation. To put it another way, starters affect the way things seem, feel, taste, and texture. Some starter microorganisms are added specifically for their ability to produce flavor compounds such as diacetyl. Starter microorganisms can also affect the texture of cultures and/or aged products through the breakdown of proteins, fats and other milk components in addition to the influence of pH. The lower pH of cultured foods may inhibit certain spoilage organisms, although inhibition is associated with other byproducts of the growth of some starters.

Selection is carried out based on their ability to grow in milk, as well as on the organoleptic and rheological characteristics of the final fermented milk product. The selection of strains of lactic acid bacteria and probiotic cultures includes several steps:

- identification and determination of species using microbiological and molecular biological methods;
- certification of strain cultures;
- selection of the most promising industrial strains with production value and probiotic properties for the production of general and functional products;
- use of selected strains in the preparation of starter cultures.

Lactic acid bacteria are isolated mainly from natural sources of plants, fruits, soil, feces of children and adults, milk and non-industrial dairy products. Strains are studied primarily by cultural, morphological, physiological and biochemical properties with the aim of differentiation to species. However, identification only by these properties, due to some of their commonality and variability, does not exclude errors in determining the species and subspecies.

For more correct identification, it is necessary to take into account the entire complex of morphological, physiological, biochemical and genomic characteristics of strains of different genera, species and subspecies.

Isolated and identified strains are monitored for resistance to the polyvalent virulent bacteriophage. It is known how important this is for the stability of the lactic acid process and for its hygienic reliability.

Due to the fact that in recent years fermented milk products have been produced mainly by the tank method and with a reduced fat content, starter cultures that improve the consistency of the product have become of great importance. A positive solution to this problem largely depends on the development and implementation of special methods for the selection of lactic acid bacteria and the selection of starter cultures. In world practice, the search for strains that produce exopolysaccharides



(EPS) - high-molecular carbohydrates that form viscous clots in milk - is becoming relevant. The need to create such starter cultures is dictated by the popularity of a 100% natural product, the ban in a number of countries on the use of stabilizers of plant and animal origin in non-fruit yoghurts, and the cost of stabilizers [10].

Because different starting cultures or strains create different types of EPS, different results have been reported regarding the impact of EPS on the textural features of yoghurts.

Yogurts underwent more yield stress when cultured with ropy *Lactobacillus bulgaricus* (LB) as opposed to non-ropy encapsulated EPS. Yogurts with EPS were found to have a yield stress of zero in a different investigation [9]. As for the water-holding capacity, when a starter culture was created using strains of *Streptococcus thermophilus* (ST) and LB that both produced EPS, there was a significant syneresis. Conversely, it was shown that yoghurts made using EPS-producing starting cultures had considerably less syneresis than yoghurts made with non-EPS-producing strains. Additionally, following the manufacturing of yogurt, the storage conditions are also important. Choosing LAB strains with more recent characteristics can be beneficial since they can produce new, functional starter cultures that could improve the fermentation process and increase the final product's quality. Since there is little information available about the isolation of EPS-producing microorganisms from dairy products in India. The goal of the current investigation was to separate EPS-producing LAB from fermented dairy products so that it could be used in fermented milk products.

The fundamental principle of the next stage of developing starters is the compatibility of selected strains. Strain compatibility means symbiotic or indifferent interaction during cultivation. It has been attempted in the past to ferment milk symbiotically utilizing different beneficial microorganisms. On the other hand, competition or synergy may result from two or more bacteria growing at once. It must be required in order for the product to meet the required quality standards.

Nowadays, there are three types of starting cultures utilized in the dairy industry: mixed, fungal, and bacterial.

The starter cultures, known as mesophilic lactic acid streptococci, are used to produce cottage cheese, sour cream, yogurt, sour butter, and many other cheeses.

Moreover, bacterial starters thermophilic lactic bacteria are employed in the manufacturing of yogurt, fermented baked milk, Varenets and large types of hard cheeses.

For Roquefort and Camembert cheeses, fungal starters are used (Roquefort culture; Camembert culture).

Mixed bacterial and fungal starter cultures are used to produce kefir and kumis.

The starter cultures creates the primary microflora of fermented milk products. Under favorable conditions, microorganisms introduced into milk with starter develop, forming secondary microflora. Dairy microflora includes lactic acid streptococci, lactic acid bacilli (including acidophilus) and yeast. The use of these microorganisms in various combinations makes it possible to obtain a large number of types of fermented milk products.

To prepare yogurt, two main cultures are used: *Lactobacillus bulgaricus* and *Streptococcus thermophilus*. These bacteria synergistically interact, facilitating the fermentation process of milk at elevated temperatures. *Lactobacillus bulgaricus* creates an acidic environment, promoting the formation of acidity and giving yogurt its characteristic taste, while *Streptococcus thermophilus* provides heat resistance, maintaining optimal conditions for the development of both bacteria. This dynamic combination forms the consistency and flavor of yogurt, making it a popular and nutritious dairy product [11].

The process of fermenting kefir involves the use of a unique culture known as kefir grains. Kefir grains are gelatinous structures containing a symbiosis of lactic acid bacteria and yeast. The composition of kefir grains includes various microorganisms such as *Lactobacillus kefirianofaciens*, *Lactobacillus delbrueckii* subsp. *bulgaricus*, and various yeast strains. These microorganisms work together, converting lactose in milk into lactic acid, and producing unique aromas and the texture of kefir. As a result of kefir fermentation, a beverage with a pleasant taste, delicate texture, and probiotic



properties that benefit the digestive system is formed [12]. Since kefir grains can contain various microorganisms, they also contribute to preserving the richness of the microbiome in the intestines.

The production of cottage cheese involves the use of lactic acid bacteria for the fermentation of milk. The main cultures for cottage cheese include *Lactococcus lactis*, *Leuconostoc mesenteroides*, and *Streptococcus thermophilus*. These bacteria convert lactose in milk into lactic acid, which contributes to the thickening and coagulation of the protein. *Lactococcus lactis* plays a key role in the fermentation process, while *Leuconostoc mesenteroides* contributes to the development of the aroma and texture of cottage cheese. During fermentation, a curd is formed, which is then separated into cottage cheese and whey. This method of production provides cottage cheese with its characteristic taste and texture, making it a popular dairy product [14].

In recent years, there has been significant interest in the possibility of producing enriched products for daily human consumption. Sour cream (Smetana) is one of the most popular fermented dairy products in our country, distinguished by its increased nutritional and energy value, as well as high taste qualities. One way to improve the functional properties of sour cream is the use of a starter culture based on probiotics. Currently, special attention is given to the development of direct-set cultures, which include several types of microorganisms belonging to various genera and species. The combination of lactic acid bacteria, propionic acid bacteria, and bifidobacteria allows for the creation of a fundamentally new starter culture for the production of sour cream with high probiotic properties. Most commonly used as starter cultures for Smetana manufacturing is *Streptococcus salivarius ssp. thermophilus*, *Lactococcus lactis subsp. lactis*, *Lactococcus lactis subsp. cremoris*, *Lactococcus lactis subsp. diacetylactis* [13]. The controlled addition and propagation of these starter cultures play a crucial role in achieving the desired sensory attributes of smetana during the fermentation process

For the production of Branza cheese, lactic acid bacteria and enzymes are used to coagulate the protein in milk. The main lactic acid bacteria used in feta cheese cultures include *Lactobacillus bulgaricus*, *Streptococcus thermophilus*, and *Lactococcus lactis*. These bacteria contribute to the formation of an acidic environment and promote the production of lactic acid, which is necessary for the coagulation of casein – the protein in milk [15]. Additionally, microorganisms that contribute to the development of the characteristic taste and aroma are also employed in the production of feta cheese.

Reajenka is produced using lactic acid bacteria, which create an acidic environment in the milk, giving the product its distinctive taste and aroma. The primary cultures include bacteria such as *Streptococcus thermophilus*. These lactic acid bacteria collectively participate in the milk fermentation process, converting lactose in the milk serum into lactic acid.

Conclusion

In conclusion, the selection and creation of starter cultures play a pivotal role in the production of fermented milk products. The careful choice of specific lactic acid bacteria strains, such as *Lactobacillus bulgaricus*, *Streptococcus thermophilus*, and *Lactococcus lactis*, is essential for achieving desired flavor profiles and textural characteristics. These bacteria contribute to the fermentation process by converting lactose into lactic acid, leading to the coagulation of proteins and the development of unique product attributes. The optimization of fermentation conditions, including temperature and duration, is crucial for the successful propagation of starter cultures and the production of consistent and high-quality fermented milk products. Additionally, the incorporation of probiotic strains enhances the functional properties of these products, promoting health benefits for consumers. Advances in the understanding of microbial interactions and genomics continue to drive innovations in the tailored design of starter cultures, further improving the sensory and nutritional aspects of fermented milk products. Overall, the science behind selecting and creating starter cultures underscores their significance in shaping the characteristics and qualities of fermented milk products.



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EFFECT OF ULTRASOUND POST-TREATMENT ON DEGREE OF HYDROLYSIS OF FISH PROTEIN HYDROLYSATES (FPH) EXTRACTED FROM MACKEREL

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Abstract. Fish protein hydrolysates (FPH) obtained from by-products by enzymatic hydrolysis allows for smart valorization of seafood side streams. However, further treatments are normally needed to enhance bioactive and functional properties of obtained FPH. At the present time, the commonly used methods to improve functional properties of FPH include chemical and enzymatic modification. Chemical treatments often cause environmental problems, while the difficulty of controlling degree of hydrolysis limits the wide application of enzyme modification method. In recent years, emerging technologies such as ultrasound treatment (US) have shown great potential in protein modification with high efficiency and safety, low energy consumption, and low nutritional destructiveness.

The present study as a part of BlueBio IMPRESSIVE-project aims at investigating the effect of different ultrasound treatments (20 kHz, power 300W, 500W and 700W) on techno-functional properties of FPH from Atlantic mackerel (*Scomber scombrus*), and particularly, degree of hydrolysis.

The results have shown that with an increase of ultrasound power, the degree of hydrolysis of FPH has increased linearly, and the changes were significant for all US-treated samples compared to control (untreated) samples.

It may be concluded that ultrasound treatment of FPH contributes to a general improvement of degree of hydrolysis, with treatment at 700W giving the best result.

1. Introduction. Fish protein hydrolysates (FPH) represent a product made from fish or fish material through a process known as protein enzymatic hydrolysis [1, p.1]. This process involves the breakage of proteins, which are the building blocks of fish tissues, into smaller parts—peptides, and ultimately into amino acids. Thus, FPH is essentially a mixture of the broken protein molecules [1, p.1].

Currently, there is a growing interest in how to utilize fish material that remains after fish processing from the main production (filleting) and is considered inappropriate for direct human



consumption. The fish discards and side streams belong to the category of rest raw material which can further be utilized for extraction of valuable compounds. One of the most efficient solutions is to recover essential nutrients such as fish oil rich in polyunsaturated fatty acids (omega-3, etc.) and bioactive peptides in the composition of FPH via enzymatic hydrolysis [1, p.1].

FPH have been reported to possess a number of improved functionalities compared to the raw protein of origin. These include improved techno-functional properties such as gelling, fat-binding and emulsifying capacity, as well as bioactive properties such as anti-oxidative or anti-hypertensive activities [2, p.3-4].

FPH can be used for different applications ranging from animal and fish feed food to high-quality applications such as protein mix for sportsmen and elderly [3, p.1-2]. The production of bioactive peptides and FPH from fish side streams not only increases the economic value of the final product, but also decreases the environmental impacts [2, p.1].

In terms of health benefits, FPH have been reported to exhibit various biological activities and have techno-functional properties, making this ingredient a suitable nutraceutical candidate [2, p.4].

One of the most effective ways to improve techno-functional properties of FPH is ultrasound treatment. Ultrasonication is a non-thermal process that has been gaining a special attention in the food industry due to its potential to improve the quality and techno-functional properties of food ingredients, including protein hydrolysates [4, p.1]. The ultrasonication process involves the use of ultrasonic waves to generate cavitation in a liquid medium, which is defined as the collapse of gas and vapor microbubbles under pressure changes large enough to separate them in the medium [4, p.1]. This cavitation facilitates the interaction between the solvent and the solid, thereby increasing yield, reducing extraction periods and temperature used [4, p.1]. In the context of protein hydrolysates, ultrasound post-treatment can modify the properties of the extracted peptides, such as solubility, hydrophobicity, emulsifying and foam, water and oil absorption capacity, viscosity, and gelatinization [4, p.1-2]. These changes can enhance the functional properties of the protein hydrolysates, making them more suitable for various food applications [4, p.1-2].

In the present study, ultrasound post-treatment was applied to improve techno-functional properties such as degree of hydrolysis of FPH extracted from mackerel side streams.

2. Material and methods

2.1 Enzymatic hydrolysis

Atlantic mackerel (*Scomber scombrus*) delivered whole from a local fish processing facility (Fosnavåg, Norway) was gutted and minced using a mincer with 4.5 mm hole size (Hobart A 200 N), divided into batches of 1 kg, and immediately frozen and stored at -80 °C until enzymatic hydrolysis. The enzymatic hydrolysis was further conducted in a 4-litre closed glass bioreactor placed in a water bath at 52 °C. Warm (50±2 °C) distilled water was added to the fish mince in a 1:1 ratio. The mixture was stirred at 150 rpm with an overhead stirrer. When the temperature of the mixture was 50°C, Alcalase® enzyme (Novozymes, Denmark) was added at levels of 0.1% (w/w) of the raw material weight. After 60 minutes of hydrolysis, bones were removed by filtering the hydrolysate through a sieve before the enzymes were inactivated by heating up to 90°C for 10 minutes in a microwave oven. The mixture was then centrifuged at 4100 g at 4 °C for 30 minutes. The liquid fractions (lipids and water-soluble proteins) were separated from the insoluble fraction (sludge). The water-soluble protein phase representing fish protein hydrolysate (FPH) was collected and dried in the laboratory vacuum freeze-dryer.

2.2 Ultrasound post-treatment

The freeze-dried FPH samples were subjected to ultrasound post-treatment at 300W, 500W and 700W with a 20 kHz probe (Sonics & Materials Inc., Danbury, CT., USA, model: VCX 1500). The probe has a vibrating titanium tip of 1.2 cm which was immersed in the FPH solution followed by its irradiation with an ultrasonic wave directly from the horn tip. The samples were previously dissolved in distilled water in a ratio of 10 g per 400 ml. Samples were treated for 5 minutes with the

intervals of 5 s passive (rest) and active (treatment) phase each. After the ultra-sound post-treatment, the solution of FPH was subjected to freeze-drying again.

2.3 Physico-chemical analysis of FPH

Total nitrogen was determined by using the Kjeldahl method, quantity of protein was calculated as $6.25 \times N$ [5, p.1-4]. The degree of hydrolysis (DH) was analysed by formol titration as the proportion (%) of free amino groups with regard to the total nitrogen in the sample as described by [1, p.3]. A FPH sample of 1.5 g was weighed into a beaker and filled up to 50 g with distilled water. The pH was adjusted to 7.0 using 0.1M NaOH and then 10 ml of 9% w/w formaldehyde with a pH of 8.5 was added into the beaker. The beaker was covered with aluminium foil and stirred for 5 minutes. For the titration, a TITROLINE 7000 automatic titrator (SI Analytics, Xylem Analytics Germany Sales GmbH & Co. KG, Germany), was used. The titrator was rinsed 3 times before starting the titration. Furthermore, the titration was set to pH 8.5 with stopping automatically when reaching a pH of 8.5. The samples were titrated with 0.1M NaOH and the used amount of NaOH was recorded.

3. Results and Discussion

3.1 Degree of hydrolysis (DH) of mackerel hydrolysates

Degree of hydrolysis has increased significantly ($p < 0.05$) in all ultrasound-treated samples compared to control (Figure 1). In addition, it was also observed a linear trend of DH increase which can be explained by the cavitation effect, as follows. Ultrasound treatment creates cavitation bubbles in the liquid medium of FPH solution, which are regions of low pressure and high density. These bubbles can collapse and generate shock waves, which can cause denaturation or unfolding of proteins or peptides, and also break down the peptide molecules into smaller pieces [6, p.3-4], increasing the amount of free amino acid groups and degree of hydrolysis.

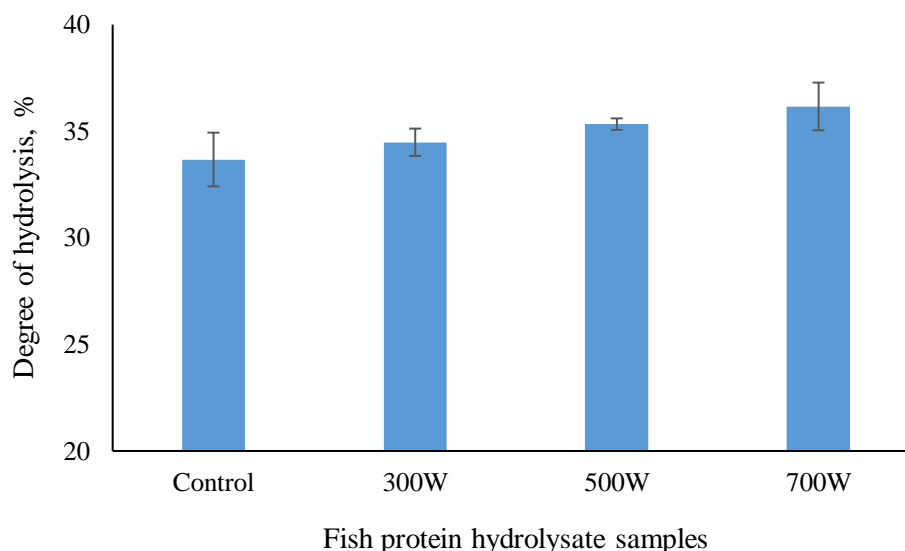


Figure 1. Degree of hydrolysis of mackerel FPH

Conclusion

Ultrasonication may offer many benefits to FPH, including the improvement of techno-functional characteristics of the final ingredient. This study has shown that ultrasound post-treatment significantly increased degree of hydrolysis of all US-treated samples compared to control through reduction of particle size of peptides, thereby enhancing the functionality of FPH. This is extremely important phenomenon, since the increased degree of hydrolysis results in higher digestibility and bioavailability of small bioactive peptides.



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PROMISING SAMPLING SITES FOR EFFECTIVE PGPR ISOLATION: A SELF-REVIEW

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Abstract: Microorganisms that promote plant growth provide support to the plant in many factors, including nutrition, increased tolerance to stress factors, and stimulating plant development. Although these bacteria exist in nature, effective individuals need to be evaluated to serve farmers. Therefore, a series of survey studies required from several origins to obtain the most effective isolates. At this stage, it has become important to understand which origins of bacteria may be more likely to provide effective PGPR. This report compiles the trial findings conducted by our work group to provide recommendations to researchers interested in isolating PGPR. The results demonstrated that isolating bacteria from diverse habitats other than conventional agricultural sites causes considerable favorable benefits. Recent studies have shown that bacteria isolated from organic



farming areas may be more effective in the uptake of micro and macronutrients. This finding may also indicate a richer biodiversity of soils in organic farming areas.

Keywords: PGPR, nutrient uptake, bacteria isolation, isolation origin.

Introduction

Plant growth-promoting rhizobacteria (PGPR) are considered an environmentally friendly option to reduce chemical fertilizer inputs by improving fertilizer-use efficiency. Plant growth-promoting rhizobacteria (PGPR) are bacteria that live in the soil around the roots of plants and contribute plants to growing better and producing more crops [1, p.236]. This diverse group of bacteria is known to produce and secrete various regulatory chemicals in the rhizosphere that aid in plant growth promotion [2, p.5]. PGPR plays an important role in enhancing plant growth through a wide variety of mechanisms. These mechanisms are divided into direct and indirect. Some examples of these direct mechanisms are nitrogen fixation [3, p.259-260; 4, p.20], regulation of plant growth as well as phosphorus solubilization [5, p.2906], the ability to produce phytohormones [6, p.187] and the production of siderophores [7, p.179]. Nitrogen fixation is when bacteria change nitrogen in the air into a form that plants can use as a nutrition source. It happens because of a process called biological nitrogen fixation, where bacteria use a nitrogenase enzyme to change the nitrogen into ammonia. Another direct mechanism is phosphorus solubilization. It can happen with the decrease of the pH in the soil rhizosphere due to the production of organic acids by bacteria [8, p.5]. Also, plants assimilate iron through different mechanisms than bacterial siderophores, such as chelation and release of iron or direct uptake of siderophores-complex [9, p.2]. The major indirect mechanism of plant growth-promoting rhizobacteria is by working as a biocontrol agent. Some of the biocontrol agents in PGPR are nutrient competition, induced systematic resistance, and antifungal metabolite production [10, p.546]. As frequently mentioned here the benefits of PGPR are reported in many other researchers. In this study, promising points for the isolation of PGPR were examined.

Results and Discussion

The first study in Soil Science and Plant Nutrition Department in Isparta with PGPR isolation was carried out within the scope of a master's thesis [11, p.19-48; 12, p. 94-99]. In this study, soil samples were taken from 3 different sampling sites in forest areas in Isparta, Turkey. Afterward these samples were transferred to the laboratory and 3 sub-samples from each sample were diluted at different dilution factors in physiological saline solution. 1 ml of soil-water suspensions were inoculated to the Petri dishes containing tryptic soy broth (TSB) agar. At the end of the 24 h incubation period, appearing colonies were selected for further studies considering their characteristics such as shape, size, colony edge, and colony color. Consequently, 9 different bacteria suspensions were obtained. In addition, equal amounts of each bacterial suspension were taken and mixed to obtain a cocktail (coc.) representing 9 bacteria. After that, the bacteria were transferred to the Çukurova University, Faculty of Agriculture, Soil Science and Plant Nutrition Department in Adana-Turkey and tested under a corn plantation. A 1 ml of pure bacteria culture in TSB was applied to the soil surface at 1-2 cm around the plant stem. Sterile TSB solution was used as a control treatment (NT). Regular practices for plant production were followed until the harvest. At the harvest period, the yield, shoot weight and the weight of 1k seed values were determined (Figure 1).

There is no doubt that bacterial applications have had an impact on plant growth. However, the differences observed in yield values were not statistically significant. The highest shoot weight values were observed in the 2nd and 9th isolates. The 2nd bacterium was also provided the highest 1k seed weight. The most interesting of these data is that all bacteria individually increase plant growth. However, when these bacteria are combined (coc.), their effect was disappeared. This phenomenon is probably an indication of competition within bacteria existing in the soil. Beneficial effects of isolates were also observed in the nutrient concentration of the plant materials. Among the isolates,

the 6th bacterium was effective on both phosphorus and zinc concentrations (Figure 2) which antagonistic relation was reported earlier within those nutrients [13, p.448-449].

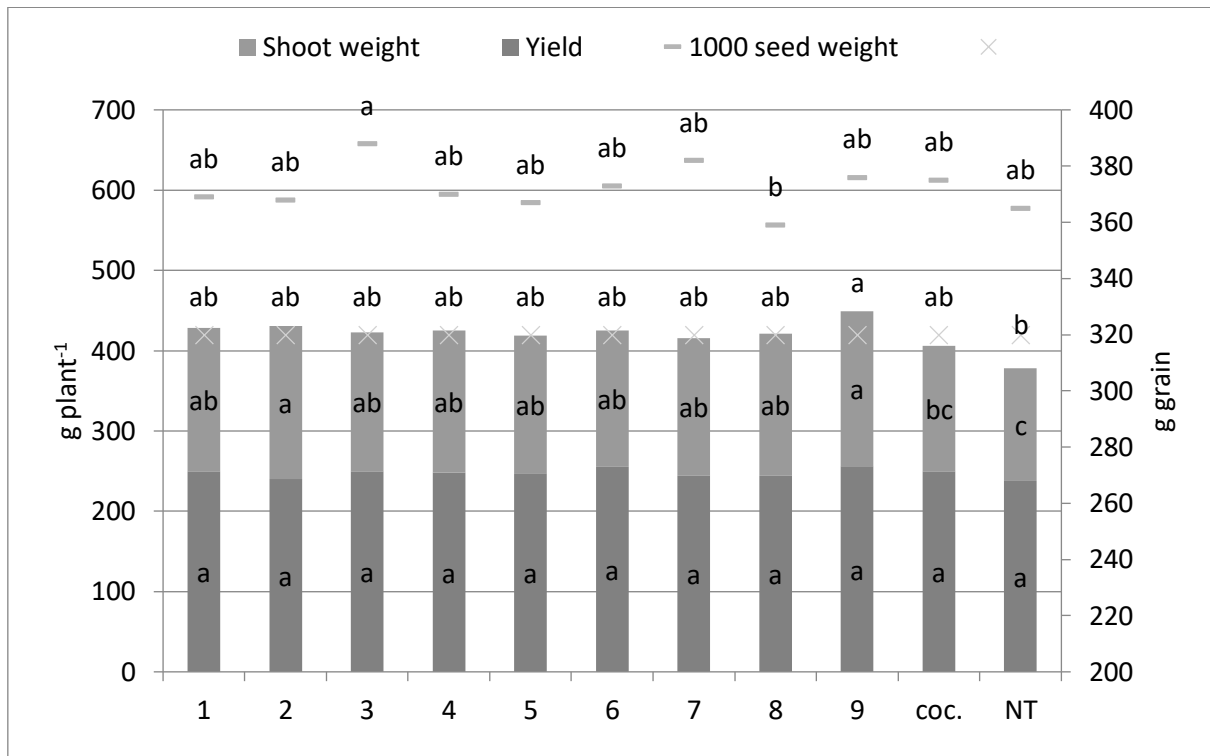


Figure 1. Shoot weight, yield, and 1k seed weight values influenced by bacteria inoculation [12, p.95]

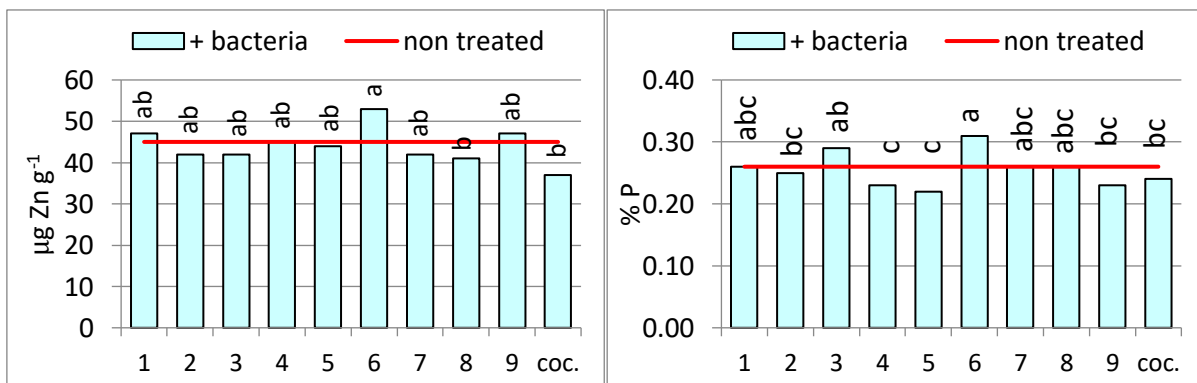


Figure 2. Determined Zinc and Phosphorus concentrations [12, p.96-97]

Above mentioned results led the working group to isolate bacteria from a wider range of ecological sites in Turkey. Once again, forest soils from 6 cities of Turkey, were targeted to find effective PGPR. Selected cities in Turkey were Ordu in the north; Sivas in the middle; Hatay and Adana in the south; and Antalya and Isparta in the southwest of Turkey [14, p.26-96; 15, p.115-119]. In the previous study, soil was not taken from the area where the experiment was conducted. In this experiment, the bacteria from the Isparta soil were also isolated to evaluate their effects on their homeland's ecological condition. Above reported isolation procedures were followed and 4 bacteria from each city were tested on the soil collected from Isparta. The average of the results gathered from each city is presented in Table 1.

Results revealed that all parameters out of stem diameter and root dry weight were statistically influenced by PGPR inoculation based on the average values. Among determined parameters, shoot dry weight has the lowest value in Isparta isolates whereas the others did not differ from each other.



Phosphorus, potassium, copper, and manganese values observed in Isparta were even lower than the control application. In other words, bacteria inoculation even reduced plant nutrient concentration in these parameters. Plant height and nitrogen concentration were not improved in Isparta isolates compared to the control. The only parameters as calcium and magnesium concentrations were the highest in Isparta isolates. These results are probably associated with the higher Ca and Mg abundance of the Isparta soil which isolated bacteria are well adapted to those minerals. stem diameter root dry weight values on the other hand are not influenced by any bacteria inoculations. As a result, bacteria isolated from Isparta soil and inoculated into Isparta soil generally did not improve plant development. The results supported the theory that taking bacteria from other ecosystems would increase the possibility of recognizing plant stimulator bacteria.

Table 1. Biomass and plant nutrient concentration influenced by PGPR application [15, p.117-118]

	Adana		Antalya		Hatay		Isparta		Ordu		Sivas		Control	
plant height (cm)	115	A	116	A	117	A	103	B	116	A	121	A	102	B
stem diameter (mm)	14	A	13.9	A	13.4	A	14	A	14.2	A	13.1	A	13.2	A
shoot dry weight (g)	9.8	A	9.9	A	10	A	10	A	9.6	A	8.2	B	7.2	C
root dry weight (g)	2.38	A	2.01	A	2.33	A	2.54	A	2.31	A	2.14	A	2.06	A
nitrogen (%)	2.87	A	2.83	A	2.89	A	2.52	B	2.81	A	2.84	A	2.5	B
phosphorus (%)	0.16	A	0.16 9	A	0.17	A	0.15 6	B	0.17 2	A	0.17 1	A	0.16 9	A
potassium (%)	3.86	C	4.48	B	4.48	B	3.01	D	5.11	A	4.32	B	4.81	A B
calcium (%)	1.81	B	1.83	B	1.98	B	2.39	A	1.83	B	1.73	B	1.98	B
magnesium (%)	0.28 6	B	0.23 8	C	0.25 1	C	0.31 8	A	0.29 2	A B	0.23 4	C	0.24	C
iron ($\mu\text{g g}^{-1}$)	50.3	A	38.3	B	47.3	A	48.4	A	48.1	A	47.8	A	41.7	B
zinc ($\mu\text{g g}^{-1}$)	49.6	B	47.4	B	52.5	B	52.9	B	47.1	B	60	A	53.1	B
copper ($\mu\text{g g}^{-1}$)	3.76	D	7.48	C	8.57	B	2.65	E	9.17	B	10.7	A	9.48	B
manganase ($\mu\text{g g}^{-1}$)	73	B C	86	A B	85	A B	64	C	84	A B	96	A	80	B

Some bacteria selected from among the bacteria used in these experiments were tested to determine plant behavior in cadmium-enriched soils [16, p.97-98]. Results obtained revealed that all isolates improved plant dry weight whereas the Ordu isolates were the most promising ones (Table 2). Isparta isolates on Sivas soils started to represent their performance indicating the reason why the bacteria cannot show its success may be the competition in its own region's soil. Some PGPRs are also suppressing the Cd uptake of the plants which is a growing concern for the plants cultivating heavy metal-contaminated soils [16, p.97-98].

Table 2. Plant dry weight influenced by PGPR inoculation under cadmium-enriched conditions [16, p.97]

	0 mg Cd kg ⁻¹ soil ⁻¹		5 mg Cd kg ⁻¹ soil ⁻¹		Average	
Control	32.7	d-g	27.1	gh	29.9	D
Ordu	40.5	ab	43.1	A	41.8	A
Hatay	36.7	b-f	33.7	c-f	35.2	BC
Sivas	38.8	a-d	30.6	fgh	34.7	BC



Adana	39.6	abc	34.2	c-f	36.9	B
Isparta	38.0	a-e	26.2	h	32.1	CD
Antalya	39.7	abc	32.0	e-h	35.9	BC
Average	38.0	A	32.4	B		

The last experiment with results presented (Table 3) here was conducted to compare forests, organic farm sites, and pasture using possible PGPR isolation origin [17, p.148-154]. In this experiment two control applications were also added as Control-, without any additional application, and Control+, sterile TSP applied. Results revealed that isolation sites influence determined parameters. In general, organic farming sites would be the more promising starting point for PGPR isolation. This finding may also indicate a richer biodiversity of soils in organic farming areas.

Table 3. Evaluation of the origin of PGPR using nutrient concentration [17, p.151,153-154]

	Forest		Organic		Pasture		Control-		Control+	
P (%)	0.161	B	0.186	A	0.189	A	0.144	C	0.141	BC
K (%)	3.40	AB	3.59	AB	3.82	A	3.03	B	3.05	B
Ca (%)	0.454	A	0.462	A	0.434	A	0.314	B	0.232	B
Mg (%)	0.205	BC	0.247	A	0.247	AB	0.200	ABC	0.177	C
Fe (mg kg ⁻¹)	334	A	330	A	284	AB	164	BC	112	C
Zn (mg kg ⁻¹)	52.1	AB	53.2	A	48.9	AB	39.7	BC	29.1	C
Mn (mg kg ⁻¹)	54.2	A	52.2	A	48.6	AB	34.7	BC	28.3	C
Cu (mg kg ⁻¹)	12.6	A	11.5	B	12.3	AB	5.9	C	5.1	C
B (mg kg ⁻¹)	24.6	A	25.4	A	24.3	A	5.1	B	3.0	B

For the prospective research, soil samples were collected from (in alphabetical order) Bulgaria, Germany, Hungary, Italy, Moldova, Poland, Romania, and Serbia. Experiments will be conducted on Isparta soil using these bacteria.

Conclusions

Studies conducted to date have clearly shown that PGPR applications are extremely important for plants in many cases. There is no doubt in mind about the necessity of using PGPR against unfavorable growth factors. Therefore, studies on isolating bacteria and identifying effective strains have a priority. The results from this study which focused on possible isolation sites for PGPR show that, in general, areas other than the agricultural field are more promising for effective PGPR possibilities. On the other hand, bacteria isolated from one site are not as effective on the soils that it isolated. Therefore, isolated bacteria should be used in another field, preferably another agroecological zone. Detailed studies are required to evaluate the reason for ineffective bacteria in agricultural fields.

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THE IMPACT OF CHOLINE CHLORIDE BIOSTIMULANT ON DEVELOPMENT AND PRODUCTIVITY OF BEE FAMILIES

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Abstract. Nowadays, considerable attention is dedicated to the search for new biostimulants intended to accelerate the growth of bee families during spring period and increase their productivity. The aim of our research was to study the impact of choline chloride biostimulant on the development



and honey production of bee families. Feeding bees with a mixture of syrup in concentration of 1:1 and 1.25-3.25 ml/l biostimulant, amounting to 1.0 liter of the mixture per bee family every 7 days from March to the main honey collection, increased strength by 4.12-17.65%, the brood rearing by 17.48-43.98% and honey productivity by 22.88% during the spring period.

Keywords: Bee families, biostimulant, sugar syrup, morphoproductive indices.

Introduction

The honeybee family supplies its own feed, as opposed to other farm animals. It collects, processes, preserves it, and also generates the necessary reserves during the active period of life in the form of honey and perga[4].

Bees should be fed additionally in cases of insufficient forage supply during preparation for the winter period and stimulate the growth of families where there is no sustaining harvesting in spring [1].

Bees are fed with 50% sugar syrup (1 kg of sugar per one liter of water) to encourage brood formation in spring [5]. The downside of this method is that it exhausts bees and shortens their lifespan.

The research has shown that the "Apipro" probiotic additive in sugar syrup contributes to more effective stimulation of the queen bees' oviposition, increasing the number of brood, building up bee families for the main honey harvest and increasing their honey and wax productivity [9].

Every year 20-30% of bee families are reduced during the winter period, and they are noticeably weakened by the beginning of spring. Increasing pollution and unfavorable environmental factors lead to a decrease in the immune defense of bees. It is necessary to stimulate the oviposition process of the queen bees by using a variety of nutrients in order to ensure a sufficient number of worker bees by the time of mass honey collection [3].

The supplementation of bees during spring period with sugar syrup containing steviosides promotes the development of family strength, increases the egg-laying capacity of queen bees and the productivity of bee families in the absence of a supporting honey harvest [2].

Nowadays, considerable attention is dedicated to the search for new biostimulants intended to accelerate the growth of bee families during spring period and increase their productivity.

The aim of our research was to study the impact of the MF-SIP-56 biostimulant on the development and honey productivity of bee families.

Materials and methods

The research object was presented by the Carpathian bee families from the apiary of Ulmu village, Yaloven district.

There were 4 groups of bee families, three in each group to carry out the experiment. The first group of bee families were fed with sugar syrup mixed with chloride choline biostimulant - 1.25 ml/l, the second group received 2.25 ml/l, the third group - 3.25 ml/l, and the fourth group - pure sugar syrup (control). Every 7 days bee families were fed one liter of sugar syrup at a concentration of 1:1, mixed with a biostimulant in the spring period during the absence of a supporting honey harvest.

The feeding of bees was carried out on 26.03.2023; 3.04.2023; 9.04.2023; 17.04.2023; 23.04.2023; 30.04.2023; 7.05.2023 and 14.05.2023.

The bee families were examined before feeding on 26.03.2023, at the beginning of white acacia blooming (21.05.2023) and at the end of blooming before the honey harvest (10.06.2023).

The number of honeycombs, bee family strength, number of brood and honey production were studied among experimental groups. The obtained results were processed by the variation statistics method [6] and using a software program.

Research results.

The carried out control study of experimental group of bee families showed that the nest had 4.67-5.67 honeycombs on average, 3.67-4.67 hives, the number of brood was equal to 27.33-28.33 bee space and 2.67 kg of honey stock before the spring feeding (26.03.2023) (Table 1).



The variation coefficient of morphoproductive indices ranged from 12.37% (number of honeycombs) to 53.29% (bee family strength).

Stimulative feeding has resulted in the growth and development of bee families in spring without a supporting honey harvest in April.

Table 1. Morphoproductive indices of bee families at the beginning of the study, 26.03.2023

Group	Indices	Number of honeycombs, pcs.	Bee family strength, bee space.	Number of brood, sq. m.	Honey reserve, kg
I. Sugar syrup + choline chloride, 1,25 ml/l	$\bar{x} \pm s\bar{x}$	5,67±0,882	4,67±0,882	28,33±7,265	2,67±0,667
	V,%	26,96	32,73	44,41	43,30
II. Sugar syrup + choline chloride, 2,25 ml/l	$\bar{x} \pm s\bar{x}$	5,67±1,667	4,33±1,333	27,67±5,487	2,67±0,667
	V,%	50,94	53,29	34,77	43,30
III. Sugar syrup + choline chloride, 3,25 ml/l	$\bar{x} \pm s\bar{x}$	4,67±0,667	3,67±0,667	27,33±5,487	2,67±0,333
	V,%	24,74	31,49	34,77	21,65
IV. CONTROL (PURE SUGAR SYRUP)	$\bar{x} \pm s\bar{x}$	4,67±0,333	3,67±0,333	28,33±2,028	2,67±0,333
	V,%	12,37	15,75	12,39	21,65

It was found that the number of honeycombs in the nest of bee families increased to an average of 14.7-16.7 pieces and had the strength of 11.3-14.7 bee spaces, the number of brood was equal to 117.0-137.7 square meters and the honey reserve was 5.0-6.0 kg resulting from the control study before the beginning of white acacia blooming on the 21.05.2023 (Table 2).

Bee families of the second and third experimental group produced on average 5.58% and 14.75% more brood than families of the IV experimental group.

It was identified that bee families of experimental group produced an average of 20-21.3 honeycombs or 3.63-10.36% higher than the control group and 17.7-20.0 hives or 4.12-17.65% more than the control group after white acacia honey crop collection on June 10, 2023 (Table 3).

Table 2. Morphoproductive indices of bee families before the blossoming of white acacia, 21.05.2023

Group	Indices	Number of honeycombs, pcs.	Bee family strength, bee space.	Number of brood, sq. m.	Honey reserve, kg
I. Sugar syrup + choline chloride, 1,25 ml/l	$\bar{x} \pm s\bar{x}$	16,0±1,528	13,0±1,00	117,0±4,359	5,7±0,333
	V,%	16,54	13,32	6,45	10,19
II. Sugar syrup + choline chloride, 2,25 ml/l	$\bar{x} \pm s\bar{x}$	15,3±2,404	14,3±2,404	137,7±38,559	6,0±0,577
	V,%	27,15	29,05	48,51	16,67
III. Sugar syrup + choline chloride, 3,25 ml/l	$\bar{x} \pm s\bar{x}$	16,7±2,848	14,7±2,404	126,7±6,009	5,3±0,577
	V,%	29,60	28,39	8,22	10,82
IV. CONTROL (PURE SUGAR SYRUP)	$\bar{x} \pm s\bar{x}$	14,7±0,667	11,3±0,667	120,0±6,807	5,0±0,00
	V,%	7,87	10,19	9,82	0,00

Bee families of the II and III groups produced the largest amount of brood equal to 148.3 and 145.3 square meters or 43.98% and 41.07% more than the control group. Fertility of the queen bees amounted to 1236 and 1211 eggs within 24 hours, while it totaled 846 eggs in the control group.

Spring supplementation increased the fertility of queen bees and brood raising by 17.48-43.98% which is higher than the control group.

The largest amount of honey was collected by bee families of the II experimental group equaled 37.6 kg or 7.0 kg higher than the control group.

Thereby, stimulating feeding of bee families with a mixture of 50% sugar syrup and biostimulant increased honey production by 22.88%.

It was found that bee families of experimental groups exceeded the control group at the completion of the second collection of linden honey by 5.26-12.11% in honeycomb number, 1.87-10.62% in strength, 27.12-41.86% in brood and 0.55-16.57% in honey production.

Table 3. Morphoproductive indices of bee families before acacia honey extraction, 10.06.2023

Group	Indices	Number of honeycombs, pcs.	Bee family strength, bee space.	Number of brood, sq. m.	Honey reserve, kg
I. Sugar syrup + choline chloride, 1,25 ml/l	$\bar{x} \pm s\bar{x}$	21,0±0,577	17,7±0,333	121,0±14,00	29,7±0,578
	V,%	4,76	3,27	16,36	3,38
II. Sugar syrup + choline chloride, 2,25 ml/l	$\bar{x} \pm s\bar{x}$	21,3±1,333	20,0±1,00	148,3±12,574	37,6±4,247
	V,%	10,82	8,66	14,68	19,58
III. Sugar syrup + choline chloride, 3,25 ml/l	$\bar{x} \pm s\bar{x}$	20,0±0,577	18,0±1,528	145,3±7,839	32,0±7,529
	V,%	5,00	14,70	9,34	40,750
IV. CONTROL (PURE SUGAR SYRUP)	$\bar{x} \pm s\bar{x}$	19,3±0,667	17,0±0,577	103,0±2,517	30,6±1,617
	V,%	5,97	5,88	4,23	9,15

It was found that bee families of the experimental groups collected on average 47.8-57.7 kg of honey from two honey harvests during the season. The highest amount of honey was obtained from the II group that was equal to 58.7 kg with a variation from 49.1 to 58.1 kg or 20.53% higher than the control group (Table 4).

Table 4. Amount of harvested honey from white acacia and linden trees, kg

Group	Amount of harvested honey	V,%	Limits (min. – max.)
I. Sugar syrup + choline chloride, 1,25 ml/l	47,8 ± 0,967	3,50	45,9 – 48,8
II. Sugar syrup + choline chloride, 2,25 ml/l	58,7 ± 5,580	16,46	49,4 – 58,1
III. Sugar syrup + choline chloride, 3,25 ml/l	48,8 ± 7,338	26,05	36,4 – 61,8
IV. CONTROL (PURE SUGAR SYRUP)	48,7 ± 3,180	11,31	42,4 – 52,6

Thus, spring feeding of bee families with a mixture of syrup at a concentration of 1:1 and 0.75-2.5 ml/l biostimulant, in a quantity of 1.0 l of mixture per family every 7 days from March to the main honey collection increases the strength of bee families, the number of brood and honey production.

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CONCLUSION

Spring feeding of bees with a mixture of sugar syrup at a concentration of 1:1 and 1.25-3.25 ml/l choline chloride biostimulant, in a quantity of 1.0 l of the mixture per bee family every 7 days



from March to the main honey collection, increased the strength by 4.12-17.65%, brood rearing by 17.48-43.98% and honey production by 22.88%.

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NUTRITION SECURITY AND ECOLOGY IN ONE: LIEVITO MADRE AS A RESPONSIBLE CHOICE

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Abstract: Bread is a staple in the diet of many people worldwide. Many people are striving to eat healthier foods in today's world to keep themselves healthy. Many consumers have turned their attention to an alternative to a loaf of yeast bread. Yeast-free bread, baked without using yeast, is becoming an increasingly popular choice among those who pay attention to their health and nutrition. How to bake and what are the advantages of this type of bread - all this is shown in our research.

Keywords: Bread, starter, Lievito Madre, protein, flour, food safety.

Introduction

One of the main advantages of yeast-free bread is its beneficial effect on the digestive system [1, p.10]. Most types of yeast-free bread are made using starters such as rye sourdough, hop sourdough, and grape must sourdough, which contains probiotics and natural enzymes. These ingredients help to improve digestion by enhancing the absorption of nutrients from the foods we eat.

Sourdough bread is oftentimes more easily digestible for people who are gluten intolerant or sensitive to gluten [1, p.59]. Sourdough bread is often rich in nutrients due to the use of unrefined flour or grains. It contains more vitamins, minerals, and antioxidants, preserving more valuable nutrients than some other types of bread. The yeast-free bread can be a great choice for those tracking their dietary sugar levels. Lievito Madre is one type of sourdough starter used to make yeast-free bread [2, p. 35]. It is based on the concept of using natural bacteria and yeast that exist in the environment to start the fermentation process in dough.

Materials and methods

In our research on the quality of yeast-free bread we used a sourdough starter based on a traditional product of Moldova - a grape must. The preparation of the sourdough starter took us 7 days.

Day 1: 50 ml of crushed white grapes and 50 g of flour have to be stirred to form a homogeneous mass. The container is covered with gauze for 24 hours incubation. Day 2: The sourdough starter has shown signs of fermentation after the first day: bubbles appeared on the surface and changed the smell (more acidic). One adds another 50g of flour and 50g of water (filtered water) stirred thoroughly and left for another 24 hours.

The third and subsequent day was carried out according to the scheme - 50g of flour and 50g of water left for the next 24 hours at 20°C.

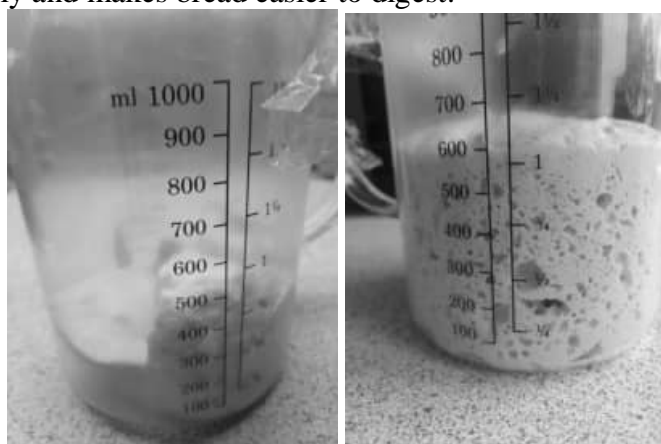
The sourdough starter becomes active and ready for baking. The obtained sourdough starter is a natural one for baking bread without adding yeast. It is stored at +5°C. Before use feed according to the scheme.

Results and discussion

Lievito Madre, like other sourdough starters, includes a mixture of natural bacteria and yeast that interact with flour and water to start the fermentation process [3 p.45]. Those microorganisms are found in the environment, including the surfaces of fruit or grains, and can be "captured" and used to create a sourdough starter.

When Lievito Madre sourdough starter is added to bread dough, flour fermentation begins. The bacteria and yeast consume sugars in the flour and produce carbon dioxide and alcohol. The carbon dioxide is trapped in the structure of the dough, making it airy, while the alcohol evaporates during the baking process. This process gives bread its characteristic flavor, texture, and aroma.

The main role of bacteria and yeast in Lievito Madre starter is to break down complex carbohydrates into simpler substances such as sugars [4, p. 105]. It allows the flour's nutrients to be absorbed more efficiently and makes bread easier to digest.



Pic.1. Volume increase of sourdough starter from 300ml to 600ml within 6 hours.

The maintenance of the starter consists of controlling the temperature, the nutrient medium, and the fermentation time. All these play a key role in successfully consuming Lievito Madre sourdough starter. It creates optimal conditions for the growth and activity of microorganisms, ensuring the quality and flavor of bread. When baking bread using Lievito Madre sourdough starter, we used flour with high gluten content, as this ensures a good texture and rise of the bread. Protein also affects

bakery products in several ways: Consistency: Higher amounts of protein make the dough less flexible, which affects its consistency and ability to hold its shape upon baking. Nutritional Value: More protein in bread creates a higher nutritional value. Protein contains amino acids needed for growth and tissue repair in the body. Taste and Color: Higher amounts of protein affect the taste and color of the bakery products. It gives a richer flavor and golden color to the bread.



Pic.2. Graham flour containing 11g of protein per 100 g



Pic.3. Bread on Lievito Madre starter using Graham flour

Conclusion

1. The usage of Lievito Madre sourdough starter represents an evidence-based approach to the production of yeast-free bread.

2. The natural bacteria and yeast included in the sourdough starter play a key role in the fermentation process, enriching the bread with nutrients and giving it a characteristic flavor and texture.

3. To maintain the quality of the sourdough starter and obtain excellent results, the following steps are important:

- feeding regularly - since it determines the activity of the sourdough starter;
- controlling the temperature;
- cleanliness and hygiene to avoid contamination of the sourdough starter with harmful microorganisms.

Applying all of the sourdough care guidelines, one can get great results in baking bread without adding yeast.

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IDENTIFICATION AND DISTRIBUTION GRAPEVINE PHYTOPLASMA DISEASE “BOIS NOIR” IN THE REPUBLIC OF MOLDOVA

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Abstract. Currently, phytoplasma disease such as *Flavescence doree* and *Bois noir* have been identified in many countries of industrial viticulture. In the Republic of Moldova, from 2017 to 2020, surveys of industrial grapes grove were carried out in all zones of cultivation of this crop with an area of more than 1430 hectares. Symptoms of phytoplasma disease were found on 12 white and 14 red grape varieties. During visual monitoring, 346 grape-vine samples were taken for PCR analysis. As a result of diagnostic, the pathogen of phytoplasma disease related to 'Candidatus Phytoplasma solani'.

Keywords: symptoms of phytoplasma disease, Flavescence doree, Bois noir, PCR

Introduction. At present, on the vine plantations of the Republic of Moldova everywhere there is the symptoms affect of the grape bushes a disease of phytoplasma etiology. *Flavescence doree* (FD) and *Bois Noir* (BN) are the most common vine disease of this types. These diseases are a threat to stability of viticulture due to the fact that pathogen affects annual growth, inflorescences and bunch of grapes. This has the affect of reducing cropping and reducing lifespan of the vine. FD and BN show identical symptoms on the affected vine, however they are caused by two genetically distinct phytoplasma. FD disease is associated with elm yellowing type phytoplasma and it is transmitted effective on grapevine by the leafhopper *Scaphoideus titanus* [4].

The grape plant for this leafhopper is the host plant and represents a closed cycle of the spread of the disease, therefore, in many viticultural countries, including Moldova, it is a quarantine object. Grapevine BN disease is caused by phytoplasma from the stolbur group transmitted by the leafhopper *Hyalesthes obsoletus* [8], for which the vine is a random feeding site in the life cycle of the insect [6], since the host plant is *Convolvulus arvensis* L. and *Urtica dioica* L. In European countries, these weeds are the reservoirs of the BN disease: *Convolvulus arvensis* [7]. It should be noted that the spread of infection in vineyards was also recorded during the growth of other weeds [9]. This disease can be transmitted to grapevine and other vectors: *Reptalus panzeri* (Low, 1883) [5] и *Macrosteles quadripunctulatus* (Kirschbaum, 1868) [2]. *Reptalus quinquecostatus* (Dufour, 1833) [10].

Earlier in the Republic of Moldova, the main vectors of phytoplasma diseases were identified and described, such as *S. titanus* [11] and *H. obsoletus* and other polyphagous species such as: *Philaenus spumarius* (Linnaeus, 1758), *Euscelidius variegatus* (Kirschbaum, 1858), *Orientalis ishidae* (Matsumura, 1902) [3; 6]. It was necessary to carry out visual surveys, determine the extent of the spread of phytoplasma diseases and identify the pathogen in all regions of grape cultivation in order to develop measures to prevent the spread of diseases in the vineyards of the Republic of Moldova.

Objects and methods of research: the object of research was plantations of European, autochthonous grapes and grape varieties of new selection in all regions of the cultivation of this

species in the Republic of Moldova; grape bushes affected by the disease of phytoplasmic etiology; leafhoppers are carriers of phytoplasma diseases.

Identification of the pathogenetic agent was carried out in the Laboratory of Virology and Phytosanitary Control ISPHTA. Visual surveys were carried out in 32 farms located in 18 districts and 1 autonomous territorial unit entity of the country, located in: Grigoriopol, Bessarab, Dubossar, Cahul, Calarasi, Cantemir, Causeni, Comrat, Criulyan, Leova, Nisporen, Novoanen, Strasheni, Teleneshty, Chimishlia, Stefan-Voda, Ungheni, Ialoveni districts and ATU Gagauzia. The surveyed industrial vineyards are located in the central and southern viticulture zone of the Republic of Moldova.

During the detection survey, samples of grape leaves and vines with symptoms of damage were taken to identify the causative agent of the disease. The sample for laboratory research consisted of 15-20 leaves with petioles, the grape shoots sample consisted of 5-7 cuttings 10-12 cm long. The samples were placed in a sealed plastic bag, signed, and transported to the laboratory on the day of sampling at +4°C.

DNA extraction was performed according to the method of Angelini et al. [1]. Molecular analysis was carried out by nested PCR, commercial kit from Qualiplant (FD / BN), primers used for the first amplification: FD9f / FD9r and STOL11f2 / STOL11r1, for the second amplification: FD9r2 / FD9f3b and STOL11f3 / STOL11r2.

Statistical processing of the processing of an information array of data on the diagnosis of grape samples, carried out according to the method of Дюпехов Б.А. [13].

The discussion of the results. Symptoms of phytoplasma diseases on the vine. The presence of phytoplasma diseases on grape plantations was determined by the method of visual surveys. For this purpose, more than 1430 hectares of vineyards were surveyed during 2017-2020. Visual inspection was carried out during the period of the best manifestation of symptoms of phytoplasmic disease of the vine, in the climatic conditions of the Republic of Moldova from September to November.

So, in white grape varieties: Feteasca Alba, Feteasca Regala, Viorica, Chardonnay, Sauvignon Blanc, Pinot Gris, Muscat Ottonel, Rhine Riesling, Aligote, Traminer, Sukholimansky Bely, Bianca, in this period of time the leaves acquired a golden yellow color, became hard to the touch and curled down (Fig. 1).

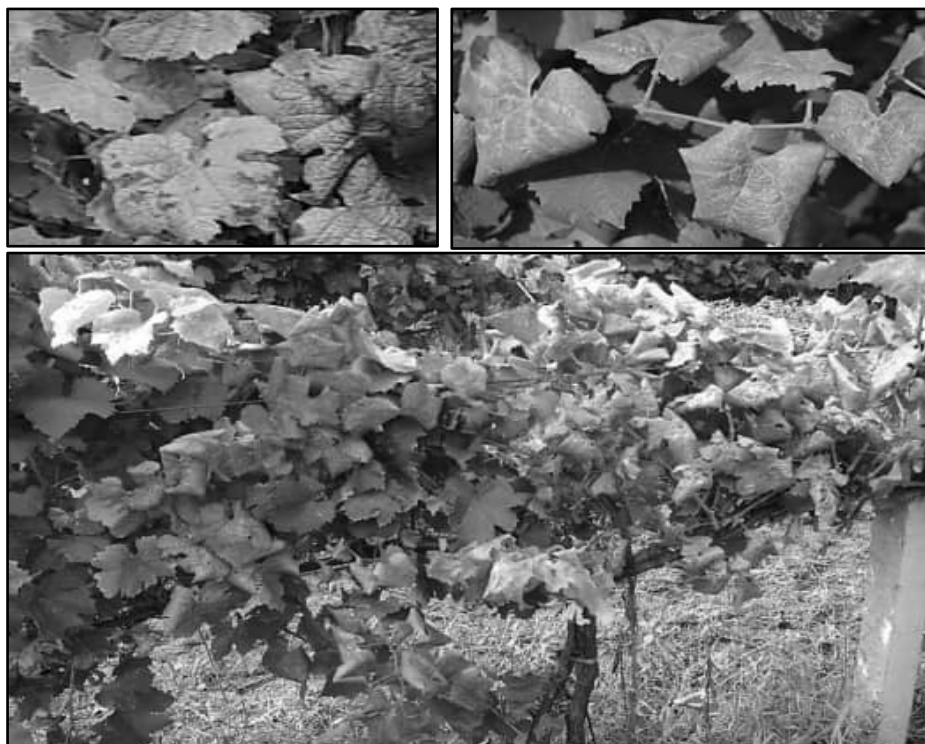


Fig. 1 Symptoms of phytoplasma disease on the white grape varieties leaves

Symptoms of phytoplasma disease on the red grape varieties: Feteasca neagra, Rara neagra, Copceac, Cabernet Sauvignon, Pinot Noir, Saperavi, Merlot, Moldova, Odessckii ceornii, Syrah, Malbec, Copceac, Cubanca, Pameati Negrulea, Codreanca, appeared as reddening of leaf blades. On the affected shoots, leaves with reddening were often found, which occupied one sector, limited by two to three veins (Fig. 2).

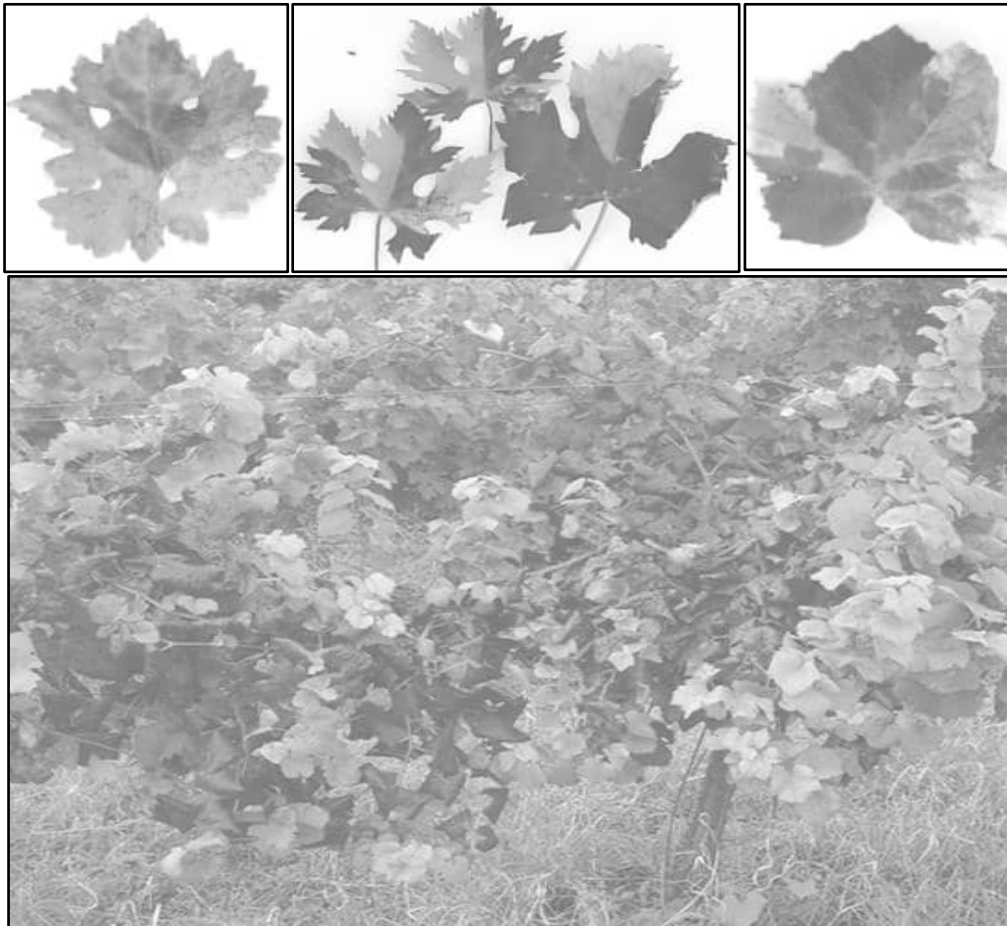


Fig. 1. Symptoms of phytoplasma disease on the red grape varieties leaves

A characteristic feature of this disease of the vine is the affect of the generative organs. The shoots affected by the disease, which remained green until the end of the growing cycle, showed no signs of maturation and no grapes. On some plantations, the grapes were observed on diseased shoots, but it was damaged and shriveled due to partial or complete dehydration.



Fig. 3 Symptoms of phytoplasma disease on the shoots and generative organs

Another feature of the grapevine phytoplasma disease was weak lignification and delayed maturation of one-year growth. Affected shoots, as a rule, didn't mature from the base to the top and dried up at the end of the growing season.

Table 1. PCR test of samples of white grape for the presence of diseases of phytoplasma FD/BN

№	Grape variety	Number of samples	PCR test results	
			FD	BN
1	Chardonnay	50	0	40
2	Sauvignon Blanc	34	0	23
3	Fetyaska Alba	13	0	10
4	Feteaska Regala	6	0	5
5	Pinot grigio	8	0	7
6	Muscat Ottonel	8	0	4
7	Rhine Riesling	10	0	6
8	Aligote	7	0	5
9	Traminer	5	0	1
10	Viorica	4	0	4
11	Ialoveni resistant	3	0	0
12	Sukholimansky Bely	1	0	1
13	Bianca	1	0	1
14	Muscat white	1	0	0
15	Legend	1	0	0
	The whole:	152	0	107
	Results of statistical characteristics, %			70,4 ± 11,9 58,5 ÷ 82,3

Over the course of four years, a total of 346 leaf and vine samples were taken. The results of testing samples of white grape varieties for the presence of diseases *Bois noir* and *Flavescence doree* are presented in table 1 and red grape varieties in table 2.

As can be seen from Table 1, 107 samples were found to be affected by the Bois noir disease out of 152 white grape samples tested (Table 1). None of the samples tested showed the presence of *Flavescence doree* disease in grapes. Identification of *Bois noir* and absence of *Flavescence doree* phytoplasma is determined in 12 white varieties.

The data presented in Table 2 for testing red grape varieties for the presence of diseases of phytoplasmic etiology indicate that 108 samples out of 194 tested were affected by *Bois noir* disease. None of the samples tested showed the presence of *Flavescence doree* disease in grapes.

Table 2. PCR test of samples of red grape for the presence of diseases of phytoplasmic etiology

№	Grape variety	Number of samples	PCR test results	
			FD	BN
1	Feteasca neagra	47	0	25
2	Cabernet Sauvignon	26	0	16
3	Pinot Noir	24	0	11
4	Saperavi	10	0	7
5	Merlot	36	0	23
6	Rara neagra	27	0	16
7	Moldova	6	0	4
8	Alibernet	1	0	0
9	Syrah	4	0	0
10	Malbec	9	0	3
11	Memory Negrul	1	0	0
12	Copceac	1	0	1
13	Kuban	1	0	1
14	Codreanca	1	0	1
	The whole:	194	0	108
	Results of statistical characteristics, %			55,6 ± 14,2 41,4 ÷ 69,8

Mathematical calculations of the sampling error were carried out and a 95% confidence interval was determined for the total proportion of infected plants in the aggregate when testing samples. Thus, the data given in Table 1 shows that the tested white grape are affected by 70,4% of the *Bois noir* phytoplasma disease. The tested red grape are 55,6% affected by *Bois noir* phytoplasma disease (Table 2).

Positive diagnostic results were obtained both from samples of leaves with symptoms of the disease and from mature vines. Diagnosis of *Bois noir* phytoplasma in a mature vine indicates the possibility of using a PCR test for phytosanitary control of grape propagation and planting material. In all surveyed vineyards of 32 farms, which had varying degrees of damage to the plantation, the phytoplasmic disease *Bois noir* was found. The data obtained from the testing of vine samples confirm the results of visual surveys of grape plantations and indicate the spread of the phytoplasma disease *Bois noir* in the Republic of Moldova.

In order for grape plantations to be cured of phytoplasma disease *Bois noir*, it is necessary to control vectors, which are polyphage insects [12]. There are two methods of control: the use of an insecticide, which is less effective, because leafhoppers can fly away from the plantation for considerable distances, and an agrotechnical method, which has several advantages. Agrotechnical tillage destroys the host plant and reservoir of the disease, as well as the vector larvae that develop on the roots of perennial weeds.

Conclusions. As a result of expedition surveys of grape plantations in 19 areas of cultivation of this crop in the Republic of Moldova, bushes of grape were found showing symptoms of a disease of phytoplasmic etiology. The disease was noted on European, autochthonous and new selection of 26 grape varieties.

PCR analysis of samples collected from the surveyed grape plantations showed the presence in the tested samples of phytoplasma, the causative agent '*Candidatus Phytoplasma solani*' of the disease *Bois noir*.

A necessary combatting plant disease of the spread *BN* is the control of vectors and host plants.



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Abstract. The globalization process that began at the end of the last century has created serious problems between the countries of the world. One of these problems, regardless of the degree of economic development, is ensuring food security. Its solution is the basis for achieving sustainable and consistent development of the agricultural sector. The consistent development of the agricultural sector serves as the basis for providing raw materials for the production of products in the light and food industries, which, in turn, creates conditions for increasing export revenues and distributing them to provide imported food products. There is no doubt that solving this problem is important for every country.

The main direction of the state's agrarian policy in a market economy is to maintain the sustainable development of the agricultural sector, to support all economic entities, regardless of the form of ownership. Among the measures implemented by the state to support the producer, special attention should be paid to stimulating agricultural production.

Keywords: AIC, One Health, agriculture

After the collapse of the USSR, an era of change began in Azerbaijan, as in all other former Soviet republics, marked by drastic political and economic reforms. Armed conflicts, which were both the cause and consequence of political instability in the republic, seriously undermined the economy of Azerbaijan at the initial stage of the transition to market relations. For a long time, the oil industry has been the backbone of the Azerbaijani economy, with its share in the country's gross domestic product being more than half. However, the government of Azerbaijan has been working for a long time to diversify the economy. In this context, agriculture is one of the most significant vectors in the implementation of this strategy. At the government level, priority is given to the development of agricultural production, which is reflected in various legislative initiatives and government programs. This is due to the fact that agriculture plays an important role in employment, with a high percentage of people being employed in this sector. In Azerbaijan, great emphasis is placed on ensuring national food security. State programs in this area are implemented in conjunction with policies aimed at developing agriculture.

Trends in agricultural sector development policy.

The development of agriculture as one of the main branches of the Azerbaijani economy is a guarantee of ensuring social and political stability in the republic. The State policy to stimulate the non-oil sector of the Azerbaijani economy is being implemented in agriculture through the implementation of large-scale comprehensive programs aimed at improving the socio-economic situation and reducing poverty in rural areas. At the same time, the implementation of state programs is designed to ensure the technical re-equipment of the village and the implementation of infrastructure projects, which ultimately should stimulate the growth of agricultural production. Significant state subsidies are allocated to support farmers and peasant farms, preferential loans are provided, and business support institutions are being created. Equipment is being sold under the leasing program on favorable terms. An important stage of the state agricultural policy was the "State Program for the socio-economic development of the regions of the Republic of Azerbaijan in 2008-



2015" [1], which aims, among other things, to strengthen the food security of Azerbaijan. In parallel with it, the "State Program for the reliable provision of food products to the population" is being implemented [4], aimed at reducing food imports and creating its own food reserves.

Ensuring Azerbaijan's food security is closely linked to the policy on the development of agriculture and the agro-industrial complex. The "Food Security Program of the Republic of Azerbaijan" approved by the President in 2001 [3] became the first program document coordinating measures for the development of agriculture and economic diversification. One of the components of food security is the own production of agricultural products and foodstuffs. Since the early 90s, Azerbaijan has achieved significant success in agriculture. Fruit and vegetable collections have increased significantly. The increase in grain harvest has reduced the republic's dependence on bread imports. The increase in grain production also serves as a basis for increasing the production of meat, milk, and eggs. The dynamics of production of some types of agricultural products is shown at the end of the article in Table No. 2. In general, according to the international humanitarian organization Oxfam, the level of self-sufficiency in food in Azerbaijan is 78 percent [6]. An important area of ensuring food security in Azerbaijan is the compilation of food balances, which, along with statistics on the production of products for food purposes, contain information on the use of these products as raw materials for the food industry. The task of food balances also includes forecasting the population's food supply. The legal basis for the compilation of food balances is the Law of the Republic of Azerbaijan "On Food Products" adopted in 1999 and Resolution of the Cabinet of Ministers of the Republic of Azerbaijan No. 181 dated November 20, 2009, "On approval of the procedure for compiling food balances" [7]. A department on food security and food balance compilation has been established in the State Statistical Committee of Azerbaijan. The objectives of this body are to develop a methodology, collect, process, analyze and disseminate relevant information.

Speaking about the Agro-Industrial Complex of Azerbaijan, we mean related industrial enterprises and agriculture. The main task of the agro-industrial complex is to provide the population with food and goods, supply livestock with food, and industry with raw materials. Agriculture plays a leading role in the agro-industrial complex. There are favorable conditions for the development of agriculture in Azerbaijan, such as fertile land and climate. There are 0.2 hectares of land per person in the country. In Azerbaijan's agriculture, crop production prevails over animal husbandry. 61% of agricultural production is crop production, while animal husbandry accounts for 39% [2]. The territories suitable for sowing and the favorable temperature balance on the plains of Azerbaijan have made it possible to achieve the relative superiority of crop production over animal husbandry. There are two major sectors in Azerbaijan's agriculture - crop production and animal husbandry. International cooperation makes an important contribution to the development of agriculture in Azerbaijan. Cooperation with international organizations such as the IMF, the World Bank, the Food Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD) and some others has made it possible to attract significant investments in agricultural projects. The country cooperates most successfully with the International Fund for Agricultural Development. In recent years, several major projects have been implemented in Azerbaijan with the participation of IFAD. To date, 4 projects have already been completed, and another one is ongoing. The total investment volume of IFAD amounted to 67.4 million dollars with a total project cost of 199.8 million dollars [8].

In 2023, a number of changes took place in Azerbaijan's agriculture, which is in line with the government's plans to further diversify the country's economy.

Food security in Azerbaijan continues to be the focus of attention of the government and the main agriculture department.

Last year, the government decided to provide state guarantees for loans to producers of food that, as well as to pay interest subsidies. In this regard, Azerbaijani President Ilham Aliyev amended the decree dated December 19, 2018 "On improving state support for agriculture and leasing activities



in the agricultural sector", and signed a document on regulating the use of funds from the Agency for Agrarian Credit and Development under the Ministry of Agriculture.

Thus, from the point of view of strengthening the country's self-sufficiency in food, it is necessary to increase labor productivity in agricultural sectors, as well as accelerate the development of processing industries.

Based on the conducted research, the following conclusions can be drawn: As a result of successfully implemented agrarian reforms in the country, as well as as a result of state support to agriculture, the volume of agricultural production has increased, there is a tendency for an annual increase in newly created value in agricultural sectors, however, in comparison with the pace of development of other sectors of the non-oil sector, there is still a lag. In addition to the production of cotton, sugar beet, tea and tobacco, the production of other crop products is steadily increasing. Thanks to the state support of producers, the volume of wheat production, as well as the volume of bread products, has increased significantly. A stable growth rate in the volume of production of processed livestock and crop production has been ensured. As a result of the development of processing industries, the country's level of self-sufficiency in basic foodstuffs has increased.

So, based on the above, it can be stated that significant changes have taken place in the development of the agro-industrial complex of Azerbaijan. At the same time, in order to ensure the sustainable and consistent development of the agricultural sector, a lot of work is needed to carry out a set of measures, the implementation of which will contribute to solving the following tasks: improving the structure of agricultural production in the country and its regions based on the realization of the comparative advantage of the Azerbaijani industry in the international division of labor; provision of the agricultural sector with appropriate infrastructure services; development of industries serving agricultural production, stimulating the involvement of the private sector in it; direct state support for small farms; formation of optimal conditions for agricultural producers to sell products; creation of warehouses for storing agricultural products for this purpose in order to reliably and continuously provide the population with basic agricultural products, improving the system of marketing products to the end user; improving the system of providing agricultural producers with financial resources; strengthening state support in the development of labor resources in the agricultural sector, as well as in the application of modern technologies in this industry, etc.

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**INFLUENCE OF FEED ENZYME PREPARATION “FICORD-2012-F” ON
MORPHOLOGICAL AND BIOCHEMICAL INDICATORS OF BLOOD
OF BROILER CHICKENS**

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Abstract. The work is devoted to the study of the use of the feed enzyme preparation "Fecord-2012-F" produced in the Republic of Belarus to reduce the cost of the diet, increase the digestibility of feed nutrients, due to the inclusion in the formulation of indigestible components, such as sunflower meal, barley, wheat, triticale, rye, oats. The nutritional value of the feed enzyme preparation "Fecord-2012-F" was assessed on 4000 broiler chickens of the Ross 308 cross, in the conditions of the Ostrovskaya poultry farm in the Pskov region. Studies have shown that feeding broiler chickens with 0.5% enzyme preparation "Fecord-2012-F" per 1 ton of wheat-soybean-based feed ensured higher growth rates of broilers throughout the entire growing period.

The increase in live weight of broilers in the experimental group that was given the feed enzyme preparation "Fecord-2012-F" was statistically significant ($P \geq 0.001$). Feed consumption per unit of growth of broiler chickens in the experimental group decreased compared to the control group. The safety of chickens treated with the enzyme was relatively high and was above 98.9%. The inclusion of the enzyme preparation "Fecord-2012-F" in the feed had a positive effect on the morphological composition of the blood of broiler chickens. These data indicate the positive effect of the feed enzyme in the chicken diet on the digestibility of protein, fat, fiber, BEF, and better use of nitrogen, absorption of calcium and phosphorus. During the study, we found that the enzyme feed preparation "Fecord-2012-F" increases the digestibility and assimilation of feed nutrients and reduces the negative impact of anti-nutrients. To a certain extent, the deficiency of digestive enzymes is replenished in the early stages of broiler rearing, when the production of their own enzymes is difficult, as well as in the case of feeding feed with a high content of non-starchy polysaccharides.

Keywords: feed, biologically active substances, broiler chickens, productivity.



Introduction

In the industrial production of poultry products, cost plays an important role. To reduce it, manufacturers everywhere are trying to reduce the cost of feed, often by including difficult-to-digest components in the recipe, such as sunflower meal, unhulled barley, wheat, triticale, rye, oats, etc. [4,7]. Unbalanced feeding, along with numerous vaccinations and the use of veterinary drugs (for example, antibiotics), negatively affects the bird's body, including its immune system.

The traditional components of broiler diets at poultry farms are wheat, barley, rye, oats and sunflower meal, which lead in the content of non-starchy polysaccharides - cellulose, pectin substances, some betaglucans and pentosans. All of them are difficult to digest; their excess in poultry feed prevents the access of digestive enzymes to nutrients, which accordingly impairs their use [5,3]. Non-starchy polysaccharides in the digestive tract of the bird form a viscous solution that envelops the feed mass. In this case, the bird produces liquid, sticky droppings in which infection can quickly spread. This leads to a significant drop in poultry productivity and increased feed costs.

Our poultry farmers solve the problem of non-starchy polysaccharides in two ways: using enzyme preparations; use of poultry growth stimulants. Moreover, the action of many enzyme preparations is specific and very dependent on the structure of the substrate [2,3].

Most commercial enzyme preparations are produced from fungal cultures and are exoenzymes.

There are many factors that inhibit the activity of feed enzymes. In addition, compound feeds usually contain several grain components, and even one type of grain can contain various non-starchy polysaccharides, which accordingly requires careful selection of a complex of enzyme preparations or the use of multienzyme complexes [2].

It should be noted that in modern poultry farming, focused on eliminating feed antibiotics, the use of natural poultry growth stimulants to obtain environmentally friendly products is especially important.

Such stimulants are the new enzyme feed preparation "Fecord-2012-F" produced in Belarus.

The goal of our research is to increase production and reduce feed costs when using the latest feed enzyme preparation "Ficord-2012-F" on the productive qualities of broiler chickens.

To achieve this goal, the following tasks were set:

To study the nutritional and technological properties of the feed enzyme preparation "Ficord-2012-F";

To identify the effect of increasing the digestibility of metabolic energy, protein, and amino acids of feed, due to the inclusion in the formulation of indigestible components, leading in the content of non-starchy polysaccharides. To identify the effect of feeding "Fecord-2012-F" as part of mixed feed on a wheat-soybean basis on the digestibility of nutrients in diets;

Efficiency influence of feed enzyme preparations "Fecord-2012-F" on growth, safety, feed costs per 1 kg of gain, feed costs per 1 head. broiler chickens;

To study the effect of feed enzyme preparations "Ficord-2012-F" on the morphological composition of the blood and the state of natural resistance of experimental broiler chickens;

Material and methodology

Research on the effectiveness of using the new feed enzyme preparation "Fecord-2012-F" on economic indicators was carried out in the conditions of the Ostrovskaya poultry farm in the Pskov region.

The feed enzyme preparation "Fecord-2012-F" is a light gray powder, a complex of enzymes of fungal and bacterial origin with a wide pH range from 2.5 to 7.7, which has optimal characteristics for the feed industry. During the granulation process, it can withstand temperatures up to 90 C. The additive is available in two modifications and helps optimize diets with the possibility of increasing the proportion of rye, oats, barley, wheat, as well as sunflower cake and meal.

To assess the nutritional value and methods of using the new feed enzyme preparation "Fecord-2012-F", a scientific and economic experiment was carried out on broiler chickens of the Ross 308 cross, which were kept on deep litter. Growing period is 38 days.



For this purpose, two experimental groups of day-old chicks were formed according to the principle of taxes and a control and experimental group of 2000 birds each was formed. Broiler chickens were fed with complete feed (Table 1). The nutritional value of the feed mixture in the control group corresponded to the standards approved by (VNITIP).

The feed enzyme preparation “Fecord-2012-F” was added to the feed recipe of the experimental group at the rate of 0.5% per 1 ton of feed.

Throughout the entire experiment, the safety of the broiler chicken population, live weight by weighing 7, 21, 38 days were taken into account, the average daily increase in live weight was determined, feed consumption, morphological and biochemical blood parameters were recorded.

Research results and discussion

Studies have shown that feeding broiler chickens with 0.5% enzyme preparation "Fecord-2012-F" per 1 ton of wheat-soybean-based feed ensured higher growth rates of broilers throughout the entire growing period (Table 2). The increase in live weight of broilers in the experimental group, which received the feed enzyme preparation “Fecord-2012-F”, was statistically significant ($P \geq 0.001$).

Feed consumption per unit of growth of broiler chickens in the experimental group decreased compared to the control group. The safety of chickens treated with the enzyme was relatively high and was above 98.9%.

As a result, of a more complete extraction of nutrients from the diet and the release of metabolic energy in the experimental group of chickens that received feed deficient in metabolic energy. By the end of growing, the increase in live weight was higher by 1.89% and the cost of feed per 1 kg of increase in live weight - 0.3% lower than in the control group.

Table 1. Recipe for experimental group feed for broilers

Component, %	Control group		Experimental group	
	Growing period		Growing period	
	Up to 21 days	22-38 days	Up to 21 days	22-38 days
Wheat	52,12	43,27	52,12	43,27
Soybean meal	21,78	6,83	21,78	6,83
Sunflower meal	10,0	20,0	10,0	20,0
Corn	3,0	20,0	3,0	20,0
meat and bone meal	6,0	4,0	5,5	4,0
Sunflower oil	3,8	3,5	3,8	3,5
Lysine monochlorohydrate	0,20	0,18	0,20	0,18
DL-methionine	0,13	0,08	0,13	0,08
Table salt	0,18	0,20	0,18	0,20
tricalcium phosphate	1,6	1,5	1,6	1,5
Limestone flour	0,19	0,45	0,19	0,45
Premix	1,0	1,0	1,0	1,0
Fekord -2012-(F)	-	-	0,5	0,5
Nutritional value per 100 g of feed,%				
Metabolic energy, kcal	306	321	300	309
Crude protein	22,15	18,8	21,9	18,0
Crude fiber	3,6	5,01	3,82	5,29
Linoleic acid	3,97	3,17	3,5	3,13
Lysine	1,18	1,0	1,18	1,0
Methionine	0,57	0,52	0,57	0,52



The research results showed that all blood parameters of broiler chickens of the control and experimental groups varied within the physiological norm. This indicates the normal physiological status of the experimental bird. Based on the study, it was established that with the inclusion of the enzyme preparation “Fecord-2012-F” in the feed of broiler chickens, there is a tendency to increase the total protein content compared to the control group by 0.93 g/l, and the glucose content, respectively, by 1.10 mmol/l. Data on the calcium and phosphorus content have the same dynamics as the protein content towards an increase in the experimental group.

The calcium content in the blood of broiler chickens in the control group was 3.99 mmol/l, and in the experimental group 4.32 mmol/l, which is higher than in the control group by 0.33 mmol/l. The phosphorus content in the blood of broilers in the control group was 1.70 mmol/l and 1.94 in the experimental group, which is higher than in the control group by 0.24 mmol/l.

The number of formed elements in the blood of broiler chickens (erythrocytes and leukocytes) was within the physiological norm, which indicates that redox processes are occurring in the bird's body within the physiological norm.

Thus, no metabolic disturbances were observed, this indicates the completeness of feeding broiler chickens.

Conclusion

During the study, we found that the enzyme feed preparation “Fecord-2012-F” increases the digestibility and assimilation of feed nutrients and reduces the negative impact of anti-nutrients.

To a certain extent, they compensate for the deficiency of digestive enzymes in the early stages of growing broilers, when the production of their own enzymes is difficult, as well as when feeding feed with a high content of non-starchy polysaccharides.

Thanks to the action of the enzyme preparation, the actual nutritional value of the diet increases by 1.89%, productivity increases, feed costs per unit of production decrease by 0.3%, it becomes possible to replace expensive feeds (corn, soybean meal) with cheaper ones (rye, barley, wheat bran, sunflower meal).

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THE EFFECT OF BIOACTIVE COMPOUNDS FROM LOCAL BERRIES ON OXIDATIVE STABILITY OF VEGETABLE OILS

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Abstract. The oxidation of lipids in food is a complex process that is influenced by various factors such as: the chemical structure of the food; physical condition; the quantity and quality of substances with an antioxidant capacity in food matrix. Within this research was studied sea buckthorn, hawthorn and rosehips, which represent a natural concentrate of vitamins, carotenoids, folic acid etc. Were performed the evaluation of the antioxidant capacity of the enriched lipophilic extracts and the analysis of the impact of the bioactive compounds on the oxidative stability during storage. Local berries extracts are characterized by a rich complex of bioactive compounds, the use of which in obtaining functional food products will slow down oxidative processes and ensure food products with a longer shelf life.

Keywords: berries, bioactive compounds, oxidative stability, oils, fruit powder.

Lipid oxidation is one of the major causes of quality deterioration in natural and processed foods. Oxidative damage is a major economic concern in the food industry because it affects many quality characteristics such as flavor, color, texture, and nutritional value of foods, potentially toxic compounds.

Oxidative stability is the resistance of vegetable oils and fats to oxidation during processing and storage [4]. Oxidative resistance can be expressed as the period of time required to reach the critical oxidation point, regardless of whether it is a sensory change or a sudden acceleration of the oxidative process [16]. Oxidative stability is an important parameter to determine oil quality and shelf life [1] because low molecular weight compounds (LPP) are produced during oxidation.

Oxidation by-products make the oil less acceptable or unacceptable for consumers or for industrial use as a food ingredient. Oil oxidation also destroys essential fatty acids and produces toxic compounds and oxidized polymers. Oil oxidation is very important in terms of taste, nutritional quality and toxicity of edible oils.

High quality foods are obtained through complex processes, that both negatively and positively influence the finished product, which would lead to changes in their quality. The major cause of food spoilage is oxidation. The oxidation of lipids in food is a complex process that is influenced by various factors such as: the chemical structure of the food; physical condition; the quantity and quality of substances with an antioxidant role in food; how the food is processed, packaged and stored. One of the current strategies used in the food industry to inhibit the oxidation of lipids is the use of antioxidants. Berries are rich in antioxidants, vitamins and minerals. In order to analyze the bioactive profile of local berries powder were obtained lipophilic extracts according to Popovici V. et. al. [11]. The content of chlorophyll α and β , β -carotene, lycopene and zeaxanthin in the lipophilic extracts of rosehip (RLE), sea buckthorn (SBLE), hawthorn (HLE) was determined spectrophotometrically. The results obtained show that the lipophilic extracts are characterized by a rich carotenoid content. RLE contains an essential amount of β -carotene (17.04 mg/L), while RLE contains 1.6 times less and SBLE 2.6 times less. After 3 months storage, the β -carotene content decreased for RLE by 15%, SBLE by 5% and HLE by 30%. It can be observed that the amount of carotenoids changed non-essential due to storage conditions. Quantitative changes in carotenoids can occur due to oxidative

processes that occur along the way, but are slowed down if the extracts are stored in airtight containers to exclude access to oxygen, at low temperatures and in dark spaces.

In order to estimate the antioxidant potential of the lipophilic extracts from the studied plant sources, the analysis of the antioxidant activity was carried out with the help of the DPPH free radical, and the results obtained are presented in Figure 1.

Some studies have shown that the antioxidant activity of horticultural extracts is correlated with total phenolic substances rather than with the individual phenolic compound [18]. It is important to mention that different phenols develop different activities, depending on their chemical structure and the free radical scavenging capacity of these classes of compounds differ.

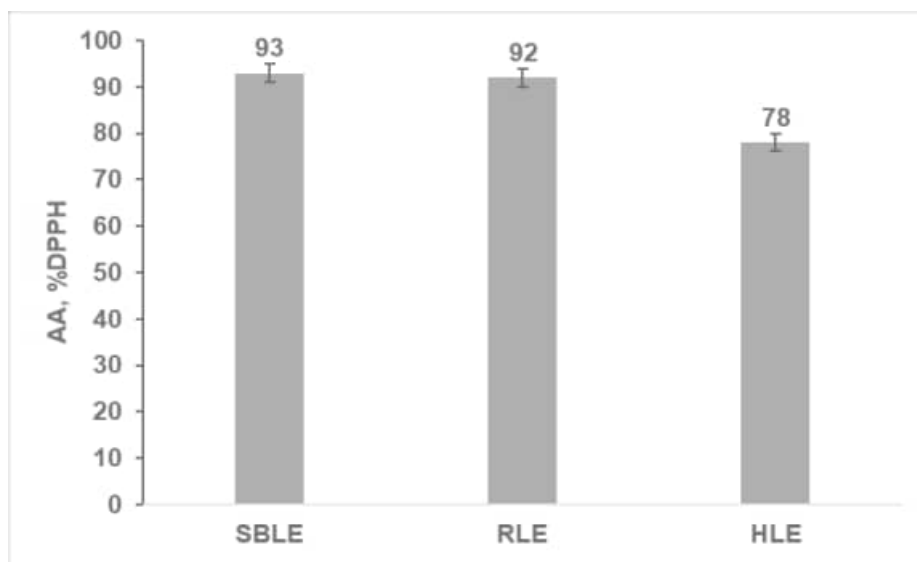


Figure 1. Antioxidant activity of lipophilic extracts

Following the results in Figure 1, it was established that the lipophilic extracts from rose hips, sea buckthorn and hawthorn powders are characterized by high antioxidant capacity, namely that the DPPH free radical inhibition capacity value varies from $72.05 \pm 1.90\%$ to $90.84 \pm 1.90\%$. This fact is explained by the rich content of biologically active compounds with an antioxidant character in the analyzed extracts and directly in the plant powders from indigenous berry fruits [12,14]. The use of local berries powder in obtaining functional food products will slow down oxidative processes and ensure food products with a longer shelf life.

Oxidative processes can be evaluated based on lipid quality parameters, which characterize the quality of oils and fats. For this reason, it is important to study the evolution of the physico-chemical and quality parameters of oil with lipophilic extracts during storage for 3 months. For this reason, some quality parameters were analyzed including: acidity value, peroxide value, conjugated dienes and trienes content. The stability of vegetable oil with lipophilic extract enriched with berry powder added in the amount of 10% was studied.

The acidity value (AV) for CS is within the permissible limits (0.6 mg KOH/g) for vegetable oil. In the case of oil with RLE ($0.17 \pm 0.01 \text{ mg KOH/g}$) and SBLE ($0.21 \pm 0.01 \text{ mg KOH/g}$), the acidity value exceeds the CS value, and for oil with HLE ($0.13 \pm 0.01 \text{ mg KOH/g}$) a non-essential decrease is attested. This variation is due to the accumulation of free fatty acids in the pulp of sea buckthorn, hawthorn and rose hips. After a period of 3 months of storage, an increase in AV values is attested for all investigated samples of oil and lipophilic extracts, but which do not exceed the maximum value of 0.6 mg KOH/g oil, provided according to the technical regulations in force for vegetable oil of sunflower [8–10].

The first oxidation products of lipids are peroxides, which later split into secondary oxidation products: aldehydes, ketones, oxidized organic acids and hydrocarbons. Also, peroxides generate the appearance of free radicals (extremely offensive particles that endanger the health of the consumer). It is well known that free radicals cause autoxidation of unsaturated lipids in oils. Antioxidant



molecules prevent or inhibit these harmful reactions [17]. Since peroxides are the first substances formed during the degradation of lipids, determining their quantity is the method used to determine the degree of oxidation of fatty matter [5].

The peroxide value (PV) for CS is within the permissible limits (max. 10 $m_{echiv} O_2/kg$). In oils enriched with extracts, the PV is considerably lower – in the case of RLE - by 0.5 $m_{echiv} O_2/kg$, and in the case of SBLE and HLE – by approximately 1.0 $m_{echiv} O_2/kg$ in relation to the peroxide value for CS.

It was established that when obtaining lipophilic extracts from horticultural sources, they are characterized by a lower PV value compared to the PV of vegetable oil CS, which indicates that the biologically active compounds from horticultural sources considerably slow down the formation of peroxides, respectively it takes place slowing down the oxidation process of the researched product. The oil with SBLE shows the lowest value of PV ($3.66 \pm 0.13 m_{echiv} O_2/kg$), the oils with HLE and RLE also show a low value compared to the control sample, which proves that it shows a slowing down activity of oxidation [13].

After a storage period of 3 months, it is observed that the PV values for the oils with HLE, SBLE and RLE are lower compared to CS. For oils with lipophilic extracts, PV increased for RLE by 40%; for SBLE with 35%; for HLE by 46% and for CS by 49%.

The use of vegetable powders with an antioxidant potential when obtaining lipophilic extracts will show antioxidant activity (AA). Thus, AA was determined under the conditions of gastric and intestinal digestion *in vitro*. Gastric and intestinal digestion was simulated *in vitro* for 2h. During the simulation, aliquots of 2h of digestion were extracted, which were later subjected to research and AA determination through the reaction with the DPPH free radical, and the obtained results are shown in Figures 2 and 3.

The evaluation of the antioxidant activity following induced gastric digestion (acidic environment) attests an essential increase for the oils with lipophilic extracts of sea buckthorn, hawthorn and rose hips compared to CS whose values constitute 17.58%. For oils enriched with lipophilic extracts, the values are: for SBLE – 46.43%; for RLE - 37.08% for HLE - 39.29%.

The high values of antioxidant activity for oils with lipophilic extracts compared to CS after 2 hours of digestion are explained by the gradual release of bioactive compounds in the process of gastric digestion. Another important factor would be the influence of the pH in the solution and the enzymatic interactions in the researched product. Following the research [2], it was established that changes in the content of bioactive compounds with an antioxidant capacity, including polyphenols, flavonoids, can increase the antioxidant capacity of the analyzed samples. This fact explains the essential variation of the activity of the samples enriched with lipophilic extracts with fruit powder compared to the vegetable oil (CS) sample. This phenomenon is explained by the presence in the researched extracts of other substances that increase the antioxidant capacity of the product following the *in vitro* digestion process of the studied product. These bioactive compounds such as amino acids, peptides are released during digestion or have undergone changes that can subsequently affect the ability to capture free radicals. Another hypothesis could be the loss of volatile substances during gastric digestion due to the increased antioxidant capacity in the product.

The study shows that gastric digestion does not essentially change the qualitative and quantitative composition of the bioactive compounds with an antioxidant capacity in the analyzed product. This fact suggests that these compounds show high stability in low pH conditions ($pH=2.0 \pm 0.1$). The acidic environment together with digestive enzymes favors the release of bioactive compounds, respectively what influences the increasing antioxidant capacity of the products with the addition of plant powders of sea buckthorn, hawthorn and rose hips [8].

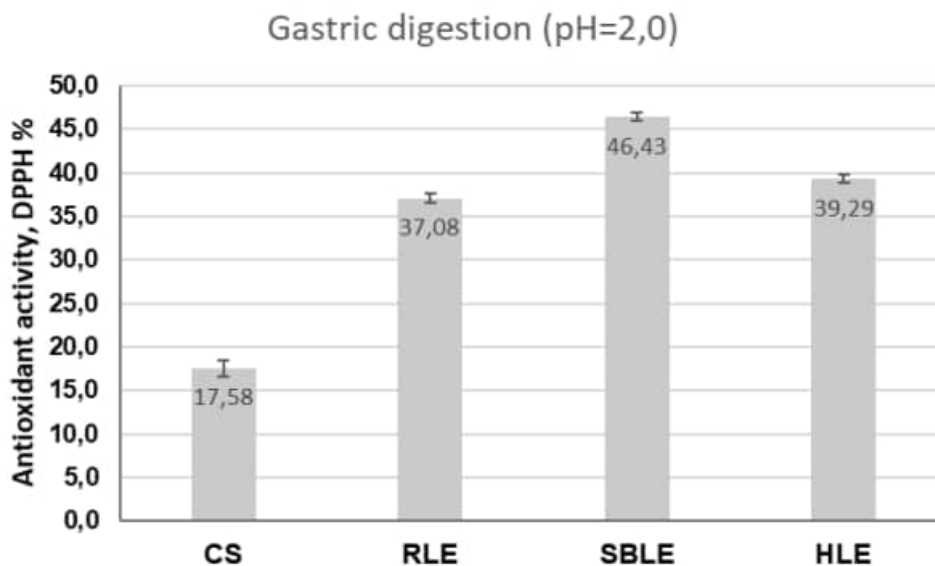


Figure 2. Antioxidant activity *in vitro* (gastric digestion): CS – control sample; SBLE – sea buckthorn lipophilic extract; RLE – rosehip lipophilic extract; HLE – hawthorn lipophilic extract

In continuation of the gastrointestinal digestion process, the simulation of the induced intestinal digestion phase was carried out by incubating the samples in an alkaline medium (pH=8.2±0.1) and determining the antioxidant activity after 2 hours of digestion.

The obtained data (Figure 3) show us that the antioxidant activity of the oil with lipophilic extracts of sea buckthorn, hawthorn and rose hips is higher compared to CS. The AA of CS sunflower oil is 4.26%, while for oils enriched with lipophilic extracts, the AA values are: for SHLE – 8.09%; for RLE – 7.06 % for HLE 4.56 %. Following intestinal digestion, a gradual decrease in antioxidant activity is observed within 2 hours both for the samples with the addition of lipophilic extract and for CS. This fact can be explained by the low stability of the biologically active compounds in the conditions of the alkaline environment (pH=8.2±0.1) and the formation of metabolites that inhibit the antioxidant activity of the biologically active compounds in the studied products.

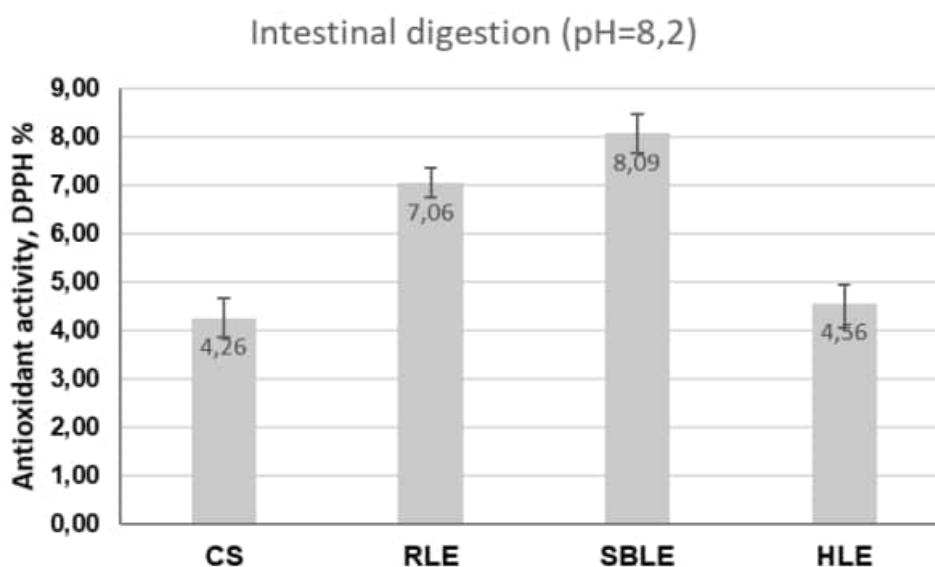


Figure 3. Antioxidant activity *in vitro* (intestinal digestion): CS – control sample; SBLE – sea buckthorn lipophilic extract; RLE – rosehip lipophilic extract; HLE – hawthorn lipophilic extract



The berries of sea buckthorn, hawthorn and rose hips are characterized by a rich complex of biologically active compounds, the use of which in obtaining lipophilic extracts or food products with increased lipid content will allow slowing down oxidative processes and respectively ensuring food products with an extended shelf life. The results of the analysis of the physico-chemical quality parameters of the lipophilic extracts of sea buckthorn, hawthorn and rose hips in relation to the control sample of vegetable oil show that the oxidation process is slowed down considerably, both initially and during the storage of them. The obtained results show that the lipophilic extracts of hawthorn and rose hips contain red, yellow and orange pigments, especially β -carotene, lycopene and zeaxanthin [3, 6, 15].

Conclusions

This study carried out the analysis of the oxidative stability of edible oils and the impact of plant sources with antioxidant potential on slowing down the oxidative processes of food products allowed the following conclusions to be drawn:

- ✓ The manufacture of safe, harmless food products rich in nutrients and mineral substances is one of the main concerns of companies in the field and studies.
- ✓ The use of local raw materials represents a particular advantage to considerably reduce production prices, so that the market price of the finished product is also affordable.
- ✓ The oxidation process is one of the most widespread causes of deterioration of food products, especially those with increased lipid content. The process can be slowed down with the help of bioactive compounds with an antioxidant character, which are found in abundance in local fruits and berries.
- ✓ The possibility of developing the technology to obtain lipophilic extracts from vegetable powders with antioxidant capacity represents a good possibility to replace synthetic additives with natural ones in order to obtain safe complex food products with an increased shelf life.

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THE AGRICULTURAL SECTOR IN THE DEVELOPMENT OF BIOENERGY AND ENSURING ENERGY INDEPENDENCE OF UKRAINE

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Abstract. The current state of bioenergy development in Ukraine is presented. The components of the biomass energy potential of are highlighted. The priority areas for the development of the bioenergy sector of Ukraine have been identified.

Keywords: agricultural sector, bioenergy, energy potential of biomass, energy crops, agrobiomass, biofuels, biomethane.

The agricultural sector of Ukraine is an important component of the national economy, which determines the socio-economic status of society and the food security of the state. The agrarian sector



has suffered significant losses as a result of the full-scale military actions of the Russian Federation against Ukraine, which began in 2022. The agrarian sector has faced many challenges: occupation of territories, risks of the sowing campaign, destruction of infrastructure; logistics problems, targeted attacks on agricultural machinery and equipment, labour shortages (due to internal migration), unexploded ordnance and mined fields. During the hostilities, a considerable number of agricultural enterprises suspended their operations due to significant damage, and some were forced to evacuate employees and some facilities to safer locations.

Given that Ukraine is one of the world's leading exporters of grain and oil crops, the invasion of the Russian Federation has had a significant impact on agriculture and food security around the world. In the pre-war period, almost 400 million people in the world were provided with food and agricultural products through exports from Ukraine to the global market. According to the United States Department of Agriculture (USDA), before the war, Ukraine supplied 46% of the global sunflower oil, 9% of wheat, 17% of barley, and 12% of corn exports to international markets [1].

For Ukraine, bioenergy is one of the strategic areas of the development of the renewable energy sector, taking into account the country's high dependence on imported energy sources and the great potential of biomass available for energy production. Currently, the development of renewable energy is one of the main ways to address the problems associated with the instability of supply and replacement of fossil energy resources. The bioenergy sector in Ukraine has great potential for development due to the peculiarities of the climate, the potential of the agricultural sector and the availability of the necessary labour force.

The main drivers of the bioenergy development are the following: agricultural and agro-industrial production; energy dependence on imports and constantly rising natural gas prices; the need to modernize and improve the energy efficiency of outdated electricity and heat infrastructure; EU goals on sustainable development and energy saving (growing demand for biofuels from Ukraine); incentives for electricity and heat production from agricultural residues [2].

The largest biomass energy potential in Ukraine is in waste and agricultural residues (primary - generated in the field during harvesting, secondary - generated at enterprises during the processing of agricultural crops, manure) and energy crops (for solid biofuels and biogas), which make up agrobiomass. At the same time, the largest share of the agricultural waste potential is accounted for by the grain straw and by-products/waste from corn production [3].

According to the estimates by the Bioenergy Association of Ukraine, in 2021 the potential of biomass available for energy production amounted to more than 26 million tonnes of oil equivalent, which is 30% of Ukraine's total primary energy supply in 2020. Agricultural residues account for a significant share in the energy potential - 42% of the total volume, the contribution of biogas obtained from various types of raw materials (waste and by-products of agricultural activities, industrial and municipal wastewater, solid household waste) - 31%, wood biomass and energy crops (for solid fuel) are relatively small - 10% each, liquid biofuels - 7% [4]. Biomass is considered as one of the main renewable energy sources, replacing fossil fuels and reducing greenhouse gas emissions in the context of the Paris Agreement.

Although the share of agrobiomass in the total energy potential of Ukraine's biomass is up to 80%, its practical use (except for sunflower husks) remains extremely insufficient to achieve national energy and climate goals. At the same time, rather limited energy potential of wood biomass (2.7 million tonnes of oil equivalent in 2021) is realized almost completely [4]. Therefore, it is necessary to significantly change the structure of biomass use in Ukraine, giving preference to agricultural residues and energy crops. This corresponds to the trends laid down in the European Green Deal and the views of domestic experts on the future of bioenergy [5; 6].

Ukraine has an advantage over other biofuels exporting countries due to its significant reserves of cellulose-containing raw materials such as wheat straw, corn stalks, etc. As of the end of December 2023, Ukraine harvested 58 million tonnes of grain [7], with 0.5 tonnes of straw per 1 tonne. Therefore, out of the available 29 million tonnes, 5.5 tonnes of straw are required to produce 1 tonne



of 2G biofuels (second generation biofuels). This amount of raw materials is enough to supply 5 million tonnes of 2G biofuels.

Ukraine annually produces about 9.4 million tonnes of agricultural waste of which 37% (3.4 million tonnes) can be used in the energy sector. According to the calculations of the Bioenergy Association of Ukraine, the annual potential for replacing natural gas from agricultural waste is 9.3 billion m³ [8].

Ukraine has a significant potential for growing energy crops - fast-growing perennial shrubs and special annual plants with a high dry matter content for use as fuel (yields of up to 15–25 t per ha per year). The use of energy crops as an alternative source of biomass became widespread during the first oil crisis of the 1970s with the support of the governments of different countries along with the development of other renewable sources. Currently, energy crops are used as a source of biomass for the production of heat and electricity, biofuels, and biomaterials.

In most cases energy crops provide a harvest for more than one year, with a minimum payback period of 2–4 years for typical projects. The advantage is that you can harvest from one plantation for at least 25 years, spending only on the harvest itself, because these crops do not require additional costs for drying, and warehouses for its storage do not require special conditions. As of today, there are about 20 types of fast-growing plants that can be grown to produce plant biomass, namely, eucalyptus, poplar, willow, switchgrass, miscanthus, and others [9].

These crops, with a clear technology and achievement of the appropriate level of yield, make it possible to ensure a fairly high energy yield per 1 ha of land, and in addition, their main competitive advantage over traditional agricultural crops is that they do not require the use of agricultural land [10].

According to expert estimates, the area of unused agricultural land in Ukraine is up to 4 million hectares, and over 5 million hectares are unsuitable for agricultural production due to pollution, mining and other reasons related to the consequences of hostilities.

Growing energy crops on degraded lands is the optimal solution, which will allow simultaneously generating income from low-productive lands and gradually restore its fertility without additional budget costs. Growing perennial energy crops for 20 years on such lands will contribute to the protection of soils from various types of erosion; improve biological diversity and microclimate; contribute to the accumulation of organic matter and humus, as well as the development of soil fauna; minimise the use of herbicides, pesticides and mineral fertilizers, and can also be used to reduce water pollution during wastewater and landfills treatment [2].

Growing perennial energy crops is another option for providing solid biofuels consumers with raw materials. This is the way to decarbonise energy production faster, reduce greenhouse gas emissions and achieve Ukraine's energy independence.

In Ukraine, the list of raw materials used for biogas production is limited to 5 main types, namely [11]: pig manure, cattle manure, chicken manure, sugar beet pulp and corn silage. According to the Bioenergy Association of Ukraine, the total consumption of these types of raw materials is about 97% in fresh weight, and the total share of biogas produced from them is about 92%. The largest volume of biogas is currently produced from sugar beet pulp (39.8%) and corn silage (38.4%).

As of the end of 2021, there are 40 biogas plants operating in the agricultural sector of Ukraine, producing about 180 million m³ of biogas [12]. At the vast majority of these plants, biogas is used for the combined heat and power production in cogeneration plants.

Ukraine has the largest area of agricultural land in Europe, and accordingly, one of the best agricultural raw material potential for biomethane production in the world. Biomethane is the cheapest renewable gas available. The raw material for biomethane production can include livestock manure (cattle/dairy farms, pig farms, poultry farms); crops residues; energy crops; cover crops (green fertilizers); meadow vegetation (natural meadows that are not used for agriculture and are not part of the nature reserve fund).

To produce 1 million m³ of biomethane per year, needed manure from 3,600 heads of cattle, or 13,500 heads of pigs, or 250,000 heads of poultry, or collected from 250 ha of corn silage, or 1700



ha of wheat straw, or 1350 ha of corn stalks, or 400 ha of winter rye (as a cover crop). The structure of agricultural enterprises is favorable for the production of biomethane (a large share of large and medium-sized enterprises with a high concentration of biomass in one place) [4]. The regional distribution of biomethane production potential across Ukraine is uneven with the biggest concentration in the central regions Vinnytsia, Kyiv, Cherkasy, Poltava, Khmelnytsky, Dnipro.

The production of biomethane creates a new type of business for Ukrainian farmers, which is practically independent of logistics, which currently prevents them from effectively exporting grain and other agricultural products.

Biomethane plants, in addition to biomethane, generate digestate, which can become the main organic fertilizer for reviving Ukrainian soils. During the process of anaerobic fermentation, biogas is produced together with a valuable residual product - digestate. While some of the organic compounds of the initial raw material forms biogas, the mineral part is almost entirely retained in the digestate, potentially making it a useful organic-mineral fertilizer. Digestate can replace synthetic fertilizers, which avoids the expensive and energy-intensive process of their production.

Conclusions. The agricultural sector of Ukraine has sufficient potential to improve energy efficiency and transition to renewable energy sources in order to ensure not only the energy independence of the industry, but also the country as a whole. Bioenergy is a renewable energy sector that plays a significant role in replacing fossil fuels and reducing greenhouse gas emissions. Biomass is one of the most promising renewable energy sources, coming from carbon-containing organic materials of plant or animal origin (wood, agricultural residues, manure, energy crops and the organic part of solid waste). The agri-food complex can become self-sufficient in energy resources of its own production, while increasing the production of biomass as raw material for the production of alternative fuels.

Bioenergy will remain a key renewable energy sector in Ukraine in the future. The development and implementation of bioenergy technologies makes a significant contribution to the decarbonization of energy sector, helps the country fulfill its international commitments to reduce greenhouse gas emissions under the Paris Climate Agreement of 2015, contributes to the implementation of the "green" energy transition of Ukraine by 2050, provides additional income for farmers: bioenergy projects involve the ongoing purchase of biomass from farmers and agricultural producers at an attractive price. Ukraine has a significant potential for agricultural waste and energy plants, the implementation of which can significantly reduce fossil fuel consumption and increase the country's energy security.

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PHYSIOLOGICAL AND BIOCHEMICAL CHANGES IN THE BODY OF COWS DURING PREGNANCY, NATAL AND POSTNATAL PROCESSES

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Abstract. The article presents a study of physiological and biochemical changes in the organism of cows during pregnancy, natal and the postnatal process. It has been established that after birth, the amount of protein in the blood of animals increases due to α , β and γ -globulins by 17.2, 18.8 and 32% ($p < 0.01$), respectively. The concentration of glucose in the blood of cows during intensive lactation before labor is reduced by 28.8%, and during delivery is increased by 42.2%. During the first lactation period, the glucose content in the blood of cows is reduced by 1.52 times ($p < 0.01$). The dynamics of metabolites of lipid metabolism in the body of cows has a wave-like dynamics. The content of cholesterol and β -lipoprotein, as precursors for the synthesis of steroid hormones, decreases in the first period after delivery and rises by 1,32 times by the middle of the first lactation period ($p < 0,01$). During labor, the content of β -lipoproteins and cholesterol decreases by 38–42%. The content of inorganic phosphorus in the blood of cows at the beginning of birth was less by 25.6% than at the beginning of dry period. The concentration of sodium in the blood of cows increases during childbirth by 5.08%, and potassium by 5.25%. It was established that at the beginning of dry period, the concentration of calcium in the blood of cows was 38.4% higher than at the end of this period, before giving birth. The dynamics of calcium content in the blood of cows is mainly associated with the formation of fetus bone system, the increase of its fixation by uterus tissues, aimed at the development of labor process.

Keywords: cows, physiological, biochemical indicators, pregnancy, natal, postnatal processes

Introduction

The physiological basis of reproduction of farm animals is covered in many works. The analysis of the literature data allows us to assert that functional disorders of individual organs of the cow's body under the negative influence of environmental and technological factors lead to disruption of reproduction processes: reduced productivity, fertility rates, increased service period, and non-viable offspring. All this reduces the efficiency of the livestock industry. Diseases of the reproductive organs that occur during gestation, childbirth and the postpartum period remain an urgent production problem.



This is the reason for the scientific and practical value of research aimed at studying physiological and biochemical changes in the body of cows during gestation, labor and the postpartum period. This will make it possible to correct the state of the cow's body in the conditions of industrial milk production in order to preserve the reproductive capacity of animals, obtain viable offspring and high productivity.

Dynamic obtaining of high production from animals is possible only if the problem of reproduction is solved, which requires close attention to the above problem and under these conditions it is possible to effectively manage this industry (Berry et al., 2014).

Reproduction is a basic property of living organisms that ensures the existence of every species. All endocrine glands, along with the reproductive organs and pharmaceutical organs, are chains of neurohumoral regulation of the reproductive function of females. The interaction of the reproductive organs with each other and with other endocrine glands determines the physiological course of egg formation, ovulation, fetal growth and development. The processes of follicle and luteogenesis are provided by the humoral control of the hypothalamus and pituitary gland.

In the process of fetal growth and development, the formation of the feto-placental system is of primary importance. The formation of the corpus luteum in the ovary and its activity during gestation is an important part of hormonal support for pregnancy. The corpus luteum, which is formed in the ovary, is the main site of synthesis of progesterone, one of the main steroid hormones. It is believed that the concentration of progesterone in the peripheral blood

of cows increases along with the increase in fetal development time and is highly active almost until delivery. Progesterone in pregnant females prepares the endometrium for implantation and suppresses uterine contractile activity. This effect of progesterone maintains the physiological nature of fetal gestation. The complete formation of the placenta is accompanied by the synthesis of the hormone by the tissues of this gynecological organ.

Along with the activity of the placental tissues, active adrenal function is sometimes observed, contributing to the formation of fetoplacental insufficiency in animals. The growth and development of the embryo, especially during the nidation period, is influenced by various factors and depends on the hormonal background of the mother's body (Stevenson et al., 2015).

The hormonal background and the ratio of individual hormones depends on the corpus luteum. This organ is a temporary follicle gland that forms in the ovary after ovulation. Progesterone ensures the modification of uterine tissue from proliferative to secretory, which ensures trophism and fetal engraftment.

Impaired activity of the feto-placental complex negatively affects the fetus. Complications of placental circulation cause intrauterine hypoxia and fetal hypotrophy. Under these conditions, trophic function and gas exchange in the placenta are impaired.

Normal growth and development of the fetus is largely determined by the characteristics of blood circulation in the mother-placenta-fetus system. A primary placental defect leads to impaired cardiovascular adaptation and placental perfusion. Violation of uteroplacental-fetal geodynamics in early pregnancy is the cause of primary placental insufficiency and, as a result, severe pregnancy complications. According to the results of research, significant changes occur in the homeostasis system of dry cows, which are elements of physiological adaptation that ensures the functioning of the integrity of hemocirculation in the body of the female and fetus (Boris and Barbés, 2000; Boskey et al., 2001; Carthy et al., 2014).

Morpho-functional changes in the placenta are accompanied by disruption of compensatory and adaptive mechanisms that ensure normal growth and development, as well as the adaptation of the mother's body to pregnancy. Such disorders occur in 22.4-30.6% of pregnant women and pose a significant threat to the fetus and the mother's body. Under these conditions, there is a complex of disorders of the transport, trophic, endocrine and metabolic function of the placenta, which underlie the pathology of the fetus and newborns.

The morphological structure of the placenta is formed from the time of zygotic nidation and is manifested by cytological changes in the endometrium and trophoblast that occur during mutual



contact and cell migration. The embryonic period of fetal growth and development is characterized by effective differentiation of trophoblast cells. This process ensures the formation of chorion and cotyledons and their contact with caruncles, i.e. the formation of the placenta. This process is continuous and has its own characteristics, which are determined by the number of caruncles involved in placentation and the intensity of fetal growth.

With the onset of pregnancy, the main functions of the body are aimed at creating conditions for the physiological growth and development of the fetus.

It has been established that the metabolism in the body of females during fetal gestation is significantly activated. The integral indicator of metabolism is the content of total protein in the blood serum. The analysis of the literature shows that researchers have received contradictory data on protein metabolism in the body of pregnant females and there are no common views on the nature of changes in protein metabolism. The results of studies by some authors indicate that an increase in gestational age is accompanied by an increase in serum total protein (Levchenko, and Kondrakin, 2002; Vlizlo et al., 2004).

Carbohydrate metabolism in the body of pregnant females is characterized by dynamism, and to a greater extent depends on the conditions of supply of these nutrients to the body. Glycogenesis characterizes the blood glucose content. Pregnancy is also accompanied by an increase in lipid metabolism, and the deposition of adipose tissue as a future source of energy increases.

Minerals and vitamins play a significant role in the formation of fetal tissues and organs. The main place in the conditions of fetal gestation is given to calcium and phosphorus (Bellows et al., 2002; Kambur et al., 2009).

The results of studies of biochemical changes in the body of cows are usually studied in certain periods of life. This does not take into account the presence of critical periods in the functioning of individual body systems. In pregnant animals, physiological and biochemical changes associated with fetal growth and development are particularly important.

Maintaining the homeostasis of the female body and obtaining high productivity indicates the relevance of identifying physiological and biochemical changes in the body of cows during pregnancy, labor and postpartum, which was the purpose of the study

Material and methods of research

The research was carried out at the farm "Trotsenko", Nova Sloboda village, Putivl district, Sumy region, on the topic: "Development of a multiparametric system of milk production based on the secretory function of the mammary gland, pre- and postnatal development of the animal organism and methods of their correction". State registration number 0108U010281.

In order to study physiological and biochemical changes in the body of cows during pregnancy, labor and postpartum, a group of 10 cows was formed.

Arterial and venous blood samples were taken from cows of this group:

- 1) during the period of intensive lactation (n= 10, 2-4 months of lactation) (1-2 months of fetal gestation);
- 2) during the period of lactation completion (n=10, 8-9th month of lactation) and late fetal growth and development (6-7th month of gestation);
- 3) dry period (n=10, 8-9 months of gestation);
- 4) during labor (n=10);
- 5) postpartum (n=10).

The condition of the animals on the farm was monitored by the main physiological indicators, the course of the lactation and dry period. The farm was free of infectious and parasitic diseases during the research. The animals were under constant clinical supervision. The cows were kept tethered, fed three times a day, and the diet was balanced in terms of nutrients according to the standards. Watering of the animals is automated. Milking was done three times a day with an ADM-8 milk pipeline.

In blood samples, the concentration of LDL was determined by distillation in a Markham apparatus with subsequent titration; acetic acid - by the micro-diffusion method in Conway cups with subsequent titration, β -oxybutyric acid - by Engfeld in the modification of Leites SM and Odinova AI, glucose - by the Hivarinen-Nikkila method, total protein – by refractometric and biuret methods, protein fractions were obtained by paper electrophoresis. The concentration of total lipids was determined by the Bluer method. Macro- and microelemental composition of blood was determined using an atomic absorption spectrophotometer SP-115 PC.

During the experimental studies, the international requirements of the European Convention for the Protection of Vertebrate Animals Used for Experimental and Other Scientific Purposes (Strasbourg, 1986) and the relevant Law of Ukraine "On Protection of Animals from Cruelty" No. 3447-IV of 21.06.2006 were observed.

The obtained digital material was processed statistically using a computer program to determine the arithmetic mean (M), the statistical error of the arithmetic mean (m), the probability of difference (p), between the arithmetic means of two variation series according to the Student's t test. The difference between two values was considered significant at $p < 5$; $p < 0.01$; $p < 0.001$.

Results and discussion

The results of our own studies show that the serum protein content of cows under physiologically progressing pregnancy decreases (Table 1).

Table 1. The content of protein metabolites in the blood serum of cows in the physiological state of the organism, (M \pm m, n=10)

Indicators	Periods of physiological state of cows					
	beginning of lactation	period of intensive lactation	period of lactation completion	dryness during	labor	after giving birth
Total protein, g/l	76,20 \pm 1,20	73,20 \pm 1,02	74,20 \pm 0,90	70,80 \pm 1,12	62,00 \pm 0,70*	75,60 \pm 1,10
Albumin, %, g/l	32,10 \pm 0,42	30,60 \pm 0,90	31,80 \pm 0,86	30,70 \pm 0,50	30,40 \pm 0,62	30,10 \pm 0,74
Globulins, %.						
α -globulins	13,36 \pm 0,56	14,70 \pm 0,20	12,56 \pm 0,32	12,30 \pm 0,96	14,80 \pm 0,54	14,48 \pm 0,60
β – globulins	14,20 \pm 0,70	13,90 \pm 0,22	14,0 \pm 0,25	14,20 \pm 1,02	13,20 \pm 0,40	14,40 \pm 0,36
γ – globulins	40,34 \pm 1,04	40,80 \pm 0,30	42,0 \pm 0,34	42,80 \pm 0,86	41,60 \pm 1,12	41,02 \pm 0,78

However, at the beginning of lactation, the content of total protein in the blood serum of cows was higher than during intensive lactation. Our data suggest that the dynamics of the content of total protein in the blood serum of cows had a wave-like characteristic. During parturition, the content of total protein in cows' blood serum was 18.64% lower than at the beginning of lactation. The decrease in the content of total protein in the blood serum of cows during labor is accompanied by the directionality of the flows of metabolic metabolites in the body of cows. It ensures the growth and development of the fetus, the restoration of the activity of the mammary gland tissues in order to form a full-fledged secretion for feeding newborn calves. After parturition, the amount of protein in the blood of animals increases due to α , β and γ -globulins by 17.2, 18.8 and 32%, respectively ($p < 0.01$).

The blood glucose concentration of cows during intensive lactation decreases by 28.8% before start-up and increases by 42.2% during labor. We attribute this to the physiological need for glucose as a stimulant of uterine contractile function during labor, and increased glycolysis. Subsequently, during the first period of lactation, blood glucose content decreases by 1.52 times ($p < 0.01$).

The dynamics of lipid metabolites in the body of cows had a wave-like dynamics. Thus, the content of cholesterol and β -lipoproteins in the blood as precursors for the synthesis of steroid hormones decreases in the first period after childbirth and increases by the middle of the first lactation period by 1.32 times ($p < 0.01$). During labor, the content of β -lipoproteins and cholesterol decreases by 38-42%.

The growth and development of the fetus is accompanied by a decrease in the calcium content in the blood of cows. It was found that at the beginning of the dry period, the calcium concentration in the blood of cows is 38.4% higher than at the end of this period, before the start of labor. We associate the dynamics of calcium content in the blood with the formation of the fetal bone system, increasing its fixation by uterine tissues aimed at the development of labor activity.

The content of inorganic phosphorus in the blood of cows at the beginning of labor was 25.6% lower than at the beginning of the dry period. The concentration of sodium in the blood of cows increases during labor by 5.08%, and potassium by 5.25%.

Such dynamics of macronutrients in the blood of cows is probably due to the need to ensure the contractile activity of the myometrium. In cows with a physiological postpartum process, the ratio of these elements in the blood is 1.10 times (sodium to potassium), 1.32 times (sodium to calcium), 1.22 times (potassium to calcium) higher than in cows whose third period of labor was not physiological.

The study is aimed at identifying the dynamics of physiological and biochemical changes in the body of cows will allow for effective control of metabolism, reproductive function and fetal growth and development, a decrease in the content of globulin fractions ($p < 0.05$) and slightly albumin. We found a significant decrease in globulin fractions in the blood serum of cows in the last month of pregnancy.

At the end of the last month of pregnancy, we found an increase in the adsorption of precursors for the synthesis of milk components from the inflowing blood by the tissues of the cow's mammary gland (Table 2).

Table 2. Utilization of precursors by cow mammary tissue, (M±m, n=10)

Indicators	Periods of physiological state of cows					
	beginning of lactation	period of intensive lactation	period of lactation completion	dryness during	labor	after giving birth
Short-chain fatty acids, (mmol/l)	0,74±0,001	0,84±0,001*	0,38±0,013**	0,76±0,005	0,78±0,01	0,78±0,001
acetic acid mg/100ml	11,12±0,28	14,12±0,28**	9,22±0,49	11,36±0,52**	12,08±0,24	13,38±0,32*
β-oxybutyric acid, mmol/l	0,49±0,002	0,68±0,002**	0,21±0,003**	0,56±0,002*	0,62±0,001**	0,68±0,001

During the period of completion of lactation, the tissues of the mammary gland of cows absorbed 0.38 ± 0.013 mmol/l of volatile fatty acids from the adherent blood, which is 2.05 times less than at the end of dryness ($p < 0.01$). During this period, the adsorption of acetic acid by the tissues of the mammary gland of cows increases by 1.23 times, and β-oxybutyric acid by 2.67 times ($p < 0.001$). These studies indicate that during the period of completion of dryness there is an accumulation of precursors in the tissues of the mammary gland of cows for the synthesis of colostrum components and this is a necessary condition for maintaining the isotonicity of the body environment during colostrum synthesis.

Energy deposition in the body of cows during the dry period was at the level of 970 ± 20.0 g per day. In our opinion, this is due to a change in the direction of the flow of metabolic metabolites in the body of cows. It ensures the growth and development of the fetus, the restoration of the activity of the mammary gland tissues in order to form a full-fledged secretion for fattening newborn calves. After parturition, the amount of protein in the blood of animals increases due to α, β and γ-globulins by 17.2, 18.8 and 32%, respectively ($p < 0.01$).

The blood glucose concentration of cows during intensive lactation decreases by 28.8% before the start of the period, and increases by 42.2% during labor. We attribute this to the physiological need for glucose as a stimulant of uterine contractile function during labor, and increased glycolysis.



Subsequently, during the first period of lactation, the blood glucose content decreases by 1.52 times ($p < 0.01$).

The dynamics of lipid metabolites in the body of cows had a wave-like dynamics. Thus, the content of cholesterol and β -lipoproteins in the blood as precursors for the synthesis of steroid hormones decreases in the first period after childbirth and increases by the middle of the first lactation period by 1.32 times ($p < 0.01$). During labor, the content of β -lipoproteins and cholesterol decreases by 38-42%.

The growth and development of the fetus is accompanied by a decrease in the calcium content in the blood of cows. It was found that at the beginning of the dry period, the calcium concentration in the blood of cows is 38.4% higher than at the end of this period, before the start of labor. We associate the dynamics of calcium content in the blood with the formation of the fetal bone system, increasing its fixation by uterine tissues aimed at the development of labor activity.

The content of inorganic phosphorus in the blood of cows at the beginning of labor was 25.6% lower than at the beginning of the dry period. The concentration of sodium in the blood of cows increases during labor by 5.08%, and potassium by 5.25%.

Such dynamics of macronutrients in the blood of cows is probably due to the need to ensure the contractile activity of the myometrium. In cows with a physiological postpartum process, the ratio of these elements in the blood is 1.10 times (sodium to potassium), 1.32 times (sodium to calcium), 1.22 times (potassium to calcium) higher than in cows whose third period of labor was not physiological.

The research aimed at identifying the dynamics of physiological and biochemical changes in the body of cows will allow for effective control over metabolism, reproductive function, and fetal growth and development.

Conclusions

1. The dynamics of total protein in the blood serum of cows has a wave-like characteristic. At the beginning of lactation, the content of total protein in the blood serum of cows is higher than during intensive lactation. A decrease in the content of total protein in the blood serum is accompanied by a decrease in globulin fractions ($p < 0.05$) and slightly in albumin.

2. It has been established that the blood glucose content of cows during intensive lactation decreases by 28.8% before the start of labor, and increases by 42.2% during labor. This is due to the physiological need for glucose as a stimulant of uterine contractile function during labor, and increased glycolysis. Subsequently, during the first period of lactation, the blood glucose content decreases by 1.52 times ($p < 0.01$).

3. The total number of lipid metabolites in the body of cows has a wave-like dynamics: the content of cholesterol and β -lipoproteins in the blood decreases in the first period after childbirth and increases by the middle of the first period of lactation by 1.32 times ($p < 0.01$). During labor, the content of β -lipoproteins and cholesterol decreases by 38-42%.

4. The content of total calcium in the blood of cows at the beginning of the dry period is 38.4% higher than at the end of this period, before the start of labor. The dynamics of inorganic phosphorus content in the blood of cows at the beginning of labor is 25.6% less than at the beginning of the dry period. The concentration of sodium in the blood of cows increases during labor by 5.08%, and potassium by 5.25%.

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OPTIMIZAREA PARAMETRILOR PENTRU CREAREA ÎNGRĂȘĂMINTELOR LICHIDE UTILIZÂND DEȘEURILE DE LA FERMA DE PĂSĂRI SRL "PILICCIK-GRUP"

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Abstract. The study presents findings aimed at identifying the most favourable conditions for producing high-quality liquid fertilizers from resources available at the poultry farm LLC "Piliccik-Grup". For this purpose, bird droppings and their derivative products such as compost and biohumus were subjected to extraction processes under various temperature and time conditions. The concentrations of both macro- and micro-nutrients were analysed in all extracted samples. The results indicate that the most efficient method is the cold extraction of both compost and vermicompost, combined with agitation for 4 hours.

Keywords: Organic fertiliser, Humus, Soil, Poultry waste, Biohumus, Droppings

Introducere

În contextul agriculturii intensive, lipsa calificării agronomilor și dorința de a obține profit maxim au condus la sărăcirea și chiar distrugerea solului. Un obiectiv important al utilizării îngrășămintelor organice este menținerea și creșterea conținutului de humus din sol, ceea ce contribuie la fertilitatea acestuia. Humusul îmbunătățește, de asemenea, structura solului, asigură o bună imunitate a plantelor, sporind rezistența acestora la situații de stres, condiții meteorologice nefavorabile și patologii bacteriene și fungice. De asemenea, humusul facilitează o aderență puternică între răsaduri și sol, iar compostul bine descompus crește semnificativ randamentul culturilor și



îmbunătățește calitatea gustului produselor cultivate. De asemenea, humusul contribuie la neutralizarea metalelor grele și a radionuclizilor din sol, împiedicând acumularea acestora în plante [1]. Biohumusul este un îngrășământ mineral-organic concentrat, obținut cu ajutorul viermilor de pământ. Substanțele nutritive sunt eliberate treptat, în concordanță cu nevoile plantelor și sunt ușor asimilate de către acestea. Compostul de viermi de pământ este considerat un îngrășământ excelent datorită bogăției de microfloră utilă, substanțe biologic active variate, vitamine, aminoacizi, acizi fulvici și humici, care se formează în procesul de digestie al viermilor de pământ. În compostul obișnuit, aceste componente sunt de zeci de ori mai mici, în timp ce îngrășămintele chimice nu le conțin deloc [2]. Biohumusul (compostul de viermi de pământ) este singurul îngrășământ recunoscut de Uniunea Europeană ca adăugă la agricultura organică [3]. Pentru hrănirea frunzelor, care reprezintă o sursă suplimentară de nutriție și o modalitate rapidă de a corecta deficiențele de nutrienți, se utilizează îngrășămintele lichide. Utilizarea îngrășămintelor organice lichide reprezintă o abordare foarte benefică, fiind aplicate după diluarea de 100-300 de ori.

Scopul acestei lucrări este de a selecta condițiile optime pentru obținerea îngrășămintelor lichide din surse locale, mai precis din deșeurile de păsări de curte de la întreprinderea Pilicik-Grup.

Materiale și metode

Pentru determinarea condițiilor optime de obținere a îngrășămintelor lichide, în calitate de material de bază s-au utilizat dejecții aviare acumulate la întreprindere și produsele obținute din aceasta: compostul și biohumusul, obținute conform metodelor descrise anterior [4].

Eșantioanele materialului inițial au fost supuse extracției la diferite temperaturi și în diferite condiții de timp. Fiecare dintre eșantioanele analizate a fost tratat în trei moduri diferite:

1. Metoda de extracție la rece 1. Pentru aceasta, la 100 g masă s-a adăugat 1 litru de apă distilată la temperatura camerei și s-a amestecat intens timp de 4 ore.
2. Metoda de extracție la rece 2. Pentru aceasta, la 100 g masă s-a adăugat 1 litru de apă distilată la temperatura camerei și s-a amestecat intens în primele 4 ore. Apoi, masa obținută a fost lăsată timp de o săptămână, amestecând periodic.
3. Metoda de extracție la rece 3. Pentru aceasta, la 100 g masă s-a adăugat 1 litru de apă distilată la temperatura camerei și s-a amestecat intens în primele 4 ore. Apoi, masa obținută a fost lăsată timp de două săptămâni, amestecând periodic.

Pentru compost, s-a efectuat, de asemenea, o extracție la temperaturi ridicate. Pentru aceasta, la 100 g masă s-a adăugat 1 litru de apă distilată, s-a încălzit și s-a menținut masa obținută timp de 4 ore la 70°C, amestecând intens.

pH-ul a fost determinat conform standardului SR 7184-13:2001, PO-01.

Humusul a fost determinat conform SR ISO 10694:1998, PO-0.3.

K, Na, Ca, Mg, P, Fe, Zn, Cu, Mo, Mn, B, au fost determinate conform SR ISO 14870:2002, SR ISO 11263:1998, PO-04 Ed 2 Rev-0.

Cl⁻, SO₄²⁻, N-NH₄⁺, N-NO₂⁻, N-NO₃⁻, au fost determinate prin metode scalare în corespunderea cu PO-05, Ed 2, Rev-0.

Toate analize chimice au fost făcute în Laboratorul "HOLLAND FARIMING" (Ramânia).

Rezultate și discuții

Cercetările privind selectarea condițiilor optime pentru obținerea îngrășămintelor lichide au fost efectuate la întreprinderea SRL „Pilicik-Grup”. Această companie a fost fondată în 2005 și deține patru ferme de păsări, unde anual sunt crescute peste un milion de capete de pasăre, rezultând în acumularea a peste 6000 de tone de dejecții de pasăre amestecate cu paie ca înveliș. Această masă este compostată, apoi supusă vermicompostării. Dejecții de păsări, compostul și vermicompostul existente în cadrul întreprinderii au fost supuse proceselor de extracție în diferite condiții, pentru a obține extracte ale căror proprietăți chimice le-ar face mai promițătoare pentru utilizarea ulterioară ca îngrășămintele lichide. Pentru fiecare eșantion au fost pregătite trei extracte, unul fiind analizat în



aceeași zi, al doilea după o săptămână de învechire și al treilea după două săptămâni. Pentru compost s-a analizat și un extract cald, pentru obținerea căruia masa a fost menținută la 70°C timp de 4 ore.

Extractele obținute au fost inițial analizate pentru următoarele parametri: pH, humus, azot, fosfor, potasiu. Rezultatele obținute sunt prezentate în Tabelul 1.

Tabelul 1. Caracteristicile extractelor obținute

Condiții	pH	Humus, %	Azot sumar mg/l	P ₂ O ₅ , mg/l	K ₂ O, mg/l
Gunoii de pasare, 4 ore	7,23	0,3	594	245	654
Gunoii de pasare, 1 săptămîna	6,38	-	322	130	642
Gunoii de pasare, 2 săptămîni	6,96	-	103	88	660
Compost, 4 ore	7,87	1,59	500	200	3000
Compost, 1 săptămîna	7,79	-	-	166	-
Compost, 2 săptămîni	7,71	-	-	73	-
Compost, 4 ore, 70°C	7,18	1,33	300	200	3000
Biohumus, 4 ore	7,5	-	243	110	265
Biohumus, 1 săptămîna	7,35	-	-	55	-
Biohumus, 2 săptămîni	7,41	-	-	33	-

Trebuie menționat că învechirea eșantioanelor pe termen lung duce la scăderea valorii pH-ului. Cu toate acestea, valorile celorlalți parametri se deteriorează, ceea ce face neproductivă păstrarea extractelor pe substrat pentru o perioadă lungă de timp. În cazul extractului din gunoii avicol inițial, se observă un conținut scăzut de humus și potasiu, în timp ce conținutul de azot și fosfor nu depășește semnificativ valorile extractului din compost. De asemenea, s-a observat că extractul obținut prin spălarea vermicompostului este semnificativ mai puțin concentrat, ceea ce face, neproductivă utilizarea lui ca aditiv mineral. Comparând valorile pentru extractele reci și calde, se poate observa că cantitatea de humus și azot este mai mare în extractul rece.

Astfel, se poate concluziona că din punct de vedere economic și al calității, este mai indicat să se producă îngrășăminte organice lichide pe bază de compost.

După stabilirea condițiilor cele mai favorabile pentru obținerea îngrășămintelor lichide, mostrele de extracte reci și calde au fost supuse unei analize mai detaliate. Au fost determinate pH-ul, conținutul de humus, K, Na, Ca, Mg, P, Fe, Mn, Zn, Cu, Mo, B, Cl, SO₄²⁻, N-NH₄⁺, N-NO₂⁻; N-NO₃⁻. De asemenea, s-a investigat reziduul de compost după extracție.

Aceleași parametri au fost analizați și în ceea ce privește eșantioanele de biohumus lichid disponibile în comerț: una provenind din Turcia (**1**), alta din Rusia (**2**), iar trei mostre fiind de origine moldovenească (**3,4,5**) (Tabelul 2), cu scopul de a evalua ce poziție pot ocupa în peisajul producției de îngrășăminte organice lichide obținute la nivelul întreprinderii.

Indicatorii conținutului de macroelemente din îngrășămintele lichide ne permit să concluzionăm că în probele **3** și **4**, cel mai probabil s-au adăugat săruri care conțin azot mineral, fosfor și potasiu pentru a obține astfel de concentrații. Prin urmare, astfel de îngrășăminte organice lichide nu pot fi utilizate pentru producția ecologică. Probele **1** și **2** sunt inferioare în parametrii extractului nostru.

Tabelul 2. Conținutul de macroelemente în eșantioanele de biohumus lichid analizate

Parametru	extractul	1	2	3	4	5
pH	7,29	8,49	10,11	9,16	7,29	12,69
Humus, %	1,53	0,45	1,26	-	-	0,09
P ₂ O ₅ , mg/l	200	20	90	5000	500	10
N-NH ₄ ⁺ , mg/l	500	<05	190	53500	19500	200



N-NO ₂ ⁻ ;N-NO ₃ ⁻ , mg/l	<0,2	<0,2	<0,02	14700	11300	8,9
K ₂ O, mg/l	3000	800	8000	3000	7000	4000
SO ₄ ²⁻ , mg/l	1300	33,5	1452	20000	2000	300

A fost efectuată o analiză preventivă a conținutului de microelemente în extractul nostru și în îngrășămintele organice lichide disponibile comercial. După cum se poate observa din Tabelul 3, extractul obținut la întreprindere prezintă parametri semnificativ mai buni, poate fi utilizat ca îngrășământ cu conținut de microelemente, după diluare de 1000 de ori, și se arată promițător pentru includerea sa în producție.

Tabelul 3. Conținutul de microelemente în eșantioanele

Parametru	extractul	1	2	3	4	5
Ca, mg/l	300	70	200	10	60	20
Mg, mg/l	90	80	10		2,5	7000
Fe, mg/l	31,7	1,1	20,2	5,45	6,2	0,88
Mn, mg/l	7,83	<0,2	0,5	<0,05	0,11	0,06
Zn, mg/l	10,9	<0,05	0,8	1,25	0,33	0,17
Cu, mg/l	1,3	<0,05	0,2	0,53	0,1	0,19
Mo, mg/l	0,76	0,001	0,1	0,11	0,07	<0,05
B, mg/l	2,8	0,006	0,002	<0,5	1,2	0,9

Astfel, conform rezultatelor acestei lucrări de cercetare, au fost identificate condițiile optime pentru obținerea îngrășămintelor organice cu proprietățile necesare, ceea ce face posibilă recomandarea introducerii acestor procese tehnologice în producția industrială.

Concluzii

În cadrul acestui articol sunt prezentate rezultatele unei investigații axate pe găsirea condițiilor optime pentru producerea îngrășămintelor lichide de înaltă calitate, folosind resursele fermei avicole SRL „Pilicik-Grup”. În acest sens, s-au efectuat extrageri din dejecțiile de pasăre și din produsele derivate, adică compostul și biohumusul, utilizând diverse temperaturi și intervale de timp. Toate probele au fost supuse analizei pentru conținutul de macro- și microelemente. A fost efectuată o analiză preventivă a conținutului de microelemente în extractul nostru și în îngrășămintele organice lichide disponibile comercial. Extractul obținut la întreprindere prezintă parametri semnificativ mai buni, poate fi utilizat ca îngrășământ cu conținut de microelemente, după diluare de 1000 de ori. Rezultatele cercetării au indicat că metoda optimă și eficientă este extracția la rece a compostului și biohumusului cu amestecare timp de 4 ore.

Mulțumiri

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PERSPECTIVE DE DIVERSIFICARE A UTILIZĂRII FRUCTULUI DE CIREȘ CORNELIAN (CORNUS MAS)

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Abstract. The European cornelian cherry (*Cornus mas*) is part of the Cornaceae family. *Cornus Mas* cherry fruits contain a large amount of biologically active compounds, such as vitamin C, pectins and natural pigments. Cornelian cherry fruit can be diversified in many ways: you can make marmalades, jam, jelly, fresh juice or even smoothies to vary the uses of this delicious fruit. The aim of this research was to determine the physico-chemical characteristics and bioactive potential of *Cornus Mas* fruits. The obtained results demonstrated the antioxidant potential of *Cornus Mas* fruits from 75.0% to 95.0% during the storage of the samples for 2 months, which confirms the possibility of using the researched fruits in obtaining functional products with increased biological potential.

Keywords: cherry, antioxidant, bioactive, diversity, quality.

Cornus Mas este de fapt un arbust sau copac ornamental, care crește în zonele de deal și câmpie, prin păduri de foioase și lăstărișuri, ce produce fructe mici, alungite, de culoare roșie strălucitoare sau galbenă, cu gust dulce-acrișor, acidulat. Este un arbust care preferă locurile luminoase și uscate, care crește la 2,5 – 4 m înălțime. Frunzele de 4-8 cm au culoare verde lucioasă și formă ovală. Florile mici, galbene formează grupuri de câte 10-25, apar în primele zile ale primăverii, înainte de apariția frunzelor. Au un singure sâmbure interior și au dimensiune de aproximativ 2 cm [1]. Greutatea medie a fructelor este între 5-8 g, iar miezul constituie 7,5-11% din greutatea întregului fruct. Acestea seamănă cu cireșele, dar nu sunt la fel de dulci. Fructele de cireș *Cornus Mas* conțin o cantitate mare substanțe active, precum vitamina C, zaharuri, acid malic, pectine și coloranți. Sunt fructe de pădure extrem de bogate în provitamina A, vitamina B1 și B2, vitamina C, vitamina PP; calciu, potasiu și alte minerale, cornină, acizi organici, taninuri, caroten, pectine, celuloză, glucide (fructoză) și ca majoritatea fructelor, foarte multă apă (80%). Acest fruct are o culoare roșie impresionantă datorită compușilor antociani pe care îi conține. De asemenea, conțin compuși fenolici care au efecte majore benefice asupra sănătății, de asemenea și acid ascorbic[2].

Datorită prezenței pectinelor în fructele *Cornus Mas*, se pot prepara marmelade și gemuri de calitate net superioară celor din comerț. Pectinele fiind substanțe naturale, complexe,



polizaharidice, care se găsesc în general în coaja și în pulpa fructului de cireș. Acestea au capacitatea de a forma geluri atunci când sunt combinate cu zahăr și lichid, datorită faptului că deține locul agentului de îngroșare. Cu ajutorul lor se obțin texturi mai groase a gemurilor și conferă consistență. E important de știut că folosirea corectă a pectinelor ajută la obținerea unei consistențe gelificate dorite [3,4].

Compoziția chimică a fructelor de coarne este diversificată și depinde în mare măsură de soi, precum și de cultivare, precum și de condițiile de mediu și climatice. După congelare, gustul fructelor se îmbunătățește semnificativ. Conțin până la 9% zaharuri, formate din glucoză și fructoză, până la 2,9% acizi organici (în principal malici), pectine, taninuri, substanțe azotate și colorante, ulei esențial, vitamine C și P [2,5].

Cu toate acestea fructele de cireș *Cornus Mas* sunt utilizate pe scară largă nu doar în industrii, dar și în gospodării simple datorită proprietăților sale benefice. O plantă întreagă poate fi folosită ca materie primă sau secundară în diferite industrii. Toate acestea sunt enumerate în figura 1.

Perspective de diversificare	Industria alimentară	spectru larg de utilizare
	Industria băuturilor alcoolice și spiritului	producerea lichiorurilor, țincturi
	Ramura farmaceutică	- ceaiuri -preparate diuretice
	Medicina netradițională	-decocturi din frunze,flori, fructe -unguente
	Ramura cosmetologică	-produse de îngrijire a corpului -măști cosmetologice

Figura 1. Perspective de diversificare a utilizării fructului de *Cornus Mas*

Conform GOST 28501-90 “Condiții tehnice pentru fructe uscate sâmburoase” se admite un conținut de umiditate pentru coarnele uscate de tip semipreparat- nu mai mult de 17,0% și pentru preparat finit - nu mai mult de 19,0% [6].

Astfel, înlăturarea umidității libere din probele obținute a fost efectuată prin metoda uscării la etuvă, la 60 °C. Rezultatele obținute sunt prezentate în tabelul 1.

Tabelul 1. Conținutul de substanță uscată în probele analizate

Proba	Conținut de substanță uscată%	
Fructe congelate	23,82±0,90	
Fructe uscate (60°)	82,02±1,05	

Prin uscare, conținutul de apă din fructe scade semnificativ, ceea ce duce la o creștere proporțională a conținutului de substanțe uscate. Deoarece apa constituie o mare parte din masa proaspătă a fructelor, eliminarea acesteia concentrează celelalte componente. Rezultatele prezentate mai sus au fost efectuate la probele de coarne uscate la etuvă. Aici nu doar s-au păstrat la maxim substanțele nutritive din produs, dar și s-au majorat. La păstrarea produsului în formă uscată crește conținutul substanței uscate, cu ea crește și valoarea biologică a produsului. Procesul de uscare poate să inducă anumite modificări chimice și biochimice în fructe. De exemplu, unele vitamine pot fi pierdute parțial din cauza căldurii, dar alte compuși, cum ar fi antioxidanții, care pot deveni mai concentrați [7]. Uscarea reduce activitatea apei în fructe, ceea ce contribuie la o mai bună conservare și stabilitate pe termen lung. Reducerea activității apei inhibă creșterea microorganismelor și descompunerea enzimatică, prelungind astfel durata de viață a produsului. Astfel păstrarea coarnelor

uscate la 60°C este una efectivă, rapidă și inofensivă, deoarece nu crează condiții pentru dezvoltarea microorganismelor patogene.

Produsul cercetat - coarnele este apreciat pentru cantitatea sporită de acid ascorbic. Conform datelor științifice aportul de acid ascorbic în fructele proaspete reprezintă 75-125 mg/100g produs [4,8]. Astfel drept scop a fost de a identifica metode eficiente de păstrare a fructelor *Cornus Mas* cu păstrarea maximă a conținutului de acid ascorbic. În urma determinărilor efectuate (figura 2) s-a stabilit că în probele cercetate valoarea scidului ascorbic în coarnele proaspete constituie 69,0 mg/100 g produs. Coarnele congelate au arătat un rezultat redus (54,30 mg/100 g) comparativ cu cele proaspete. Cu toate acestea metoda congelării este una eficientă, și permite păstrarea produsului până la 6 luni.

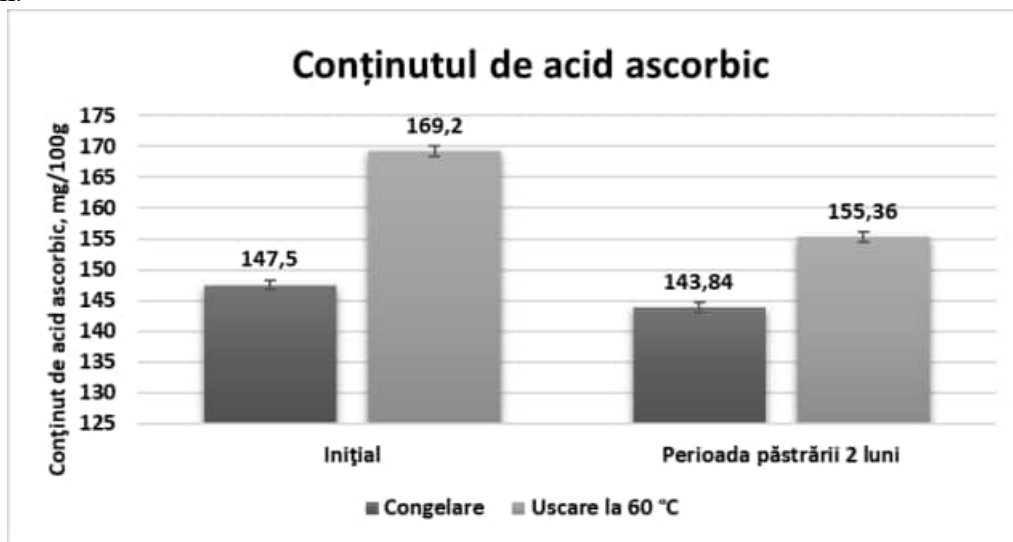


Figura 2. Cantitatea acidului ascorbic în probele analizate, mg/100 g.

Cercetările au demonstrat, că polifenolii reprezintă cel mai efectiv antioxidant, care la rândul său distrug radicalii liberi, ce prezintă cauza dereglării ADN-ului omului. Se cunoaște că coarnele prezintă un produs bogat în polifenoli [9]. Astfel s-a fost determinat conținutul total de polifenoli în probele analizate de fructe. Concentrația acestora a fost determinată prin utilizarea reactivului, care se reduce în prezența polifenolilor, dacă acestea sunt în produs. Rezultatele obținute sunt reprezentate în figura 3.

S-a stabilit că pe parcursul păstrării conținutul total de polifenoli se reduce atât pentru fructele congelate (de la 10,67...7,56±0,08 mg GAE/g) cât și pentru probele uscate la 60°C (de la 11,51...10,66±0,08 mg GAE/g). În urma analizei datelor prezentate s-a constatat că scăderea conținutului de polifenoli în cazul fructelor uscate atestă o reducere mai lentă în comparație cu probele congelate ceea ce poate fi explicat prin faptul că polifenolii sunt sensibili la variațiile de temperatură și lumină. În timp ce procesul de uscare se face adesea în condiții controlate pentru a minimiza degradarea, congelarea poate expune fructele la fluctuații de temperatură ceea ce poate afecta stabilitatea polifenolilor.

Pe parcursul cercetărilor a fost determinată și valoarea activității antioxidante în probele de coarne. Rezultatele obținute prin utilizarea metodei de intercațiune cu radicalul liber DPPH, sunt reflectate în figura 4.

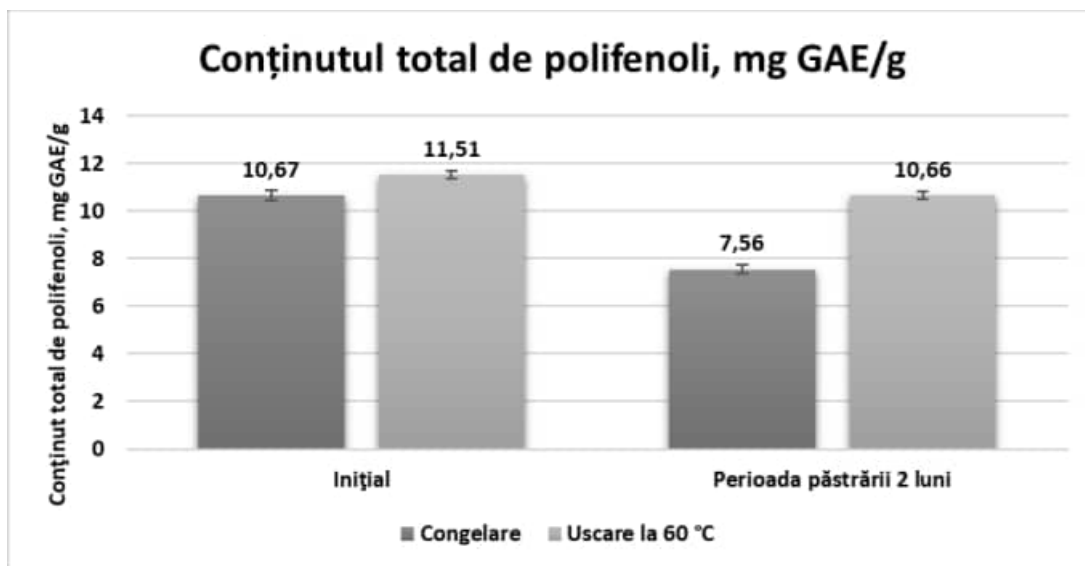


Figura 3. Conținutul total a polifenolilor, mg GAE/g

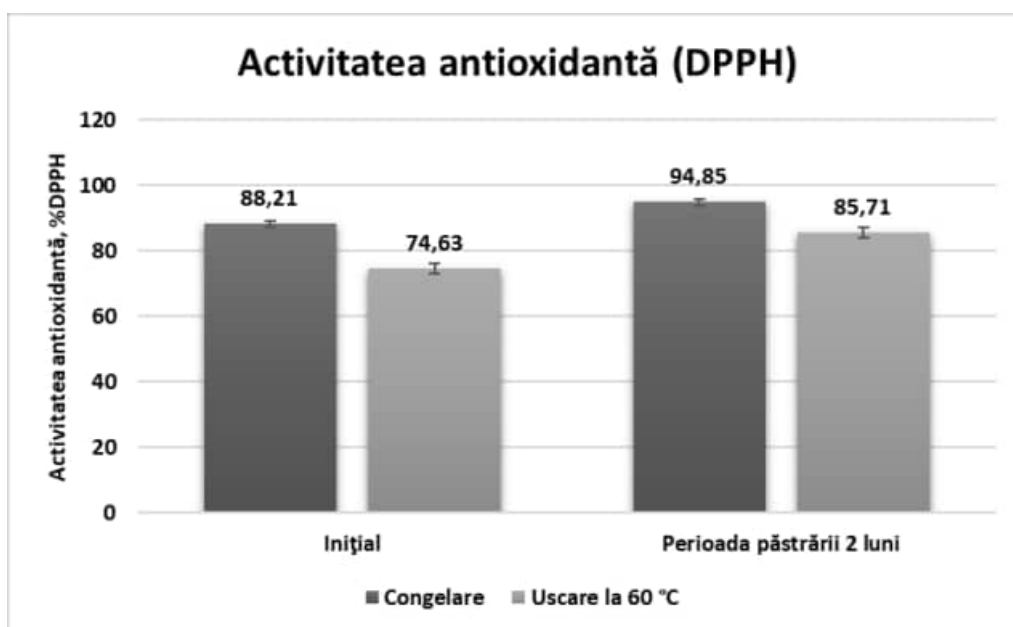


Figura 4. Activitatea antioxidantă, %.

Este necesar de menționat că în toate probele analizate sa manifestat o activitate antioxidantă ridicată. Pentru salvarea compoziției chimice a produsului proaspăt și valorii nutritive acestuia, coarnele sau păstrat în stare uscată și în stare congelată. La păstrarea coarnelor cu sâmbure în stare congelată, activitatea antioxidantă este nu doar cea mai ridicată (94...83±1,2%) dar și semnificativ crește. Rezultatele obținute pot fi explicate prin faptul că congelarea este un proces care păstrează majoritatea compușilor bioactivi, inclusiv antioxidanții, deoarece nu implică expunerea la temperaturi ridicate. Unii antioxidanți, cum ar fi acidul ascorbic și anumiți polifenoli, sunt sensibili la căldură și se pot degrada în timpul procesului de uscare. Procesul de congelare reduce semnificativ reacțiile de oxidare, deoarece temperaturile scăzute inhibă activitatea enzimatică și chimică care ar putea duce la degradarea antioxidanților. În contrast, în timpul uscării, în special la temperaturi mai ridicate, poate avea loc o anumită oxidare a compușilor antioxidanți.

Concluzii

Acest studiu a fost realizat cu scopul de a cerceta diverse perspective de diversificare a utilizării fructului de cireș *Cornus Mas* și de a argumenta potențialul biologic activ a acestuia, în baza căruia s-au formulat mai multe concluzii. Analizarea valorii biologice a fructelor de corn (*Cornus*



mas) la nivel teoretic se poziționează ca un produs foarte valoros cu proprietăți fizico-chimice și nutritive ridicate. Compoziția chimică a produsului include totalitatea elementelor esențiale, precum: vitamine, minerale, fitocompuși, care cu siguranță pot menține o bună funcționare a întregului organism uman. Deține un efect protector, antiinflamator, tonifiant, antialergic, anticancerigen, reduce riscul bolilor cardiovasculare, diabetului zaharat și altele. Prin urmare fructul *Cornul Mas* poate fi considerat cu siguranță un aliment extrem de bun, sănătos și valid. Calitățile nutritive inițiale pot fi păstrate doar prin alegerea metodei optime de păstrare. Sa constatat că cea mai eficientă metodă prezintă uscarea la 60⁰ în etuvă. Calitățile nutritive sunt reprezentate de activitatea antioxidantă puternică, conținutul bogat de acid ascorbic, nivel sporit a polifenolilor. Cel mai înalt conținut de vitamina C s-au manifestat în coarțele uscate la 60⁰C, unde valoarea constituie 169,2 mg/100 g; Activitatea antioxidantă constituie 85,71%, iar conținutul total al polifenolilor la fel cel mai înalt 11,51 mg GAE/g. În coarțele congelate sa evidențiat activitatea antioxidantă extrem de înaltă (94,85%); conținutul de acid ascorbic (147,5 mg/100g), iar polifenoli constituie (10,67 mg GAE/g). În mare măsură se utilizează toate părțile componente ale cireșului cornelian în diverse domenii: industria alimentară, cosmetică, vinicolă, lemnului, farmaceutică, etc. În industria alimentară utilizarea fructelor este una diversificată: gemuri, marmelade, sosuri, condimente, compot, sucuri, etc. Posedă proprietăți gustative înalte, fiind utilizat ca ingredient suplimentar natural în preparate de cofetărie sau ca agent de îngroșare (înlocuitor).

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POTENȚIALUL AGROBIOLOGIC AL SOIURILOR APIRENE OMOLOGATE ÎN REPUBLICA MOLDOVA

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Abstract. The paper presents data on the fertility and productivity of seedless varieties homologated in the Republic of Moldova, studied under the conditions of the Ampelographic Collection of IP ISPHTA. The percentage of fertile shoots, fertility coefficients, productivity indices were determined. The percentage of buds started in vegetation indicates a medium-high resistance of the varieties to wintering. Studying the technological characteristics of the seedless varieties an increased content of sugars in the must was highlighted, so the grapes can be used for fresh consumption and for technological processing.

Keywords: grapevine, assortment, seedless varieties, fertility, productivity, technological characteristics.

Vița de vie este una dintre cele mai valoroase, din punct de vedere economic, culturi agricole din lume, iar succesul cultivării ei constă în faptul, că este una dintre speciile de plante, care prosperă în condiții ecologice diverse. Strugurii sunt consumați atât în stare proaspătă, cât și sub formă de produse obținute din prelucrarea lor, care sunt valoroase după calitățile gustative și curative și se deosebesc prin conținutul unic al compușilor utili [1].

În ultimii 20 de ani, la nivel mondial, utilizarea strugurilor în stare proaspătă și a stafidelor a sporit de 1,5 ori. Pe piață sunt solicitați strugurii cu aspect exterior atrăgător, bob mediu sau mare, de culori diverse, cu stratul integru de pruină, cu consistența miezului crocantă, gust aromat și un număr redus de semințe. O cerere sporită o au soiurile cu struguri apireni și cei cultivați cu tratamente chimice reduse, ecologic neofensivi. Din strugurii pentru masă comercializați în lume, soiurile apirene dețin o pondere de circa 80% [3]. Apirenia este o însușire biologică a soiurilor pentru stafide, calitate mult apreciată și solicitată și pentru soiurile cu struguri de masă. Strugurii apireni au anumite caracteristici, care fac fructul de o calitate superioară și sunt apreciați, atât pentru folosirea lor în stare proaspătă, cât și la prelucrarea tehnologică pentru a produce stafide, sucuri, compot, gem, marinate [6, 8, 10].



Tendința pentru consumul de struguri apireni, la nivel mondial, impune crearea și completarea sortimentului viticol cu soiuri cu perioada de vegetație variată, adaptate la condițiile climaterice din zona temperată, cu rezistență genetică la factorii biotici și abiotici ai mediului, productivitate, calitate, precocitate, bob mare [5, p.121; 8, p. 4; 10, p. 34].

În sortimentul viticol al Republicii Moldova sunt omologate 8 soiuri de vița de vie apirene, dintre care 7 sunt create la Institutul Național al Viei și Vinului (actualmente Institutul Științifico-Practic pentru Horticultură și Tehnologii Alimentare), iar pentru testarea în condiții de producție au fost admise temporar 6 soiuri apirene introduse din alte zone viticole ale lumii (Tab. 1) [1, p.85, 97; 5, p. 127].

Tabelul 1. Soiuri apirene omologate în Republica Moldova

Soiul	Tara de origine	Perioada de maturare	Culoarea bobului	Direcția de utilizare*
Kişmiş lucistâi	R. Moldova	timpurie	roz	cp, pt
Kişmiş moldovenesc	R. Moldova	semitardivă	albastru-negru	cp
Apiren roz	R. Moldova	medie	roz	cp, pt
Apiren Alb	R. Moldova	medie	verde-galbui	cp, pt
Apiren roz Basarabean	R. Moldova	medie	roz	pt
Apiren negru de Grozești	R. Moldova	medie	albastru negru	pt
Apiren roz timpuriu	R. Moldova	foarte timpurie	roz	cp, pt
Romulus	SUA	medie		pt
Mecita	Ucraina	medie	roz	cp, pt
Flame seedless	SUA	timpurie	roșie	cp
Sublima seedless	Argentina	timpurie	verde-galbui	cp
Thomson seedless (Kuşmiş alb)	Iran	medie	verde-galbui	cp, pt
Monukka (Kuşmiş negru)	Iran	medie	albastru-negru	cp, pt
Jupiter	SUA	timpurie	albastru	cp

* - cp - consum în stare proaspătă; pt- procesare tehnologică

Fertilitatea și productivitatea sunt însușirile de bază în aprecierea potențialului productiv al unui soi. Fertilitatea este un factor important în determinarea calității, cantității și profitabilității unei culturi. Procentul de lăstari fertili este variabil în funcție de soi și pentru soiurile cu struguri de masă cuprinde valori între 40-60%, iar pentru soiurile apirene 20-40% [4, p.175].

În condițiile Colecției ampelografice a IȘPHTA (amplasată în regiunea vitivinicolă Centru a Republicii Moldova, în perioada anilor 2020-2023 a fost studiată fertilitatea soiurilor apirene create sau evidențiate în cadrul institutului. Conform datelor prezentate în tabelul 2, cu un procent de lăstari fertili sporit se mafestă soiurile Romulus – 65,51%, Apiren Roz Basarabean - 63,18%, Apiren negru de Grozești - 61,86%. Un procent de lăstari fertili, semnificativ mai scăzut, se atestă la soiurile Apiren Alb - 42,55% și Flame seedless - 43,2%.

Tabelul 2. Fertilitatea și productivitatea soiurilor apirene (media pe anii 2020-2023, Colecția ampelografică a IȘPHTA)

Soiul	Lăstari fertili, %	Coeficientul de fertilitate		Indicele de productivitate	
		absolut	relativ	absolut	relativ
Kişmiş lucistâi	47,50	1,20	0,52	436,9	189,3
Apiren roz	57,58	1,10	0,62	436,5	246,0
Apiren Alb	42,55	1,07	0,51	414,8	197,2
Apiren roz Basarabean	63,18	1,19	0,75	391,8	244,9
Apiren negru de Grozești	61,86	1,18	0,73	293,6	181,3
Apiren roz timpuriu	52,54	1,17	0,62	228,3	121,0
Romulus	65,51	1,36	0,87	312,3	199,8
Mecita	47,40	1,21	0,58	386,8	185,4
Flame seedless	43,20	1,24	0,54	278,5	121,3

Productivitatea reprezintă capacitatea viței de vie de a forma și dezvolta struguri, și este în strânsă corelație cu fertilitatea soiului [4, p. 176]. Productivitatea se apreciază prin indicele de productivitate, care reprezintă producția medie de struguri pe lăstar. Valori înalte ale indicilor de productivitate, în anii de cercetare, au înregistrat soiurile Apiren roz, Kișmiş lucistâi, Apiren roz Basarabean, Mecita (tabelul 2).

Rezistența la iernare a viței de vie este capacitatea țesuturilor de a supraviețui la temperaturile minime din timpul iernii și toamnei [9]. Rezistența ochilor la iernare a soiurilor apirene a fost determinată prin calcularea procentului de ochi porniți în vegetație la coardele de rod, care au fost lăsate după tăiatul în uscat. Conform datelor prezentate în Figura 1, procentul de ochi porniți în vegetație cuprinde valori între 61,4-78,8%, ceea ce indică o rezistență medie-sporită la iernare a soiurilor apirene cercetate.

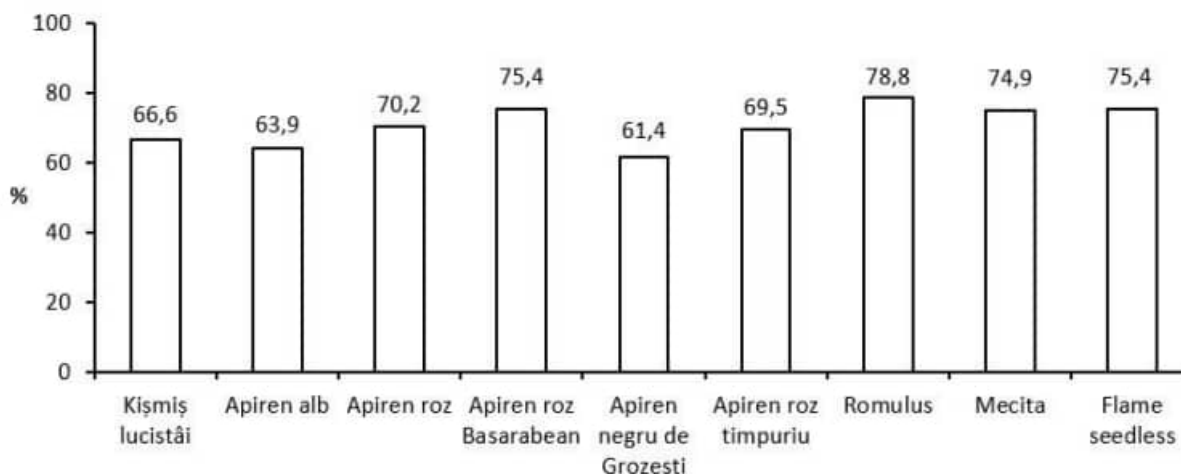


Figura 1. Procentul de ochi porniți în vegetație a soiurilor apirene (media 2020-2023)

Greutatea medie a strugurelui este unul din elementele de productivitate, care are influență directă asupra recoltei soiului de viță de vie [7]. În cadrul soiurilor studiate majoritatea lor posedă valori medii a greutății strugurilor - Apiren roz (396,8 g), Apiren Alb (387,7 g) și Kișmiş lucistâi (364 g) (tabelul 3). O greutate mica a strugurelui a înregistrat soiul Apiren roz timpuriu (195,1 g).

Tabelul 3. Insușirile tehnologice a soiurile apirene (media pe anii 2020-2023, Colecția ampelografică a IȘPHTA)

Soiul	Greutatea strugurelui, g	Lungimea bobului, mm	Greutatea a 100 boabe, g	Conținutul mustului în:		Nota la degustația organoleptică
				zaharuri, g/dm ³	aciditate titrabilă, g/dm ³	
Kișmiş lucistâi	364,1	23,7	327,1	195,0	4,5	9,0
Apiren roz	396,8	17,0	238,1	212,0	8,0	8,8
Apiren alb	387,7	16,0	170,8	207,3	7,7	8,5
Apiren roz Basarabean	326,7	14,0	153,1	205,8	8,2	8,4
Apiren negru de Grozești	248,3	14,0	143,8	204,3	7,5	8,3
Apiren roz timpuriu	195,1	15,5	201,0	241,0	7,9	8,8
Romulus	229,7	14,1	159,8	224,5	7,7	
Mecita	319,7	17,1	262,1	199,3	7,3	8,6
Flame seedless	224,7	15,5	202,2	209,8	7,8	8,6



Greutatea a 100 boabe evidențiază aspecte privind mărimea bobului, caracter de bază în completarea aprecierii valorii unui soi. Cea mai mare greutate a 100 boabe s-a înregistrat pentru soiul Kişmiş lucistâi. Gradul de maturare și calitatea strugurilor a fost apreciată prin determinarea conținutului de zaharuri și aciditate titrabilă în must. Soiurile apirene cercetate acumulează cantități sporite de zaharuri în must (195-224 g/dm³), iar o cantitate foarte înaltă de zaharuri în must s-a înregistrat pentru soiul Apiren roz timpuriu - 241 g/dm³. Astfel, după conținutul de zaharuri în must determinat, strugurii soiurilor apirene pot fi consumați atât în stare proaspătă, cât și utilizați în industria alimentară pentru a produce compot, dulceață, suc, marinate, stafide. La degustațiile organoleptice a strugurilor în stare proaspătă soiurile au fost apreciate cu 8,5-9,0 puncte.

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БАГАТОРІЧНА ДИНАМІКА СЕРЕДНІХ РІЧНИХ ТЕМПЕРАТУР ПОВІТРЯ ЦЕНТРАЛЬНОЇ УКРАЇНИ

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Abstract. Olha Helevera, Mykola Mostipan, Sergii Topolnyi. Long-term dynamics of mean annual air temperatures in central Ukraine.

The long-term dynamics of average annual air temperatures in Central Ukraine are analyzed based on data from weather stations in Kropyvnytskyi, Uman, and Poltava for 1880-2020. Moderate positive air temperature dynamics with an increase of 0.7-1.5°C over the entire period were revealed. There are periods of temperature rise and stabilization. The most significant warming has occurred in recent decades, starting in the 1990s. The similarity of temperature dynamics in different cities indicates the regional nature of the warming process. The possible consequences of climate change for agriculture in Central Ukraine are considered, including the need to introduce new crops, varieties, and technologies.

Keywords: climate change, average annual temperatures, air temperature, central Ukraine.

Зміни клімату є однією з найбільш гострих екологічних проблем сучасності. Вивчення багаторічної динаміки температур дозволяє оцінити масштаби і швидкість глобального потепління для України, що є важливим для розробки стратегій адаптації сільського господарства. Дані центральних областей України доповняють уявлення про загальноукраїнські тенденції зміни температур. Тому вивчення локальних особливостей клімату та зміни середньорічних температур повітря в центральній Україні є актуальним.

Дослідження глобальних змін клімату та регіональних проявів цих процесів висвітлено у працях багатьох вчених. Зокрема, у роботах Осадчого В.І. та Решетченко С.І. [1, 8] проаналізовано динаміку температури в Україні за період 1881-2017 років на основі даних метеорологічних спостережень. Виявлено помірне підвищення середньої річної температури повітря в середньому на 0,5-1°C за 100 років. У роботах Бойченко С.В., Замфірової М.С., Хохлова В.М. [4, 2] на основі кліматичного моделювання встановлено ймовірне подальше підвищення температури в Україні на 1,5-3°C до 2100 року залежно від сценарію викидів парникових газів. У роботах Бабіченко В.М., Краковської С.В. [6, 5] показано регіональні відмінності змін температури: найбільше потепління спостерігається в Карпатах та північно-східних регіонах України.

Отже, наукові дослідження вказують на помірно підвищення середньої температури повітря в Україні за останні 100-150 років та ймовірно подальше зростання температур в майбутньому. У північних та північно-східних регіонах України відбулося зростання річної температури на $1,0 \pm 0,2^\circ\text{C} / 100$ років; в південних та південно-західних регіонах це збільшення було лише на $0,5 \pm 0,1^\circ\text{C} / 100$ років. Також помітно зменшилася амплітуда сезонного коливання температури на приблизно $0,4-0,5^\circ\text{C}$, з вираженим потеплінням у холодний та весняний періоди.

Дослідники зауважують, що зміни клімату в Україні позитивно вплинули на рослинництво, зокрема, відбулося підвищення врожайності озимої пшениці в усіх природно-кліматичних зонах: у лісостепу до 10-15%, а в степу і зоні мішаних лісів до 20-30%. Очікується, що зміни клімату призведуть до помітного зростання урожайності озимої пшениці та інших зернових культур у середньостроковій і довгостроковій перспективі. Однак ці зміни можуть вплинути на знизити урожайність деяких культур, таких як кукурудза, сорго та просо [7].

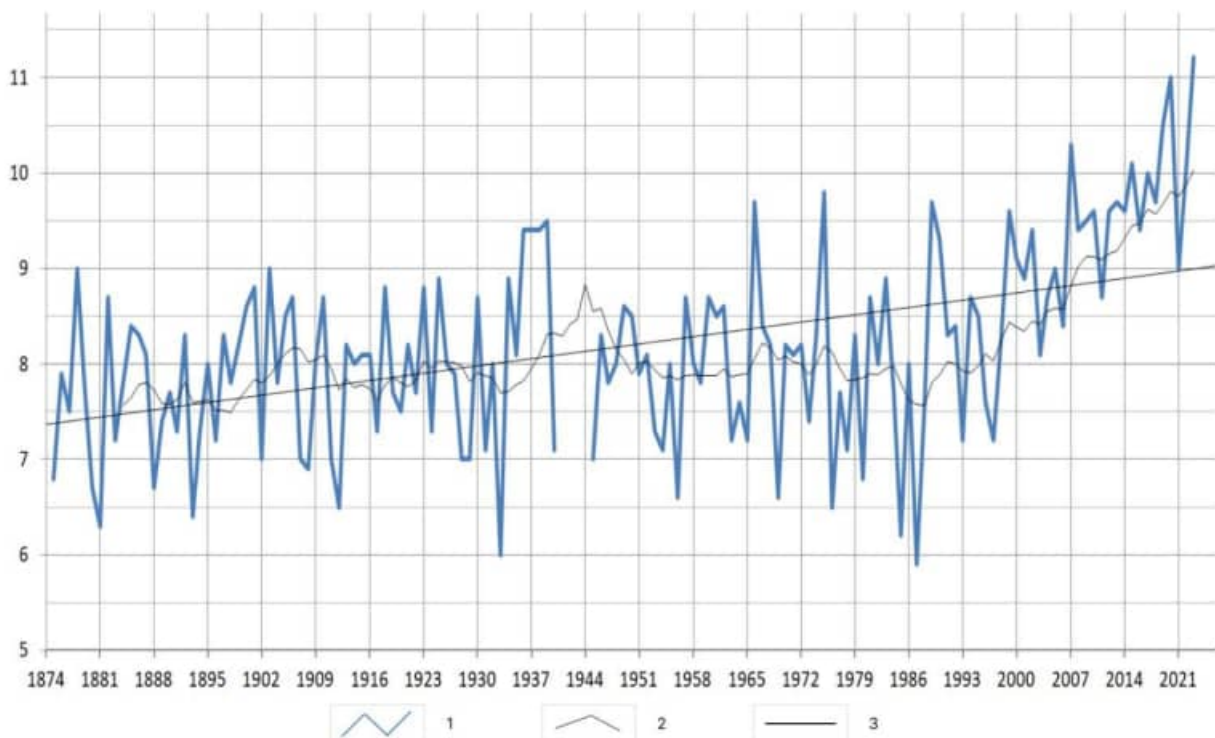


Рис. 1. Середні річні температури у $^\circ\text{C}$ м. Кропивницького: 1 – емпіричні дані; 2 – одинадцятирічні ковзні; 3 – лінійний тренд

Тому важливо дослідити зміни середніх річних температур повітря в центральній Україні, адже, реконструкції глобальної температури не надають деталізованої інформації щодо регіональних варіацій, тому вивчення локальних кліматів залишається важливим напрямком досліджень. **Метою статті** є аналіз даних метеостанцій центральної України, які мають найтриваліший безперервний чи майже безперервний період спостережень (Умань, Кропивницький, Полтава) для вивчення змін середньорічних температур повітря протягом 138-199 років. Ряд вчених виділяють періодичні компоненти кліматичних змін, основним з яких є одинадцятирічний цикл сонячної активності (цикл Швабе) [3], тому окрім емпіричних даних на графіках ми додали одинадцятирічні ковзні.

Аналіз динаміки середніх річних температур у місті Кропивницькому (рис. 1) показує: Середня багаторічна температура повітря складає $+8,15^\circ\text{C}$. Найнижча була зафіксована у 1987 році $+5,9^\circ\text{C}$. Найвища – у 2023 році $+11,2^\circ\text{C}$. Середні річні температури в Кропивницькому за період спостережень коливалися від 7 до $9,5^\circ\text{C}$. Спостерігається тенденція до підвищення

температур, лінійний тренд показує зростання приблизно на $1,5^{\circ}\text{C}$ за весь період. Найнижчі температури спостерігалися на початку періоду, приблизно до 1965 року, а потім відбулося помітне підвищення температур. У 1970-1980-х роках спостерігався період відносного зниження температур, а після 1990-х – знову тривале підвищення.

Одинадцятирічні ковзні показують поступове підвищення температур з деякими коливаннями. Видно періоди підвищення і зниження, зокрема, з 1989 по 2022 також відбулося досить значне підвищення температури. Отже, аналіз динаміки свідчить про наявність помітного підвищення середньорічної температури повітря в Кропивницькому за останні 100 років приблизно на $1,5^{\circ}\text{C}$. Спостерігаються періоди підвищення і невеликого зниження температур, але в цілому тренд є позитивним. Найбільш інтенсивне потепління відбувається в останні два десятиліття.

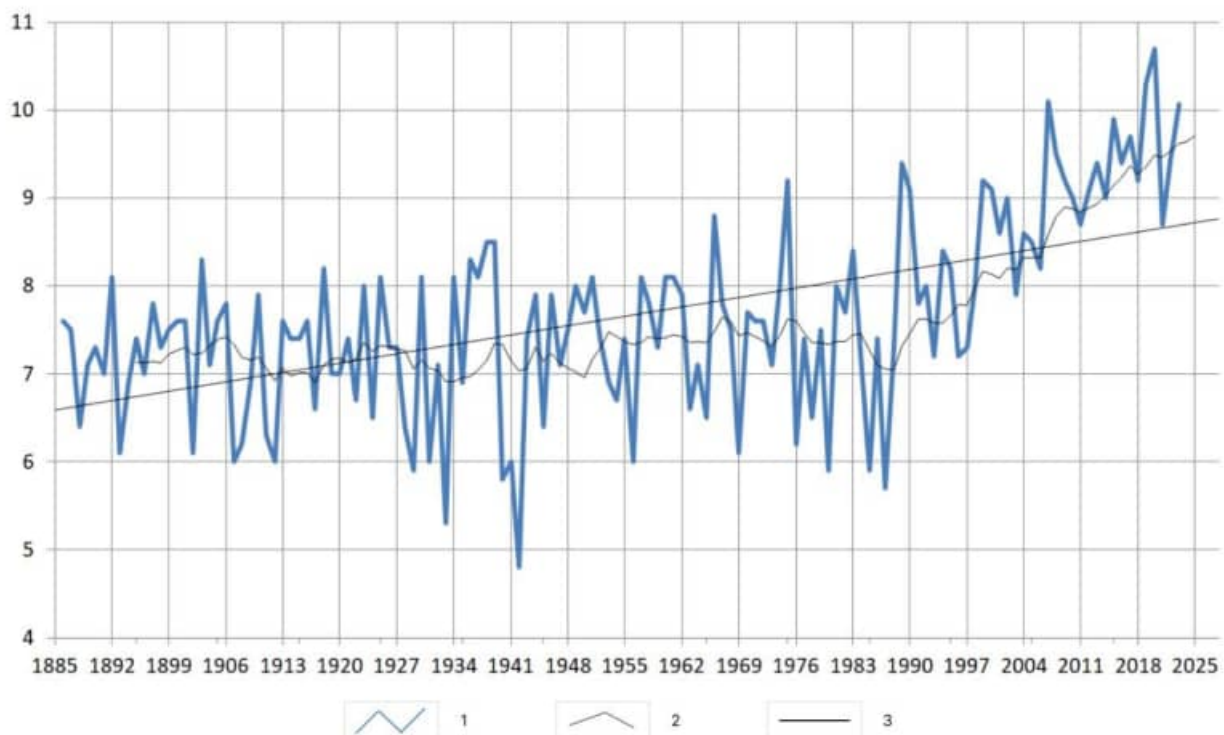


Рис. 2. Середні річні температури у $^{\circ}\text{C}$ м. Умані: 1 – емпіричні дані; 2 – одинадцятирічні ковзні; 3 – лінійний тренд

Аналіз динаміки середніх річних температур повітря в місті Умані (рис.2) показує наступне: Середня багаторічна температура повітря складає $+7,62^{\circ}\text{C}$. Найнижча була зафіксована у 1942 році $+4,8^{\circ}$. Найвища – у 2020 році $+10,7^{\circ}$. Середні річні температури коливалися в межах від $6,8$ до $8,4^{\circ}\text{C}$ протягом періоду спостережень. Лінійний тренд вказує на помірне підвищення температури приблизно на $1,6^{\circ}\text{C}$ за весь період. На початку періоду (до 1965 р.) спостерігалися найнижчі значення температур. У період з 1966 по 1975 рік відбувалося незначне підвищення температур. У 1980-1990-х роках спостерігалось незначне зниження температур. З 1990-х років почалося зростання температур, яке триває до наших днів.

Одинадцятирічні ковзні середні демонструють поступове підвищення температур з невеликими коливаннями. Найвищі температури спостерігалися в кінці періоду, починаючи приблизно з 2000 року. Отже, аналіз свідчить про наявність невеликого позитивного тренду середньорічних температур в Умані. Виділяються періоди підвищення і стабілізації температур. Найбільш інтенсивне потепління спостерігається в останні два десятиліття.

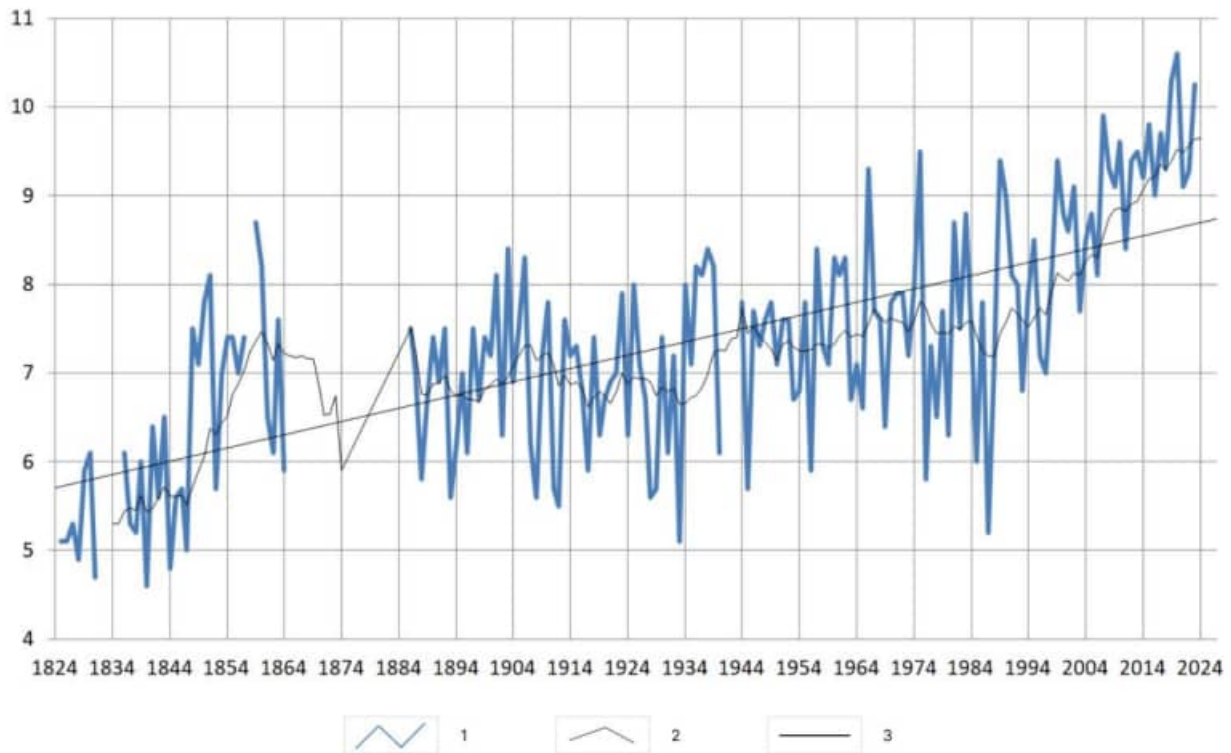


Рис. 3. Середні річні температури у $^{\circ}\text{C}$ м. Полтави: 1 – емпіричні дані; 2 – одинадцятирічні ковзні; 3 – лінійний тренд

Аналіз динаміки середньорічних температур повітря в місті Полтава (рис.3) відображає наступне: Середня багаторічна температура повітря складає $+7,29^{\circ}$. Найнижча була зафіксована у 1840 році $+4,6^{\circ}\text{C}$. Найвища – у 2020 році $+10,6^{\circ}\text{C}$. Середні річні температури коливалися в межах $5,9-8,4^{\circ}\text{C}$ протягом періоду спостережень. Спостерігається помірне підвищення температур - лінійний тренд вказує на зростання приблизно на $2,5^{\circ}\text{C}$.

На початку періоду (до 1930-х років) спостерігалися найнижчі температури. У 1930-1960-х роках відбулося помітне підвищення температур. У 1970-1990-х роках спостерігалася відносна стабілізація температур з невеликими коливаннями. З 1990-х років почалося зростання температур, яке триває до наших днів. Одинадцятирічні ковзні середні демонструють поступове підвищення температур. Найвищі температури спостерігаються наприкінці періоду, починаючи з 2000-х років. Отже, аналіз свідчить про наявність невеликого позитивного тренду середньорічних температур у Полтаві з періодами підвищення і стабілізації. Найбільше потепління відбувається в останні два десятиліття.

На основі аналізу динаміки середніх річних температур в містах Кропивницький, Умань та Полтава можна виділити наступні спільні риси: У всіх містах спостерігається позитивний тренд середньорічної температури повітря за період спостережень, тобто її підвищення. Величина підвищення температури за весь період становить $1,5-2,5^{\circ}\text{C}$, що вказує на помірне потепління. Характерним є підвищення температур у 1930-1960-х роках після початкового періоду з відносно низькими температурами. У 1970-1990-х роках спостерігаються невеликі коливання температур навколо середнього рівня або стабілізація.

Найбільш інтенсивне підвищення температур відбувається в останні два десятиліття - з 1990-х років до теперішнього часу. Максимальні значення температур спостерігаються наприкінці періоду спостережень, починаючи приблизно з 2000 року.

Отже, для всіх трьох міст характерна схожа динаміка середньорічних температур з помірним підвищенням протягом ХХ століття та найбільш інтенсивним потеплінням в останні десятиліття. Це вказує на регіональну спільність процесу потепління. Зокрема, в Умані середні річні температури за весь період спостережень (138 років) зросли з $+6,8^{\circ}\text{C}$ до $+8,4^{\circ}\text{C}$, тобто на $1,6$ градуси. У Кропивницькому середні річні температури за весь період спостережень (149



років) зросли з $+7,4^{\circ}\text{C}$ до $+8,8^{\circ}\text{C}$, тобто на 1,4 градуси. У Полтаві середні річні температури за весь період спостережень (199 років) зросли з $+5,9^{\circ}\text{C}$ до $+8,4^{\circ}\text{C}$, тобто на 2,5 градуси (з 1886 року – з $+6,4^{\circ}\text{C}$ до $+8,6^{\circ}\text{C}$, тобто на 2,2 градуси). На усіх метеостанціях найбільш значне підвищення середніх річних температур відбулося у період з 1989 по 2023 роки.

Зміна клімату в центральній Україні, а саме підвищення температури повітря та зміна режиму опадів, має такі основні впливи на сільське господарство: Подовження вегетаційного періоду рослин дає можливість вирощувати більш теплолюбні культури та сорти. Збільшення посушливості влітку через підвищення температур та нерівномірний розподіл опадів посилює потребу розвитку зрошення та вирощування посухостійких культур. Зростання ризику екстремальних погодних явищ (посух, заморозків, граду, вітрової ерозії) негативно впливає на врожайність. Поширення шкідників та хвороб рослин через тепліші зими. Зміна часу настання фенологічних фаз рослин та сезонних сільськогосподарських робіт. Отже, зміна клімату вимагає адаптації сільського господарства центральної України шляхом впровадження нових культур і сортів, технологій вирощування, захисту рослин тощо.

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ОЦЕНКА УСТОЙЧИВОСТИ ЛАКТАЦИИ КОЗ, РАЗВОДИМЫХ В УСЛОВИЯХ БУДЖАКСКОЙ СТЕПИ, Р. МОЛДОВА

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Abstract. The study is devoted to a comparative assessment of the constancy and stability of lactation in Saanen goats and local goats bred in the Budjak terrain of the Republic of Moldova. It was found that the average coefficient of lactation constancy in goats of the Saanen breed during the experimental period was 82.8%, and in goats of the local breed - 51.4%. At the same time, the coefficient of lactation stability in both breeds did not differ significantly and was at the level of 88 - 90%. Analysis of the milk productivity indicator in the context of lactation periods revealed that the second period of lactation in relation to the first was milkier and showed a significant increase in both groups of animals - 113.6% and 110.5%, respectively. In the final period of lactation, a significant natural decrease in milk yield was observed in both studied breeds. However, in Saanen goats this inverse dynamics was less sharp (-29.11%) compared to goats of the local population (-42.45). The results obtained can be taken into account when developing recommendations for organizing targeted selection and breeding work to enhance the productive potential of goats in the region.

Keywords: Stability of lactation, constancy of lactation, milk yield, goats, milk production.

Известно, что на молочную продуктивность животных влияют множество факторов, связанных с уходом, кормлением, содержанием и вплоть до их генетических особенностей. У коз, как и у других животных, молочная продуктивность за лактацию является результатом процессов синтеза и секреции в вымени органических и неорганических соединений, активной и пассивной фильтрации крови специализированными эпителиальными клетками молочной железы [2]. На завершающем этапе сукозности начинается период быстрой клеточной активации, после чего начинается клеточная регрессия, протекающая с разной скоростью и заканчивающаяся запуском животных [1]. Из-за указанных физиологических механизмов наблюдается типичная динамика удоя в зависимости от времени, характеризующаяся начальным ростом продуктивности, достижением ее максимума (пика лактации) и дальнейшим ее снижением вплоть до полного завершения.

Определение устойчивости и постоянства лактации является одной из дополнительных характеристик молочной продуктивности. Устойчивая лактационная динамика свидетельствует о полноценном сбалансированном кормлении, о достаточном содержании энергии в рационе. Как отмечают ряд исследователи, лактационная динамика изменяется в зависимости от влияния породной принадлежности [1,4,6], возраста козы [3], условий среды и т.д. Скачки в удое у животных являются характерными признаками



уязвимости к стрессам. Также особенности лактации способны передаваться потомству, на основании чего селекционеры иногда включают показатели качества лактационной кривой в оценку племенных животных [3].

Селекция по качеству лактационной динамики позволит отбирать животных с более устойчивой лактацией, характеризующейся постепенным и умеренным снижением удоя. Это позволит, во-первых предотвратить раннее окончание лактационной деятельности, что нежелательно для хозяйств, во-вторых, получить максимально возможную прибыль.

Проблема повышения продуктивности коз и сохранения их здоровья в Молдове остаётся более острой, чем в странах с развитым молочным козоводством. По мнению Е. Никифорова, причиной этому являются недостаточно эффективные мероприятия, охватывающие вопросы кормопроизводства, содержания, здоровья животных, оптимизации кормления, процесса доения и в особенности оценки и анализа лактационной динамики у разводимых коз.[3].

Эта проблема сегодня актуальна не только для козодов любителей и фермеров, но и для АПК страны в целом. Учет этих факторов позволяет специалистам делать наиболее точные прогнозы по продуктивности разводимых животных.

Материал и методика исследований

Исследования проводились в S.R.L. «DMITNAT-ECO» АТО Гагаузия в период 2021 - 2022 гг. Объектом исследования явилось поголовье стада коз хозяйства. Материалом исследования послужили данные первичного зоотехнического и племенного учета животных.

Целью исследований явилась оценка коз стада по показателям молочной продуктивности и характеру лактационной деятельности. Для достижения обозначенной цели были поставлены следующие задачи:

- рассчитать коэффициент постоянства и устойчивости лактации у коз местной популяции и породы зааненская;
- провести сравнительную оценку постоянства и устойчивости лактации у исследуемого поголовья коз.

Статистические эффекты определяли путем проведения дисперсионного анализа (ANOVA), а различия между средними оценивали по критерию Тьюки (HSD) с помощью прикладной программы MINITAB 17.

Результаты исследований, представленные в таблице 1 свидетельствует о хорошей молочной продуктивности разводимых в хозяйстве коз. Средний лактационный удой за учетный период по зааненская породе составил 809 кг, а по местным козам 402 кг, что с точки зрения породности исследуемых животных характеризует стадо как продуктивно-потенциальное. Известно, что при благоприятных условиях содержания зааненская порода коз может продуцировать до 1000 кг и более, а потенциальная молочность молдавской местной популяции коз приближается к 500кг. [4,5]

В целях выявления фактического потенциала молочной продуктивности коз по обоим исследуемым породам нами осуществлены расчеты по определению коэффициентов постоянства и устойчивости лактации.

Общеизвестно, что у высокопродуктивных животных с выраженными высокими удоями коэффициент постоянства лактации достигает 90% и более, у коз с быстро снижающими удоями – 70% и ниже. [7]

Определение **коэффициента постоянства лактации (%)** вычисляли по следующей формуле:

$$КПЛ = (П_2 : П_1) \times 100\% \quad [7]$$

где: $П_1$ – удой за вторые три месяца лактации (4,5,6- месяцы);

$П_2$ – удой за три последующие месяцы лактации (7,8,9- месяцы).

Результаты проведенных расчетов показали (табл. 1), что коэффициент постоянства лактации у зааненских коз составил 82,8 %, а у местной популяции коз 51,4 %, что



свидетельствует о существенной разнице между исследуемыми породами. Достоверность выявленной разницы соответствует уровню, $P \leq 0,01$.

Другим существенным критерием при оценке потенциала молочной продуктивности является коэффициент устойчивости лактации. Принято считать, что у животных с выровненной лактацией коэффициент устойчивости достигает 90 - 99% и более, а со спадающей лактацией 70 - 80%. [7]

Таблица 1. Молочная продуктивность подопытных коз по периодам лактации

Показатели	Зааненская порода коз			Козы местной популяции			Mean	ANOVA
	Mean	SE M	St Dev	Mean	SE M	St Dev		
Удой за первый период лактации, кг	262.8	±6.14	13.72	150.0	±7.60	17.00	206.4	122.0***
Удой за второй период лактации, кг	298.6	±9.42	21.05	166.80	±6,82	15.25	232.7	114.0***
Удой за третий период лактации, кг	247.8	±14.3	32.0	86.40	±7.22	16.15	167.1	76.0**
Надой за лактацию, кг	809.2	±27.0	60.3	400.4	±20.0	44.7	604.8	108***
Коэффициент устойчивости лактации	88,20	±2,2	4.9	89,3	±2,6	5.8	89.2	0.3ns
Коэффициент постоянства лактации	82.8	±2.9	6.5	51.4	±2,4	5,4	67.1	50.0**

Mean- среднее значение показателя; SE Mean -средне арифметическая ошибка; St Dev- среднеквадратическое отклонение
Ns: not significant, **: significant at $p \leq 0.01$, ***: significant at $p \leq 0.001$

Коэффициента устойчивости лактации (%) вычисляли по нижеследующей формуле:

$$КУЛ = (Y_1 : Y_2) \times 100\% \quad [7]$$

где Y_1 - удой за первые 90-100 дней; Y_2 - за вторые 90-100 дней лактации.

Полученные результаты (табл. 1) показывают, что коэффициент устойчивости лактации у обеих групп был на уровне 88 - 90%, что явствует о наличии умеренно устойчивой лактации у исследуемого стада коз. Достоверной разницы между группами не выявлено.

Вместе с тем сравнительная оценка массового надоя коз показывает наличие существенной разницы между породами. Козы зааненской породы по этому показателю превосходили местную популяцию коз практически на 50 %, установленная разница высоко-достоверна, $P \leq 0,001$.

Учет и анализ уровня молочной продуктивности у наблюдаемых коз в разрезе лактационных периодов показал, что второй период лактации по отношению к первому периоду был существенно более продуктивным. У животных обеих исследуемых групп установлено значительное увеличение удоев молока, что составило соответственно 113 % и 110 % по отношению к предыдущему периоду. Однако уже с третьего периода лактации на завершающем этапе сукозности и изменения физиологических процессов в организме животных эти показатели существенно отличались между собой и показали разный уровень их снижения в группах, 62 % и 52 % соответственно.

Безусловно естественный спад удоя присутствовал в течении всей лактации у обеих пород животных, однако ее уровень был значительно ниже у зааненских коз 29,11% по сравнению с козами местной популяции - 42,45%. Полученные данные свидетельствует о более



высоком постоянстве лактации у зааненской породы коз и подтверждается статистически достоверной разницей, $p \leq 0.01$.

Вместе с тем полученные результаты при оценке постоянства лактации хотя и демонстрируют существенное преимущество коз зааненской породы - 82,8% против -51,4% у коз местной популяции (табл.1), но по факту обе группы находятся ниже отметки - 90%, который относится к пограничной отметке высоко стабильного уровня. [7]

Выводы. С учетом полученных результатов исследований, на наш взгляд, для обоснованного совершенствования стада молочных коз важна оценка по показателям молочной продуктивности с учетом их индивидуальных биологических особенностей. Данные продуктивности с разными коэффициентами устойчивости лактации козematок могут стать дополнительным тестом в селекции разводимых в регионе коз. В стаде следует вести отбор коз в племенное ядро с высоким коэффициентом постоянства лактации с соблюдением норм кормления.

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ПЕРСПЕКТИВЫ РАЗВИТИЯ BIOTEKHOLOGИИ В БЕЛОРУССКОМ ПОЛЕСЬЕ

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Abstract. A promising environment for the development of biotechnology is primarily agricultural. Thanks to scientific research, the introduction of selection and genetic methods, and cell cloning, it became possible to develop and improve selection. In the agro-industrial complex, biotechnological processes can increase yields and make plants more resistant to diseases and viruses.

Keywords: biotechnology, laboratory, berry and ornamental crops, Polesky State University.



Один из крупнейших городов юга Беларуси Пинск – древний культурный, духовный и исторический центр, известен уже более десяти веков. Первое упоминание о нем в летописи датируется 5 ноября 1097 года. Пинск по праву называют жемчужиной Полесья. Богатое наследие, удивительная природа и самобытность культуры местных жителей – полешуков – выделяют его среди других городов страны. Белорусское Полесье характеризуется значительным биоразнообразием животного и растительного мира. Леса занимают около 43 % территории и включают в себя такие типы как широколиственно-хвойные, широколиственные леса (дубравы, ясеневые-дубовые и ясеневые), черноольховые и березовые леса (низинные болота), имеются низинные и заливные луга. Встречаются доантропогеновые растения-реликты: водяной орех плавающий, сальвиния, альдрованда пузырчатая, рододендрон желтый [1].

Пинские болота приобрели европейскую известность с давних пор. Попадавшие на Полесье путешественники и завоеватели считали их одной из могущественных земных стихий. Сегодня эти болота – бесценное достояние республики. Ради них на Пинщину приезжают ученые и любители природы со всего мира, чтобы познакомиться с уникальной флорой и фауной, не знающими аналогов в других европейских странах [2]. В сложившихся климатических и географических условиях активно развивается сельское хозяйство, в том числе ягодоводство (выращивание голубики, клюквы, жимолости и др.).

В связи с этим большой интерес представляет одно из самых молодых высших учебных заведений страны – Полесский государственный университет: открыт в 2006 году. Из пяти факультетов особым спросом у абитуриентов пользуется биотехнологический, раскрывающий невероятные перспективы и широкие горизонты в научных исследованиях.

Биотехнологический факультет учреждения образования “Полесский государственный университет” основан в мае 2010 года, а кафедра биотехнологии еще раньше – в 2007 году, для прикладной подготовки специалистов, востребованных в сфере производства биотехнологической продукции по специальностям 6-05-0511-06 Биотехнология, 6-05-0511-01 Биология (профилизация: Микробиология и молекулярная биология), 7-06-0511-03 Микробиология (профилизация: Прикладная биотехнология).

В 2011 году открыта аспирантура для подготовки кандидатов наук по специальности “Биотехнология (в том числе бионанотехнологии)”, в 2012 году – осуществлен первый набор в аспирантуру по указанной специальности.

Биотехнология – это наука, изучающая возможности и разрабатывающая методы использования живых организмов (бактерии, простейшие, грибы, водоросли, высшие растения, животные), вирусов, отдельных субклеточных структур и ферментных систем для производства полезной человеку продукции. По определению биотехнология является прикладной наукой, которая в силу тесной связи с производством выдвигает определенные квалификационные и профессиональные требования к подготовке специалистов в этой области.

Подготовка специалиста в области биотехнологии – одна из наиболее сложных задач современной системы образования, поскольку биотехнология, как наука, находится на стыке биологии, химии, физики и математики, что предполагает на выходе серьезный теоретический задел, позволяющий специалисту связно формулировать жизнеспособные идеи. С другой стороны, специалист в области биотехнологии представляет собой инженера, способного материализовывать идеи в виде конечного продукта путем разработки и организации производственного процесса, что предполагает владение не только определенными практическими знаниями (ГОСТы, ОСТы, СанПиНы, и прочие действующие ТНПА; материально-техническая производственная база), но и практическими навыками.

В ноябре-декабре 2007 года группой сотрудников УО “Полесский государственный университет” была разработана концепция развития биотехнологии и подготовки специалистов в этой области на базе ВУЗа.



Ключевым объектом концепции является биотехнологический центр, представленный сетью современных, взаимодействующих между собой научно-исследовательских лабораторий для подготовки разработчиков по основным направлениям современной биотехнологии (ДНК- и клеточные технологии, сельскохозяйственная и промышленная биотехнология).

Отраслевая лаборатория “ДНК и клеточных технологий в растениеводстве и животноводстве учреждения образования “Полесский государственный университет” представляет собой успешную модель реализации данной концепции, апробированную при подготовке специалистов.

В настоящее время на базе отраслевой лаборатории разработаны 4 технологических регламента, а также получены 4 патента на изобретение – метод ускоренного производства посадочного материала *in vitro* ягодных и декоративных культур. Благодаря этому университету удалось заключить с представителями агропромышленного комплекса 4 лицензионных договора на право использования технологического регламента производства посадочного материала сортовой голубики высокой *Vaccinium corymbosum* L. по ускоренной технологии с использованием метода клонального микроразмножения растений *in vitro*.

С февраля 2022 г. УО “Полесский государственный университет” включен в Государственный реестр производителей элитного посадочного материала ягодных и декоративных культур и получил аттестат производителя оригинальных и элитных семян сельскохозяйственных растений.

Опыт инновационной работы с сортовой голубикой высокой успешно применен при разработке технологических регламентов производства растений других видов в промышленных объемах. В июне 2013 года разработаны технологические регламенты производства растений отдела Хвойные (*Pinophyta*) и аронии черноплодной *Aronia melanocarpa* (*Michx.*) в промышленных объемах, с использованием клеточных технологий *in vitro*.

Сотрудниками отраслевой лаборатории, а также студентами при подготовке курсовых, дипломных и магистерских работ создан фонд регенерантов для размножения *in vitro* ягодных (ежевика садовая, жимолость синяя, малина ремонтантная, земляника садовая, облепиха крушиновидная) и декоративных культур (рододендроны, лютик азиатский), в том числе краснокнижных (кадило сорматское).

На сегодняшний день ведутся работы по асептическому введению, стабилизации и размножению *in vitro* растений рода Павловния. Использование качественного посадочного материала суперсупер элита, свободного от вирусных и фитоплазменных патогенов для высадки в открытый грунт позволит в короткий срок получить деловую древесину [3].

В рамках реализации четырехстороннего протокола намерений о сотрудничестве между УО “Полесский государственный университет”, концерном “Брестмясомолпром”, КУУП “Маньковичи” и НТП ООО “ПлантаВин” (Республика Молодова) разработана технология производства генетически однородного и чистого от болезней посадочного материала столовых и коньячных сортов винограда. В настоящее время получены растения-адаптанты винограда сорта Бианка, который включен в Государственный реестр сортов, допущенных для производства, реализации и использования на территории Республики Беларусь. Полученные после прохождения закалки саженцы винограда соответствуют требованиям к сортовым качествам согласно постановлению Министерства сельского хозяйства и продовольствия Республики Беларусь от 4 октября 2017 г. N 49 “О внесении изменений и дополнений в некоторые постановления Министерства сельского хозяйства и продовольствия Республики Беларусь по вопросам семеноводства”. По разработанной технологии возможно производство растений-адаптантов иных сортов винограда, включенных в Государственный реестр.

Кроме того, в 2017 г. была создана отраслевая лаборатория “Инновационных технологий в АПК”. Лаборатория является структурным подразделением университета, целью которого является обеспечение на высоком научно-методическом и техническом уровне выполнения



научно-исследовательских работ и научного сопровождения инновационных проектов научно-исследовательских, опытно-конструкторских и технических работ (НИОКТР) по приоритетным направлениям научных исследований.

Хотя кафедра биотехнологии и факультет в целом являются молодыми, однако сотрудниками успешно реализовано большое количество научных проектов и хозяйственных тем: “Исследовать противоопухолевую, антимикробную и антиоксидантную активность полученного в глубинной культуре гриба *Stereum hirsutum*”; “Подготовка штамма почвенных бактерий Азотобактер хроококкум к патентному депонированию”; “Постановка на производство препаратов серии “Агровит”; “Установить функционально-биохимические перестройки мицелиальной культуры вешенки обыкновенной в зависимости от состава питательной среды”; “Изучить роль брассиностероидов в реализации биологической активности макро- и микромицетов”, “ДНК-штрихкодирование представителей отряда Полужесткокрылые из числа чужеродных инвазивных видов фауны Беларуси”, “Селекционно-генетические и трофологические способы в интенсификации животноводства”, “Молекулярно-генетический анализ образцов ДНК (определение аллелей гена β -казеина)”, “Биоэнергетика тромбоцитов как системный маркер митохондриальных и клеточных энергетических процессов в организме человека”, “Регуляция активности белков множественной лекарственной устойчивости с использованием Шиффовых оснований флавоноидов и их комплексов с металлами”, “Определение качественных показателей питательности зерновой группы компонентов кормов и функциональная диагностика растений”, “Функциональная диагностика минерального питания растений и агрохимическая характеристика почв”, “Разработать экспертное заключение о применении геотекстильного полотна при выращивании сельскохозяйственных культур в открытом и закрытом грунтах с ОАО “Пинские нетканые материалы”, “Обучение на основе передового опыта стран ЕС в области радиационной защиты и культуры ядерной безопасности для белорусского академического сообщества”, “Эколого-биологические и молекулярно-генетические аспекты состояния и функционирования живых систем как основа развития биотехнологии Пинского (Полесского) региона”, “Агроконсалтинговое сопровождение культивирования посадок ежевики” и многие другие.

Подключение студентов к реализации текущих НИР помогает решать прикладные задачи, направленные на социально-экономическое развитие Полесского региона в рамках учебно-научного производства и подготовки квалифицированных кадров в области биотехнологии.

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РОЛЬ ПРОФИЛЬНЫХ КЛАССОВ В ФОРМИРОВАНИИ КАДРОВОГО ПОТЕНЦИАЛА АГРАРНОЙ ОТРАСЛИ

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Abstract. The article examines the problems of the formation of the human resources potential of agriculture of the Republic of Belarus, identifies possible directions for improving the system of providing the agricultural sector with qualified personnel through the creation of specialized specialized classes of agricultural orientation.

Keywords: agroclasses, agro-industrial complex, agriculture, agricultural education, agricultural economics, higher education, human resources, specialized classes, young specialists, vocational training.

Агропромышленный комплекс и его базовая отрасль — сельское хозяйство относится к числу народнохозяйственных комплексов Республики Беларусь, формирующих условия продовольственной и экономической безопасности, а также трудовой и социальный потенциал в сельской местности.

Состояние системы кадрового обеспечения сельского хозяйства значительно зависит от демографической и трудовых ресурсной ситуации сельских территорий. Особенностью демографической ситуации в Республике Беларусь на протяжении последних двух десятилетий являлось сочетание двух разнонаправленных процессов: прироста общей численности городского населения при одновременном снижении численности сельских жителей. Так, за анализируемый период (2000–2022 гг.) численность сельского населения сократилась на 988,9 тыс. человек (на 33,2 %) и составила на 1 января 2023 г. 1988,2 тыс. человек (21,6 % численности всего населения республики) [1]. Это достаточно высокий уровень урбанизации, характерный для таких стран, как Германия, Франция, Испания. Демографические процессы в республике в своем развитии во многом повторяют общеевропейские тенденции в сфере народонаселения. Формирование трудовых ресурсов в сельской местности происходит на фоне естественной и миграционной убыли населения (таблица 1).

Таблица 1. Показатели численности населения Республики Беларусь

Показатель	2000	2010	2015	2020	2022
Численность населения, тыс. чел.	9956,7	9472,0	9469,1	9349,6	9200,6
- городского	6979,6	2388,0	7267,2	7280,3	7212,4
- сельского	2977,1	7084,0	2201,9	2069,3	1988,2
В общей численности населения, %	100	100	100	100	100
- городского	70	74,8	76,7	77,9	78,4
- сельского	30	25,2	23,3	22,1	21,6

Примечание — составлено автором [2]

Значительное влияние на сокращение численности сельского населения оказывают миграционные процессы. Так, по причине внутренней миграции — перемещения населения из сельской местности в города — село ежегодно теряет от 1 до 2 % общей численности населения. Особенно острой проблемой в данной ситуации является «вымывание» молодежи,

являющейся наиболее мобильной частью сельского населения. Результатом становится нарушение процесса демографического воспроизводства на селе и деформация возрастной структуры сельского населения, а, следовательно, в перспективе — снижение трудового потенциала сельских территорий.

Возрастная структура сельского населения отличается от городского более высоким удельным весом населения старше трудоспособного возраста. Из общей численности сельского населения на конец 2022 года население в возрасте моложе трудоспособного составило 16,3 %, трудоспособном — 54,6 %, старше трудоспособного — 29,1 % (рисунок 1). Средний возраст населения в сельской местности составил 44,9 года, в сопоставление городских жителей — 40,2 года. Также необходимо отметить, что увеличение удельного веса населения трудоспособного возраста на сельских территориях за анализируемый период обусловлено проведением пенсионной реформы — ежегодно с первого января 2017 года минимальный возраст для оформления трудовой пенсии в Беларуси увеличивался на 6 месяцев и к началу 2022 года составил 58 лет для представителей женского пола и 63 года — для мужского.

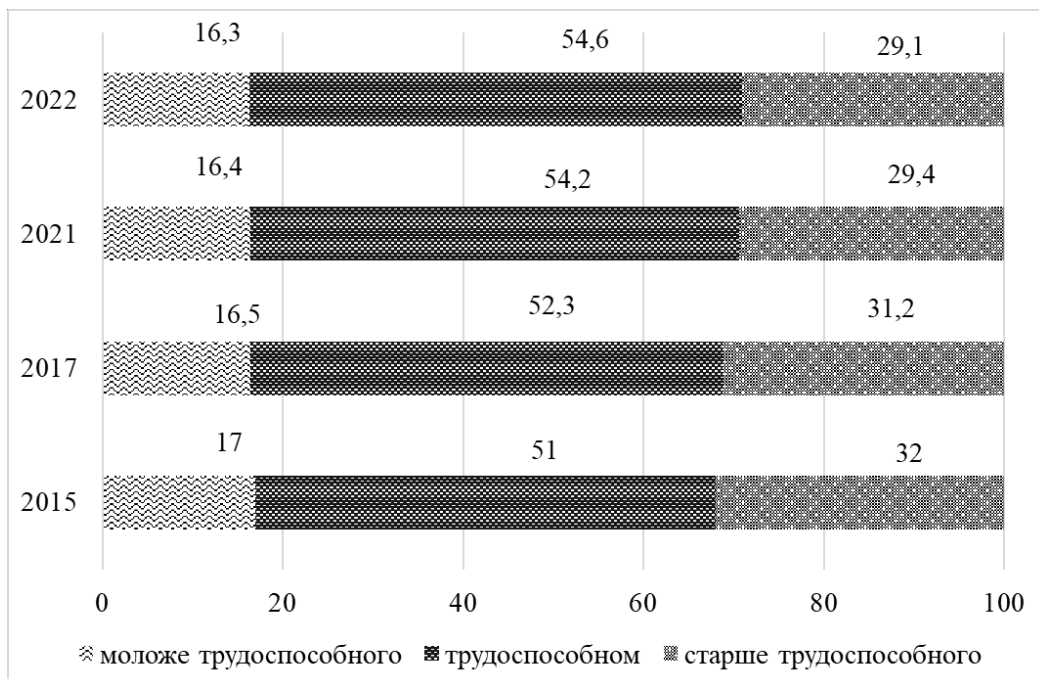


Рисунок 1. Возрастная структура сельского населения Республики Беларусь, %

Кроме сложившейся демографической ситуации в сельской местности на формирование кадрового потенциала аграрной отрасли отрицательно влияет «имидж» трудоустройства на селе, который определяется сложными условиями труда, ненормированным рабочим временем, нередко нестабильным финансовым положением хозяйств, отсутствием условий для личностного, профессионального и культурного развития, неразвитостью социальной инфраструктуры и т.п. В результате обеспеченность сельскохозяйственной отрасли Беларуси кадрами на протяжении последних лет составляет порядка 94 % по руководящим работникам и специалистам и 97 % — по рабочим.

Значимой проблемой является недостаточный уровень профессиональной подготовки аграриев: численность работников организаций сельского хозяйства с высшим и средним специальным образованием составляет 13,1 % и 17,7 % соответственно, в том числе среди руководящих работников и специалистов сельскохозяйственных организаций республики 47 % имеют высшее и 42 % среднее специальное образование. Проведенные исследования показали некоторую положительную динамику в уровне образования работников сельского

хозяйства в целом по отрасли: рост доли работников, имеющих высшее, среднее специальное и профессионально-техническое образование (рисунок 2).

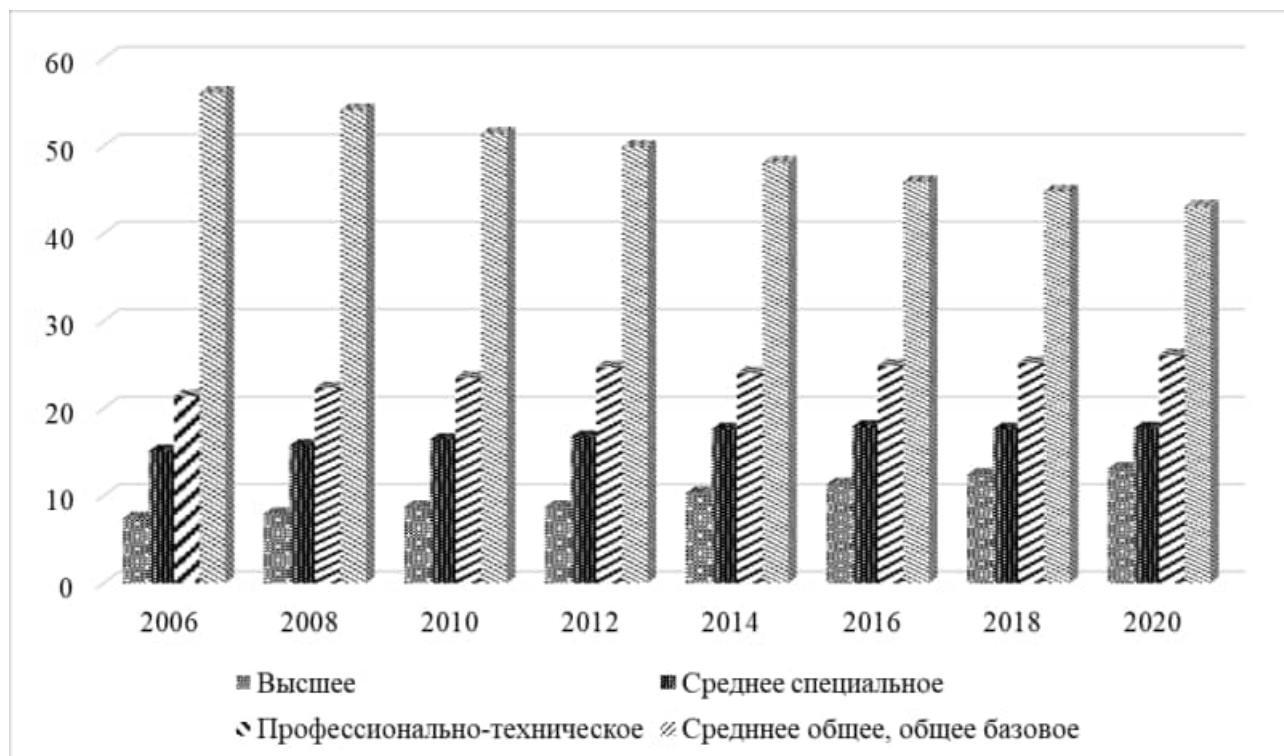


Рисунок 2. Образовательная структура занятых в сельском хозяйстве Республики Беларусь, %

Одним из самых острых вопросов остается закрепляемость на селе молодых специалистов, являющихся главным кадровым потенциалом сельскохозяйственной отрасли страны (закрепление специалистов в отрасли составляет порядка 50 %).

Система подготовки кадров аграрного образования имеет ряд традиций и основана на принципах непрерывности, интегрируемости, преемственности, системности. Следовательно, повышение привлекательности сельскохозяйственного труда зависит в том числе от системы аграрного образования, от ее способности привлечь перспективных молодых людей, заинтересованных в дальнейшей работе в аграрной сфере [3].

На сегодняшний день в структуру аграрной системы образования в Республике Беларусь включены агроклассы (допрофессиональная подготовка), колледжи, университеты и академии. Одновременно непрерывное профессиональное образование руководящих работников, специалистов, рабочих осуществляют институты и факультеты повышения квалификации и переподготовки кадров агропромышленного комплекса учреждений образования, учебные центры, центры повышения квалификации при управлениях по сельскому хозяйству и продовольствию областных и районных исполнительных комитетов.

Создание профильных классов аграрной направленности явилось логичным шагом в решении кадрового вопроса на селе. Постановлением совместного заседания коллегий Министерства образования Республики Беларусь и Министерства сельского хозяйства Республики в целях кадрового обеспечения сельскохозяйственных организаций квалифицированными кадрами, необходимости повышения престижа сельскохозяйственных профессий у молодежи было принято решение о создании с 1 сентября 2018 года профильных классов аграрной направленности в учреждениях общего среднего образования путем проведения факультативных занятий в 10–11 классах «Введение в аграрные профессии» [4]. Создание агроклассов призвано способствовать решению следующих задач:

- осознанному выбору будущей профессии учащимися;
- расширению возможностей образовательного пространства школы при тесном взаимодействии школы с учреждениями среднего специального образования, высшего образования и обязательно работодателя (выездные занятия на передовые сельхозпредприятия, экскурсии, практические занятия, посещения учреждений образования аграрной направленности и т.п.);
- ознакомлению учащихся с современными достижениями аграрной отрасли;
- повышению образовательного уровня потенциальных абитуриентов в области профилирующих дисциплин;
- повышению престижа аграрного образования, аграрной науки и сельскохозяйственных профессий.

Таким образом, изучая уже в школе основы сельскохозяйственного производства, учащиеся получают ощутимый багаж знаний для продолжения обучения в данном направлении.

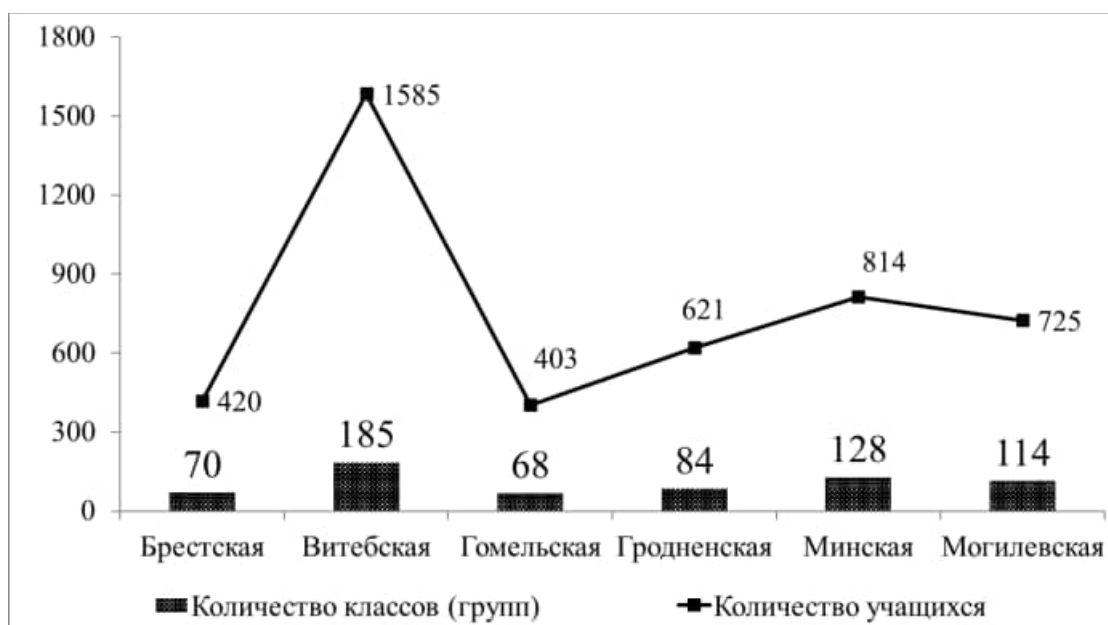


Рисунок 3. Количество профильных аграрных классов в Республике Беларусь (в разрезе областей), 2022–2023 учебный год

За пять лет реализации проекта количество учащихся профильных классов составило более четырех с половиной тысяч человек (рисунок 3), из них порядка 71 % — сельские ребята, 29 % — городские.

Несмотря на определенные надежды и успехи в реализации направления по созданию агроклассов, данный «проект» испытывает и трудности. По результатам исследований только 30–50 % выпускников аграрных классов поступают в учреждения сельхозпрофиля. Остальные же учащиеся используют возможность углублённого изучения предметов биологического и химического профиля как своего рода бесплатное репетиторство.

По нашему мнению, только мотивированный абитуриент может стать высококлассным специалистом. Анализ причин, побудивших учащихся средних школ поступать в агроклассы показал, что в 37 % случаях это было продиктовано возможностью зачисления в учреждение высшего образования без вступительных испытаний на условиях целевой подготовки, в 32 % — рекомендациями, нередко настоятельными, школьных учителей, в 20 % — хорошей успеваемостью по профилирующим предметам. Особую обеспокоенность вызывает тот факт,



что выбор у 12 % опрошенных был обусловлен внешними обстоятельствами и скорее был вынужденным, а внутренние мотивы, такие, как «нравится профессия» и «привлекательность профессии» составили всего 12 % и 9 % соответственно. Были и респонденты, совершившие выбор «случайно» (12 %!) [5].

Определенно можно утверждать, что агроклассы — это актуальное и необходимое направление в реализации кадровой политики аграрной отрасли Беларуси. Их перспективной задачей является формирование у подрастающего поколения уважительного отношения к сельскохозяйственному труду, профессиональное самоопределение, налаживание тесного сотрудничества аграрных учреждений образования с передовыми сельскохозяйственными предприятиями.

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РОЛЬ ОРГАНИЗАЦИОННО-УПРАВЛЕНЧЕСКОГО ФАКТОРА В ЦИФРОВИЗАЦИИ БЕЛОРУССКОГО СЕЛЬСКОГО ХОЗЯЙСТВА

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Abstract. The Republic of Belarus, striving for modern technologies, is actively introducing digital innovations into the agricultural sector. One of the main advantages of digitalization of agriculture is the opportunity to increase production efficiency and improve the quality of agricultural products. Thanks to the use of modern information technologies, agricultural producers can manage all aspects of their farms, starting with crop planning and ending with monitoring the condition of plantings and crop storage conditions. This allows you to more accurately allocate resources, increase yields, as well as reduce losses and avoid possible risks.

Keywords: digitalization, agriculture, digital technologies, precision farming, efficiency, productivity, automation.



Цифровизация сельского хозяйства Республики Беларусь является одной из стратегических целей страны. Главным направлением в области цифровизации сельского хозяйства в Республике Беларусь является создание национальной инфраструктуры цифровой сельскохозяйственной экономики. Цель этой инфраструктуры – обеспечить доступ к современным технологиям и информационным ресурсам для аграрных предприятий всех размеров и форм собственности. Инфраструктура включает в себя различные компоненты, такие как цифровые платформы, облачные сервисы, интернет вещей и большие данные.

Усилия правительства по внедрению информационных технологий в сельское хозяйство страны привели к существенному улучшению производительности и эффективности сельскохозяйственного производства. Так, производство продукции, в ценах, во всех категориях хозяйств в 2022 году увеличилась на 121,8% по сравнению с 2021 годом, рентабельность продаж в 2022 году увеличилась до 9,3% по сравнению с 2015 годом – 4,3%, а индекс производства продукции по сравнению с 2015 годом в 2022 году увеличился на 13,2%, в том числе продукция растениеводства на 22,4% и продукция животноводства на 4,8% [1, с. 10].

С целью активизации цифровизации сельского хозяйства были приняты и введены в действие ряд нормативно-правовых актов, которые регулируют основные аспекты цифровой трансформации страны. Первым значимым документом в этой сфере стал Декрет Президента Республики Беларусь «О развитии цифровой экономики» от 21.12.2017 № 8. Данный Декрет включает меры по либерализации условий ведения предпринимательской деятельности в сфере информационных технологий, в частности, цифровой экономике.

Еще одним ключевым документом является Постановление Совета Министров Республики Беларусь от 2 февраля 2021 г. № 66 «О Государственной программе «Цифровое развитие Беларуси» на 2021-2025 годы». Данный документ определяет основные принципы развития цифровой экономики, ее регулирования и стимулирования и предусматривает меры по созданию и развитию интегрированной цифровой инфраструктуры в стране, включающей комплекс мероприятий по созданию электронных государственных услуг, цифровизации процессов в сфере образования, здравоохранения, транспорта и других сферах жизни общества.

Отдельные блоки по цифровизации, выделены в Стратегии развития информатизации в Беларуси на 2016–2022 гг., в Государственной программе инновационного развития на 2021–2025 гг., а также в Национальной стратегии устойчивого социально-экономического развития Республики Беларусь на период до 2030 г. и Стратегии «Наука и технологии: 2018–2040». В Государственной программе «Аграрный бизнес» на 2021–2025 гг., утвержденной постановлением Совета Министров от 01.02.2021 г. №59, развитие информационно-коммуникационных технологий предусматривается в рамках двух основных разделов: реализация проектов по созданию пилотных инновационных объектов по отработке новейших перспективных технологий, машин и оборудования для агропромышленного комплекса, а также разработка, внедрение и сопровождение информационных технологий в агропромышленном комплексе [2, с. 12].

На сегодняшний день Республика Беларусь активно развивает свою цифровую сферу и продолжает принимать новые нормативно-правовые акты, направленные на содействие цифровизации страны. Это свидетельствует о стремлении Республики Беларусь создать благоприятные условия для развития цифровой экономики, повышения эффективности государственного управления и уровня жизни граждан.

Цифровизация сельского хозяйства в Беларуси началась несколько лет назад и стремительно развивается. Она охватывает различные аспекты сельскохозяйственного производства, включая автоматизацию процессов, использование датчиков и сенсоров, анализ данных, применение искусственного интеллекта и многое другое.



Внедрение цифровой экономики позволяет снизить расходы не менее чем на 23 % при внедрении комплексного подхода. Однако необходимо знать, что бессистемность внедрения цифровых технологий приводит к низкой отдаче от их внедрения [3, с. 134].

Одним из важных направлений цифровизации сельского хозяйства Беларуси стала автоматизация процессов управления и контроля на сельскохозяйственных предприятиях. С помощью современных информационных систем и специализированного программного обеспечения сельхозпредприятия получают возможность управления сельскохозяйственными предприятиями, автоматизировать сельскохозяйственные процессы, мониторинга и анализа всех этапов производства, от посева и посадки до сбора урожая и складирования.

Внедрение систем мониторинга и управления в реальном времени позволяет сельхозпроизводителям снизить затраты на использование воды и химических удобрений, а также предотвращать возникновение болезней и вредителей. Благодаря сбору, анализу и использованию данных, сельскохозяйственные предприятия могут принимать более обоснованные решения, основанные на точных прогнозах и подробных аналитических отчетах. Это позволяет оперативно реагировать на изменения условий, что в свою очередь значительно повышает эффективность и оперативность работы, способствует росту производства и людского потенциала, контролируются расходы и увеличивается производительность.

В Республике Беларусь внедряются современные машинно-тракторные агрегаты и сельскохозяйственное оборудование, оснащенные сенсорами, системами навигации и дистанционного управления. Это позволяет повысить точность обработки полей, увеличить производительность и снизить затраты на топливо, удобрения и пестициды.

Минский тракторный завод совместно с Объединенным институтом машиностроения НАН Беларуси разработали трактор Belarus 3523i, в конструкции которого нет рабочего места для тракториста, машина способна функционировать полностью автономно.

Одной из важных и актуальных задач Беларуси в области цифровизации сельского хозяйства является развитие технологий Интернета вещей. Несколько проектов уже успешно реализованы, включая использование датчиков и автоматических систем в сельскохозяйственных предприятиях для мониторинга почвы, выявления нужд растений в поливе и подкормке, а также контроля за условиями содержания животных. Это позволило более точно регулировать процессы обработки, увеличить урожайность и сократить затраты на ресурсы.

В республике построено более 1400 молочно-товарных ферм с доильными залами автоматического учета полученного молока от каждой коровы и индивидуальной дозировкой выдачи корма, также установлены специальные датчики для определения здоровья животных и готовности к оплодотворению.

На предприятиях республики выпускают агрегаты, оснащенных элементами систем точного земледелия, а именно разбрасыватели минеральных удобрений, трактор «Беларус–4522» с системой управления «Автопилот», трактор «Беларус–3522» с бортовым компьютером управления, опрыскиватели РОСА и ОВС–4224 с системой дифференцированного внесения удобрений на основе карты поля, а также зерноуборочные комбайны КЗС–2124 с системой мониторинга урожайности [2, с. 13-14].

Важную роль в цифровизации сельского хозяйства Беларуси играет развитие геоинформационных систем. Благодаря использованию современных космических технологий и приборов, сельскохозяйственные предприятия получают доступ к цифровым картам, на которых отображена информация о почвенном покрове, уровне влажности, составе почвы и других факторах, влияющих на рост и развитие растений. Это помогает оптимизировать применение удобрений, выявить проблемные участки и принять меры по их решению, улучшить эффективность использования земельных ресурсов, оптимизировать природные ресурсы и снизить экологическое воздействие сельскохозяйственной деятельности.



Одной из ключевых составляющих цифровизации сельского хозяйства является электронное управление информацией о земле и сельскохозяйственных угодьях. Так, в Беларуси внедрена система электронного кадастра сельскохозяйственных угодий, которая позволяет оптимизировать процессы регистрации прав на землю, вести электронный учет площадей сельскохозяйственных угодий и контролировать их хозяйственное использование, а также осуществлять электронное взаимодействие между различными органами и организациями сельского хозяйства.

Цифровизация также затронула агрологистику и транспортировку сельскохозяйственной продукции. В Беларуси внедрена система электронного мониторинга и учета грузовых автомобилей. В результате сократилась время перевозки сельскохозяйственной продукции, повысилась прозрачность и контроль за перевозками, а также улучшилось планирование и оптимизация логистических процессов.

Неотъемлемой частью цифровой трансформации сельского хозяйства Беларуси является использование больших данных и аналитики. Аналитические платформы, основанные на искусственном интеллекте и машинном обучении. Алгоритмы машинного обучения и распознавания образов позволяют автоматизировать процессы диагностики заболеваний растений, полива и температурного режима, определять оптимальные сроки посева и сбора урожая, анализировать факторы риска, а также прогнозирования урожайности. Это способствует более точному прогнозированию результатов сельскохозяйственного производства, принимать рациональные решения на основе точных данных и аналитических выводов и повышению его эффективности.

Кроме того, цифровизация сельского хозяйства Беларуси способствует развитию электронной коммерции и онлайн-торговли сельскохозяйственной продукцией. Специализированные платформы и маркетплейсы позволяют сельскохозяйственным предприятиям эффективно продавать свою продукцию как на внутреннем рынке, так и на экспорт. Это открывает новые возможности для роста и развития сельскохозяйственных предприятий и способствует увеличению объемов производства.

В Беларуси уже реализованы несколько успешных проектов в области цифровизации сельского хозяйства. Одним из них является проект «Умное поле», который предполагает использование сенсоров и дронов для мониторинга состояния посевов и определения оптимального времени для внесения пестицидов и удобрения. Этот проект позволяет сократить расходы на пестициды и удобрения, а также повысить урожайность.

Еще одним успешным проектом является создание госсинфосистемы идентификации, регистрации, прослеживаемости сельхозживотных (стад), идентификации и прослеживаемости продуктов животного происхождения ГИС «АИТС», которая позволяет сельхозпроизводителям отслеживать состояние животных, контролировать их питание и здоровье, а также прогнозировать возможные проблемы. Это позволяет снизить потери и улучшить качество молока и мяса. В дополнение к ней разработаны функциональные комплексы: «АИТС-Прослеживаемость» и «АИТС-Ветбезопасность».

Также в Республике Беларусь реализуются технологии точного земледелия (системы параллельного вождения, GPS-навигации, системы учета расхода топлива) и внедряемые решения дают следующий эффект:

- экономия средств производства;
- экономия рабочего времени техники и персонала;
- полное использование потенциала урожайности;
- повышение качества продукции;
- рост производительности труда;
- экономия топлива минимум на 40%;
- рост прибыли сельхозпредприятия за счет повышения урожайности и снижения издержек.



Точное земледелие необходимо рассматривать как комплексную высокотехнологичную систему сельскохозяйственного менеджмента суть которой заключается в том, что технология обработки полей выполняется в зависимости от реальных потребностей выращиваемых в данном месте сельскохозяйственных культур.

Так в 2021 году весенний сев яровых зерновых и зернобобовых культур с использованием элементов системы точного земледелия проведен на 16% площади, сев озимых зерновых на зерно – на 10%. Также в 2021 году разработана концепция цифровой платформы «Точное земледелие», целью создания которой является информационное сопровождение, планирование и ведение хозяйственной деятельности на основе оперативного управления технологическими процессами в растениеводстве.

Прогнозы показывают, что к 2030 г. при внедрении технологий точного земледелия можно устойчиво выйти на урожайность в 42–45 ц/га и обеспечивать страну зерном в 13–14 млн т [3, с. 134].

Одним из главных преимуществ цифровизации сельского хозяйства является возможность повысить эффективность производства и улучшить качество сельскохозяйственной продукции. Благодаря использованию современных информационных и коммуникационных технологий, сельскохозяйственные организации могут управлять всеми аспектами своего хозяйства, начиная с планирования посевов и заканчивая контролем за состоянием посадок и условиями хранения урожая. Это позволяет более точно распределять ресурсы, повышать урожайность, а также сокращать потери и избегать возможных рисков. При правильном применении данных технологий значительно повысится эффективность производства, улучшится планирование и мониторинг процессов, а также обеспечится устойчивое развитие отрасли.

Кроме того, цифровизация сельского хозяйства стимулирует развитие информационной экономики, создает новые рабочие места и способствует инновационному развитию отрасли. Новые технологии и сервисы позволяют сельским предприятиям выходить на новые рынки и улучшать свою конкурентоспособность.

В целом, цифровизация сельского хозяйства в Республике Беларусь предлагает множество возможностей для улучшения эффективности и устойчивости отрасли. Правительство Республики Беларусь активно поддерживает развитие цифровой сельскохозяйственной экономики и создание современных технологических решений, чтобы обеспечить рост и конкурентоспособность белорусского сельского хозяйства.

В заключение, цифровизация сельского хозяйства в Республике Беларусь – это важный шаг к устойчивому развитию аграрной отрасли, что способствует развитию экономики страны, улучшению жизни сельских жителей и повышению конкурентоспособности белорусского сельского хозяйства на международном уровне.

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ВЫЯВЛЕНИЕ МИКРОБИОМА ВЕРЕСКОВЫХ И ОСОБЕННОСТЕЙ КУЛЬТИВИРОВАНИЯ ЭРИКОИДНЫХ ГРИБОВ

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Аннотация. Лучшими средами при первичном выделении *in vitro* эрикоидных микоризных грибов из корней растений семейства Вересковые, на которых отмечен умеренный рост мицелия с наибольшим количеством образцов, выявлены картофельно-сахарозный агар и сусло-агар. Среда Барнеса оказалась самой скудной для роста микоризных грибов, а среда Чапека в наибольшей степени проявила отсутствие роста микоризных грибов. Результаты исследования на состав микробиома выявили большое разнообразие микроорганизмов, населяющих ризосферу черники и голубики, также показали обилие полезных ризобактерий и грибов эрикоидной микоризы.

Ключевые слова: питательные среды, голубика, эрикоидная микориза, ризобактерии, микробиом.

Введение. Микориза растений разных видов различна по своему составу и для обсеменения любого вида растений требуется вносить необходимую конкретно ему микрофлору. Получение чистой культуры данных микроорганизмов для наращивания в глубинной культуре и последующего внесения ее в почву при переводе растений из пробирки в грунт является адекватным методическим подходом в растениеводстве, поскольку, помимо положительного влияния на само растение, оно повышает плодородие почвы и не приводит к ее загрязнению. Этот факт является весьма привлекательным с позиции органического земледелия [1, с.917].

На сегодняшний день популярной культурой, размножаемой микрорклонально, является голубика, посадочный материал которой востребован в Беларуси в весьма значительном количестве.

Отличительной особенностью всех представителей рода *Vaccinium* является строение их корневой системы, а именно отсутствие корневых волосков, обычно выполняющих функции всасывания питательных веществ и воды, недостаток которых в отсутствии микоризации при переносе клонированных растений в условия *ex vitro* и последующем их выращивании в условиях закрытого и открытого грунта значительно снижает адаптивные способности растений, замедляет рост и развитие. Особенно важным для решения этих задач в микробных технологиях являются подходы и приемы, основанные на экологически безопасных методах биологического земледелия, в которых используется ассоциативная микрофлора с микоризными грибами [2, с.455].

Цель исследования. Выявление благоприятной питательной среды при первичном выделении микоризных грибов и получение их чистой культуры, идентификация грибов-микоризообразователей, сопутствующей микрофлоры.

Материалы и методы. В качестве объекта исследований использовали корни представителей семейства вересковых растений аборигенного вида – черники, культурного вида – голубики высокорослой, микоризные грибы, выделенные из голубики, черники.

Выделение в чистую культуру микоризных грибов проводили в несколько этапов. На первом удаляли с корней ризосферную почву, на втором проводили многостадийную



поверхностную стерилизацию отмытых от почвы корней, на третьем – высевали фрагменты корней длиной не более 5 мм на твердые питательные среды: картофельно-сахарозный агар (КСА) и кукурузный агар (СМА), Барнеса, Чапека, сусло-агар (СА) [3, с.121, 4, с.302]. Для предотвращения развития бактерий вносили стерильный стрептомицин в количестве 4 мл/л. Всего было разложено 328 фрагментов корней. Культивирование проводили в темноте при 22-24°C в течение 4 недель, ежедневно контролировали рост, отслеживали спороношение, затем выделяли микромицеты в чистые культуры на отдельные чашки Петри на агаризованную среду, на которой данный гриб дал оптимальный рост. Идентификацию микромицетов и сопутствующей микрофлоры осуществляли на основе изучения морфологических, тинкториальных, культуральных, физиолого-биохимических свойств [5, 6]. Видовую идентификацию для грибов проводили с использованием СТАВ-метода ДНК-анализа [7, р.574]. Молекулярно-генетическая идентификация видов грибов проводилась в международной базе данных GeneBank NCBI [8].

Результаты и обсуждение. Через 28 суток на картофельно-сахарозном агаре из 60 образцов фрагментов корней наибольшая часть составила образцы, которые дали умеренный рост микромицетов (диаметр колоний составил 10-15 мм) – 42%, интенсивный рост мицелия наблюдался (диаметр колоний 15-25 мм) у 15%, отсутствие роста мицелия грибов составило 15% от общего числа высаженных грибов фрагментов корней на данную питательную среду.

На сусло-агаре из 60 образцов фрагментов корней умеренным ростом мицелия обладала большая часть фрагментов – 48%, интенсивный рост мицелия отмечен у 8%, слабый рост составил 35% от общего числа посаженных фрагментов.

При первичном выделении культивирование микромицетов на среде СМА из 52 образцов отсутствие роста мицелия наблюдали у 6%, тогда как наибольшая часть образцов обладала интенсивным ростом – 37%, при этом умеренный рост составил 25% образцов фрагментов корней.

Среды Барнеса и Чапека отличились своей скудностью для развития мицелия при первичном выделении грибов микоризы. На среде Барнеса не было образцов с интенсивным ростом, умеренный рост отслеживали лишь на 11%, отсутствие роста мицелия составило 28% образцов, а слабый рост (диаметр колоний 5 мм) дали 67% фрагментов корней.

На среде Чапека из 120 посаженных участков корней отсутствие роста мицелия составили 55% образцов, однако здесь же наблюдался и интенсивный рост грибов – 13% и умеренный – 17% образцов. Остальные фрагменты корешков на данной питательной среде были со слабым ростом, что составило 16%.

Если сравнивать рост эндофитов, выделяемых из фрагментов корней на всех пяти используемых нами экспериментальных средах, то среда на отваре из кукурузной муки (СМА) является наиболее благоприятной для первичного выделения микоризных грибов, дающей интенсивный рост мицелия *in vitro* – 37%. Лучшими средами, на которых отмечено наибольшее количество образцов с умеренным ростом мицелия, оказались картофельно-сахарозный агар и сусло-агар – 42 и 48%. Среда Барнеса оказалась самой скудной для микоризных грибов, на ней отмечен самый высокий процент со слабым ростом мицелия – 67% и вообще не встречается мицелий, который бы интенсивно развивался. В наибольшей степени отсутствие роста грибов контролировалось на среде Чапека – 55%. Значит выделение эрикоидных микоризных грибов надо осуществлять с правильным подбором факторов роста для них на одной или нескольких средах: СМА, СА, КСА, которые имеют низкое содержание фосфора, умеренное количество сахарозы и кислый уровень рН среды.

На питательных средах методом посева фрагментов корней было выделено через 28 суток 128 микромицетов из голубики, 200 – из черники. Последующее выделение микробиоты из корневых окончаний голубики и черники позволило создать чистые культуры для 28 видов, из них также были верифицированы микромицеты *Phialocephala fortinii* и *Pezicula sp.*, которые были акцентуализированы при проведении метагеномных исследований. Указанные штаммы



депонированы в Белорусской коллекции непатогенных микроорганизмов ГНУ "Институт микробиологии НАН Беларуси".

Также исследования показали, что большинство грибных видов являются общими для черники и голубики. Корни волос, колонизированные эрикоидной микоризой, содержат разнообразные сообщества аскомицетов отрядов *Helotiales*, *Erysiphales* (*Oidiodendron spp.*), *Leotiaceae* (*Pezoloma*), темные септированные эндофиты (*Meliniomyces*, *Phialocephala*), а также обилие *Hyaloscyphaceae* и некоторые базидиомицеты, таких как *Sebacinales* и *Clavaria spp.*

Представители рода *Sporotrichum* вид *Sporotrichum aureum*, рода *Coremium* вид *Coremiopsis rosea*, рода *Monilia* вид *Monilia humicola*, рода *Rhizophagus* вид *Rhizophagus irregularis*, рода *Mortierella* вид *Mortierella sp.*, род *Penicilium* виды *Penicilium cf. glabrum* и *Penicilium cf. rubrum*, родов *Cylindrocarpon*, *Pithomeces*, *Oidiodendron* были обнаружены исключительно в образцах корневой системы голубики.

Характерным для образцов корневой системы черники является наличие грибов из рода *Cylindrocladium* вид *Cylindrocladium sporarium*, рода *Pachybasium* вид *Pachybasium hamatum*, рода *Penicilium* вид *Penicilium cf. expansum* и *Penicilium cf. janthinellum*, род *Spicaria* вид *Spicaria elegans*, а также родов *Rhinocephalum*, *Rhinocephalum*, *Fusarium*.

Наиболее встречаемыми среди обнаруженных грибов оказались представители рода *Alternaria* вид *Alternaria alternata*, обширно представлен также род *Penicillium* вид *Penicilium sp.*, реже встречается род *Pezicula* и *Phialocephala*. Они выявлены в образцах как корневой системы черники, так и голубики.

Для дальнейшего углубленного изучения, получив чистые культуры выделенных нами грибов, были выбраны устойчивые и жизнеспособные грибы родов *Pezicula* и *Phialocephala*.

Зная, что микоризные грибы снабжают растения-хозяева азотом, фосфатом и другими питательными веществами, которые мобилизуются за счет расщепления сложных органических соединений грибковыми экзоферментами, а эрикоидные микоризы улучшают приспособленность и продуктивность растений семейства вересковых, играющие жизненно важную роль в их адаптации к почвам с низким рН и медленным оборотом органических веществ, можно предположить о том, что генетический состав растения-хозяина представляет собой значительную «движущую силу», формирующую сообщества эрикоидной микоризы.

Наряду с эндомикоризными грибами, наши исследования также выявили ризосферные сообщества, состоящие из нескольких групп бактерий. Это свободноживущие diaзотрофы из представителей семейств *Bradyrhizobiaceae*, *Methylocystaceae*, *Burkholderiaceae* и *Frankiaceae*, которые предположительно могут адаптировать растения к бедным почвам, характерным для естественных местообитаний голубики и других растений семейства вересковых, а также различные актинобактерии, в том числе представители семейств *Streptomycetaceae* и *Mycobacteriaceae*, которые возможно также способствуют защите от болезней, подавлению патогенов. Выявлены сопутствующие им микроорганизмы бактерии родов *Pseudomonas*, *Desulfotobacterium*, *Escherichia coli*, *Acetobacter*, *Bacillus*, *Flavobacterium*, *Methylobacterium*, дрожжи рода *Hanseniaspora*. По обнаруженным бактериям сделано заключение, что они участвуют в поглощении растением питательных веществ, стимуляции роста и защите растений от патогенов, а также фиксации азота.

Заключение

Культивирование эндомикоризных грибов в условиях *in vitro* определялось правильным подбором факторов питательной среды: низким содержанием фосфора, умеренным количеством сахарозы, а также уровнем рН среды.

На состав микробиома ризосферы влияет взаимодействие между свойствами почвы (структура, рН, влажность, соленость, органическое вещество), климатом и деятельностью человека. Колонизация микоризы голубики регулируется внесением удобрений, а повышенное внесение азотных удобрений уменьшает колонизацию корней эрикоидной микоризой.



Результаты выявили большое разнообразие микроорганизмов, населяющих ризосферу черники и голубики, также показали обилие полезных ризобактерий и грибов эрикоидной микоризы. Голубика, как и другие представители семейства вересковых, полагаются на свой микробиом для защиты от абиотических стрессов и выживания в почвах с низким содержанием питательных веществ. В частности, микоризные симбиотические партнеры улучшают усвоение питательных веществ почвой, эффективность удобрений и защищают растения от токсичности металлов в кислых почвах. Таким образом, по результатам эксперимента выявлен важный аспект адаптации сортов голубики к почвенно-климатическим условиям, представляющий собой видо- и генотипоспецифические различия в структуре и функции ризобиома. Аналогичные экспериментальные подходы могут быть применены к голубике для использования микробных сообществ, улучшающих устойчивость к болезням, к температурным колебаниям и засухе, а также способность произрастать в почвах с низким содержанием органического вещества. Выделенные штаммы микоризных грибов также могут послужить основой инокулюма в технологии выращивания клонированного посадочного материала перспективных сортов рода *Vaccinium* при решении задач по регулированию процесса микоризообразования.

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ОСОБЕННОСТИ МЕДОНОСНОГО КОНВЕЙЕРА В ЗОНЕ ИНДУСТРИАЛЬНОГО АГРОБИОЦЕНОЗА

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Abstract. The aim of the research was to analyze the structure of honey plants in the zone of industrial agrobiocenosis. The object of the study was the honey conveyor of the Krasnodar Territory. In the course of the study, abstract-logical, monographic, statistical-economic and other methods of scientific knowledge were used. The empirical base that ensures the reliability of the conclusions was the statistical materials of the state statistical bodies of Russia and the results of their own research. It has been established that the melliferous conveyor in the zone of industrial crop production includes woody and herbaceous plants of wild nature and a large layer of agricultural plants. A distinctive feature of the south are forest shelterbelts of white locust, as well as chestnut forests in the mountainous and foothill zones, which give exclusive chestnut honey. The vector of beekeeping development in the region is pollination activity. The main honey collection is provided by sunflower plantations, for pollination of which more than 300 thousand bee colonies are missing in the region. To increase the efficiency of pollination, it is necessary to increase the number of bee colonies, and for the timely delivery of bees to the beginning of flowering, use mobile honey-pollination complexes.

Keywords: Beekeeping, Industrial agrobiocenosis, Honey conveyor, Mobile honey - pollination complexes, Pollination

Введение

Пчеловодство в России имеет многовековую богатую историю. В современных условиях пчеловоды страны бережно хранят накопленный многовековой опыт, дополняя и развития основы пчеловедения. В силу своего географического расположения в разных природно-климатических зонах, в разных регионах страны получили развитие разные направления пчеловодства, а также и различные по морфологическим и поведенческим функциям пчелы (Комлацкий, В.И., Логинов, С.В. 2013).

Материалы и методы

Целью исследований явился анализ структуры медоносов в зоне индустриального агrobiоценоза. Объектом исследования стал медоносный конвейер Краснодарского края.

В ходе исследования были использованы абстрактно-логический, монографический, статистико-экономический и другие методы научного познания.

Эмпирической базой, обеспечивающей достоверность выводов, стали статистические материалы государственных органов статистики России и регионов, а также выводы авторов на основе приведенных исследований.



Результаты и обсуждение

Краснодарский край, входящий в Южный федеральный округ Российской Федерации, по праву называют житницей России. Из 1,8 млн га, занятых под посевами зерновых, колосовых и зернобобовых, в 2022 году озимая пшеница выращивалась на площади 1,6 млн га. Кубанская равнина, на которой расположен Краснодарский край, имеет практически полностью сельскохозяйственный ландшафт с лесополосами вокруг полей с сельскохозяйственными культурами (Комлацкий, Г.В., Стрельбицкая, О.В. 2020) Общая площадь лесозащитных полос в крае составляет 127,3 тыс. га. Среди деревьев преобладают белая акация, абрикос, клен гледичия трехлопучковая и др. Почвенный покров лесополос представлен более чем 150 видами медоносных растений, в числе которых вика, донник, клевер, одуванчик, цикорий и др. (Морева, Л.Я. 2009).

Медоносный потенциал Кубани представлен дикорастущими представителями и многочисленными энтомофильными сельскохозяйственными культурами (Комлацкий Г.В., Стрельбицкая, О.В. 2019].

«Главным» весенним медоносом в Краснодарском крае по праву считают белую акацию, которая продуцирует нектар и пыльцу. Большею частью пчелы собирают нектар, а по окончании выделения нектара переключаются на пыльцу. Имеются многочисленные исследования по содержанию сахара в цветках и количеству его в нектаре. Так, по данным румынских ученых, цветок выделяет в течение 2 суток цветения по 1-1,2 мг сахара в сутки.

В Краснодарском крае цветение белой акации приходится на конец первой декады мая. При этом сроки в разных районах края различаются. Следует отметить, что в этот период часто идут дожди, что, естественно, негативно отражается на медосборе. Тем не менее, более половины товарного меда на Кубани составляет акациевый мед. Медопродуктивность достигает 1000 кг/га и во многом определяется возрастом насаждений и погодными условиями полевого сезона. В благоприятных условиях одна пчелиная колония дает 8-15 кг меда. В степной зоне прибавка контрольного улья составляет за 10 дней медосбора 13 кг.

Юг России - зона интенсивного земледелия и садоводства. В Краснодарском крае, ведущем регионе по выращиванию фруктов, - около 100 крупных сельскохозяйственных организаций и более 300 крестьянских фермерских хозяйств специализируются на выращивании фруктов и ягод (Комлацкий, Г.В., Сокольский, С.С. 2020). В 2023 году общая площадь под садами и ягодниками в них составила 30,8 тыс. га, увеличившись за последние пять лет на 3,1 тыс. га. Для эффективного плодоношения требуется эффективное опыление. Учитывая большие площади плодовых насаждений, обеспечить его могут только пчелы. При этом чрезвычайно важно, чтобы пчелиные семьи были доставлены к началу цветения. Решить эту проблему могут мобильные пчелокомплексы.

После откачки майского (черноклен, боярышник) и акациевого меда наступает период поддерживающего медосбора, который реализуется на юге страны через посеvy донника, фацелии, эспарцета и других энтомофильных культур. Эксклюзивным является каштановый мед, который пчелы собирают с горного каштана, произрастающего в горной зоне Краснодарского края. По данным регионального отделения «Российский Кавказ» Всемирного фонда дикой природы, площадь каштановых лесов в крае достигает 85 тыс. га. Каштановый мед резко отличается от других видов медовой продукции своим неповторимым ароматом и темным цветом. Следует отметить, что в последние годы каштановой орехотворкой был нанесен большой урон каштановым насаждениям, и сейчас ведется активная работа по их восстановлению.

Общезвестно, что в пчеловодстве выделяют три основных функции производственной деятельности: медовую, опылительную и разведенческую. В опылении нуждаются около 70% сельскохозяйственных культур (таблица 1).



Таблица 1. Посевные площади основных энтомофильных культур в Российской Федерации (в хозяйствах всех категорий, тыс. га)

Культура	Годы				
	2018	2019	2020	2021	2022
подсолнечник	8160,1	8383,6	8544,8	975,2	10121,5
рапс	1576,3	1547,5	1488,2	1684,7	2341,2
овощи	525,9	517,5	511,8	478,6	481,7
плодовые и ягодные культуры	465,7	465,2	462,6	463,3	450,0

С учетом того, что Кубань находится в зоне интенсивного агробиоценоза, вектором развития пчеловодства в регионе является опылительная деятельность. Под масличными культурами в крае в 2023 году занято 706,0 тыс. га, при этом почти два раза увеличились посевы рапса (Регионы России, 2021). Здесь следует напомнить, что масличные культуры являются лидерами по маржинальности среди других культур в растениеводстве и являются весьма привлекательными для сельхозпроизводителей.

Основной медосбор в крае обеспечивают посевы подсолнечника, на долю которого приходится 5% российских и 22% посевов в Южном федеральном округе (таблица 2).

Таблица 2. Посевные площади подсолнечника в Российской Федерации (хозяйства всех категорий, тыс. га)

Зоны	Годы			
	2005	2010	2015	2020
Российская Федерация	5567,8	7150,5	7013,0	8544,8
Южный федеральный округ	2519,5	2423,2	1698,7	2046,4
Краснодарский край	583,5	493,4	435,0	465,1

Урожайность подсолнечника в 2020 году составила в крае 19,9 ц/га (таблица 3).

Таблица 3. Урожайность подсолнечника в Краснодарском крае, ц/га

Показатели	Годы			
	2005	2010	2015	2020
Урожайность, ц/га	20,3	19,9	23,5	19,9

Как следует из таблицы 3, в разные годы урожайность этой ценной культуры варьировала от 19,9 до 23,5 ц/га (Сельское хозяйство России, 2021). Одной из причин, на наш взгляд, является недоопыление солнечных цветов из-за недостатка опылителей. Известно, что для полноценного опыления на 1 га необходимо по 1 пчелиной семье. Нетрудно посчитать, что для всего массива подсолнечника на Кубани требуется 465 тысяч семей (Комлацкий, В.И. 2016).

Между тем, статистика свидетельствует, что в крае насчитывается, по официальным данным, всего около 150 тыс. семей (таблица 4). Здесь уместно отметить, что эти данные не дают полную информацию о количестве пчел, так как большое количество пасек находится в хозяйствах населения и не всегда попадает в приведенные данные.

Таблица 4. Количество пчелосемей в Краснодарском крае (тыс. пчелосемей на учете в ветеринарной службе Краснодарского края)

Показатели	1991 год	2010 год	2015 год	2020 год
Количество пчелосемей	370,0	68,0	136,3	145,5

Сопоставляя фактические данные с потребностями в опылении, можно сделать вывод, что для полноценного опыления этой важной масличной культуры не хватает более 300 тыс. пчелосемей. С учетом того, что из-за недоопыления теряется около 12% урожая, легко подсчитать упущенную выгоду. При средней урожайности 20 ц/га из-за недоопыления



теряется около 2,4 ц/га, а со всей площади 744 тысяч ц. При средней цене 60руб./кг, упущенная выгода аграриев оценивается в 4,5 млрд рублей. Следует помнить, что при полноценном опылении не только увеличивается урожайность, но и повышается качество семян, что способствует получению дополнительной прибыли при их реализации.

Как уже отмечалось выше, очень важно, чтобы пчелы были доставлены к началу цветения. Решить эту проблему могут мобильные пчелокомплексы (KOMLATSKY, V.I. and KOMLATSKY, G.V. 2021). В Кубанском аграрном университете разработана и защищена патентом на изобретение (патент РФ на изобретение № 2 284 103) конструкция павильона, отмеченная серебряной медалью конкурса инноваций ЛЕПИН (Париж, Франция).

Выводы

На юге Российской Федерации в зоне индустриального агроценоза кормовой конвейер в пчеловодстве состоит из дикорастущих представителей флоры и энтомофильных сельскохозяйственных культур. Главным медоносом весной являются насаждения белой акации, цветение которой начинается во второй декаде мая. Нестабильная погода в этот период часто не позволяет полностью реализовать нектарный потенциал акации. После откачки майского меда в качестве поддерживающего, используют посевы кормовых трав. Эксклюзивным считается каштановый мед, который обладает лечебными средствами и практически не кристаллизуется. Основу медоносного конвейера составляют многочисленные энтомофильные сельскохозяйственные культур, поэтому вектором развития пчеловодства в регионе является опылительная деятельность пчел. Основной медосбор в Краснодарском крае приходится на подсолнечник. Большие площади посевов этой масличной культуры позволяют получить большое количество меда. Вместе с тем, из-за дефицита пчелиных семей имеет место недоопыление, что приводит к снижению не только урожайности, но и качества семян.

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ИЗЫСКАНИЕ МЕТОДОВ ПОЛУЧЕНИЯ ЭКОЛОГИЧЕСКИ ЧИСТОГО МЯСА ЦЫПЛЯТ-БРОЙЛЕРОВ

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Abstract. In the Republic of Belarus, special attention is paid to increasing the production of poultry meat, in particular broiler chickens. To further maintain the high quality of poultry meat, we have developed, introduced into production and patented the «Belasorb» mycotoxin adsorbent. The purpose of our research was to establish the chemical composition of the muscle tissue of broiler chickens for a possible increase in the nutritional and energy value of meat when introduced into the diet in various norms of «Belasorb». The scientific and economic experiment was carried out at JSC «Agrokombinat «Dzerzhinsky» on broiler chickens of the «Ross-308» cross. The duration of the experiment is 41 days. Research work was carried out according to approved methods using monographic, research and practical research methods. It was established that the chemical composition of the pectoral and femoral muscles of experimental broiler chickens was within the normal range. Estimated calorie content of meat improved the dietary properties of the product of experimental birds by 1.82-2.56%. Mycotoxin adsorbent «Belasorb» is recommended for further use in the production of environmentally friendly meat of broiler chickens.

Keywords: Thigh muscles, Pectoral muscles, Meat, Nutritional value, Chemical composition, Broiler chickens, Energy value.

Введение

Республика Беларусь является аграрной страной с интенсивно развивающимся животноводством. Из всех подотраслей животноводства, наиболее динамично развивается птицеводство. Почти целое десятилетие, начиная с 2014 года, оно прочно удерживает пальму первенства по валовому производству мяса в общереспубликанском объеме (Кочиш, И.И. и др., 2020; Kapitona, E.A. et al. 2021).

Интенсификация птицеводства сопряжена с рядом возникающих проблем, одной из которых является поддержание высокого качества выпускаемой продукции (Гласкович, М.А. и др., 2017; Амброжы-Дереговска, К. и др., 2020). Регламент производства мяса птицы предусматривает строгое соблюдение технологических и ветеринарно-санитарных норм и правил, в соответствии с отечественными и международными стандартами (Козинец, А.И., 2021; Кочиш, И.И. и др., 2021). Оптимизация деятельности белорусских птицефабрик способствует развитию торговых отношений и выходу товара на международные рынки сбыта (Капитонова, Е.А., 2021).

В настоящее время на птицефабриках используются только специализированные комбикорма, которые соответствуют отечественным стандартам (Красочко, П.А. и др., 2009; Гласкович, М.А. и др., 2017). При этом, для стимуляции роста и развития бройлеров, в комбикорма вводятся различные кормовые добавки. В кормоцехах, для повышения перевариваемости и усвоения компонентов комбикорма, с учетом физиологической потребности птицы, дополнительно вводят: ферменты, адсорбенты, про- и пребиотики, подкислители, а также другие биологические комплексы (Голушко, В.М. и др. 2008;



Капитонова, Е.А. и др., 2010; Капитонова, Е.А. и др., 2021; Balykina, A.V., et al. 2020; Kuznetsov, Y.E. et al. 2020).

Для решения обозначенной проблемы нами была разработана, апробирована и запатентована кормовая добавка адсорбент микотоксинов для сельскохозяйственных животных «Беласорб» (Kochish, I.I. et al., 2020). На основании вышеизложенного считаем, что наша научно-исследовательская работа является актуальной, имеет научную новизну и практическую значимость.

Целью наших исследований явилось установление химического состава мышечной ткани цыплят-бройлеров для возможного повышения пищевой и энергетической ценности мяса при введении в рацион адсорбента микотоксинов «Беласорб».

Материал и методы

Научно-хозяйственный опыт проводили в условиях птицефабрики ОАО «Агрокомбинат «Дзержинский» Минской области на цыплятах-бройлерах кросса «Росс-308» (41 сутки). Комплексную кормовую добавку адсорбент микотоксинов «Беласорб» вводили в рационы птиц согласно схеме опыта, представленной в таблице 1.

Таблица 1. Схема опыта

Кормовая добавка «Беласорб»	Группа, № птичника			
	1- контрольная, № 105	2- опытная, № 106	3- опытная, № 104	4- опытная, № 108
Состав: трепел, β-глюканы, маннанолигосахариды и лактулоза	ОР	ОР + 1 кг/т «Беласорб»	ОР + 2 кг/т «Беласорб»	ОР + 3 кг/т «Беласорб»

Примечание: ОР – основной рацион комбикорма

Кормовая добавка адсорбент микотоксинов «Беласорб» характеризуется высокой сорбционной способностью по: афлатоксину В₁ – 92,24 %, охратоксину А – 77,41 %, Т-2 токсину – 56,95 %, дезоксиниваленолу – 65,77 %, зеараленону – 43,00 %, фумонизину – 60,88 %. Основным компонентом является органо-минеральный цеолит – трепел. В качестве основного рациона для подопытной птицы использовали комбикорма, которые по питательности соответствовали требованиям СТБ 1842-2008, о чём свидетельствовала декларация ВУ/112 11.01. ТР 025 005 04493.

Для установления соответствия мяса цыплят-бройлеров требованиям ТР ТС 021/2011 «О безопасности пищевой продукции», изучали химический состав мяса, согласно утверждённой технической нормативно-правовой документации. Анатомическую разделку тушек, полученных от подопытной птицы, проводили согласно общепринятой методике ВНИТИП.

Результаты и обсуждение

Мясо птицы является источником полноценных белков и относится к разряду диетического. На пищевую ценность мяса бройлеров оказывает существенное влияние соотношение белков, жиров, воды и других зольных компонентов.

По окончании выращивания цыплят-бройлеров, которым в различных дозировках скармливалась кормовая добавка «Беласорб», в цехе убоя и глубокой переработки нами была произведена анатомическая разделка тушек.

Результаты изучения химического состав средних проб мяса (грудных и бедренных мышц), взятого от подопытных цыплят-бройлеров, представлены в таблице 2.



Таблица 2. Химический состав мышц цыплят-бройлеров, %

Показатель	Группа, № птичника			
	1- контрольная, № 105	2-опытная, № 106	3-опытная, № 104	4-опытная, № 108
Вода (грудные бедренные)	73,5±0,35 / 74,7±0,56	73,5±0,34 / 74,7±0,52	73,4±0,35 / 74,2±0,54	73,4±0,34 / 74,3±0,52
Белок (грудные бедренные)	21,5±0,42 / 18,4±0,51	21,9±0,40 / 18,8±0,51	22,3±0,41 / 19,8±0,50	22,5±0,40 / 19,7±0,52
Жир (грудные бедренные)	2,9±0,10 / 4,9±0,10	2,5±0,11* / 4,5±0,10*	2,2±0,10*** / 3,9±0,10***	2,2±0,10*** / 3,9±0,11***
Зола (грудные бедренные)	1,1±0,11 / 1,1±0,02	1,1±0,10 / 1,07±0,02	1,2±0,10 / 1,01±0,01**	1,3±0,11 / 1,1±0,01

Как видно из представленных данных таблицы 2, значительных отличий в опытных группах по химическому составу грудных и бедренных мышц не наблюдалось. Отметим увеличение массовой доли белка в опытных группах по сравнению с образцами мяса тушек из контрольного птичника.

Массовая доля белка в образцах мяса грудных мышц из птичника № 106 (11 кг/т) была выше – на 0,44 %, из птичника № 104 (2 кг/т) – на 0,87 % и из птичника № 108 (3 кг/т) – на 0,9 %, чем у образцов мяса взятых из контрольного птичника № 105. Аналогичные результаты были получены при исследовании химического состава бедренных мышц.

Для объективного анализа качества полученного мяса, значимым является и показатель массовой доли жира. В образцах грудных мышц от птицы из контрольного птичника № 105 было зафиксировано – 2,96 % жира. В грудных мышцах бройлеров из птичника № 106 этот показатель снизился – на 0,48 %, из птичника № 104 – на 0,72 % ($p \leq 0,001$) и из птичника № 108 – на 0,73 % ($p \leq 0,001$), по сравнению с показателями из контрольного птичника № 105.

При оценке полученных результатов массовой доли жира в образцах бедренных мышц (красное мясо) отметим незначительное снижение результатов – на 0,38 % в образцах, взятых из птичника № 106, по сравнению с образцами мяса из птичника № 105. Наибольшее снижение показателей было отмечено в образцах бедренных мышц полученных от птицы из птичников № 104 и № 108 – 0,94 % ($p \leq 0,001$) и 0,93 % ($p \leq 0,001$), соответственно, что положительно отразилось на расчете калорийности мяса цыплят-бройлеров. Разница между показателями массовой доли золы в грудных и бедренных мышцах, от контрольной и опытных групп цыплят-бройлеров, не выявлено.

По окончании установления химического состава мяса, полученного от подопытных цыплят-бройлеров, нами была рассчитана энергетическая ценность полученного продукта. Энергетическая ценность мяса олицетворяет собой объем энергии, которую в результате пищеварения организм человека способен усвоить.

Данные по химическому составу грудных и бедренных мышц в 100 г позволили рассчитать пищевую и энергетическую ценность мяса цыплят-бройлеров, к основному рациону которых добавляли адсорбент микотоксинов «Беласорб» (рисунок 1).

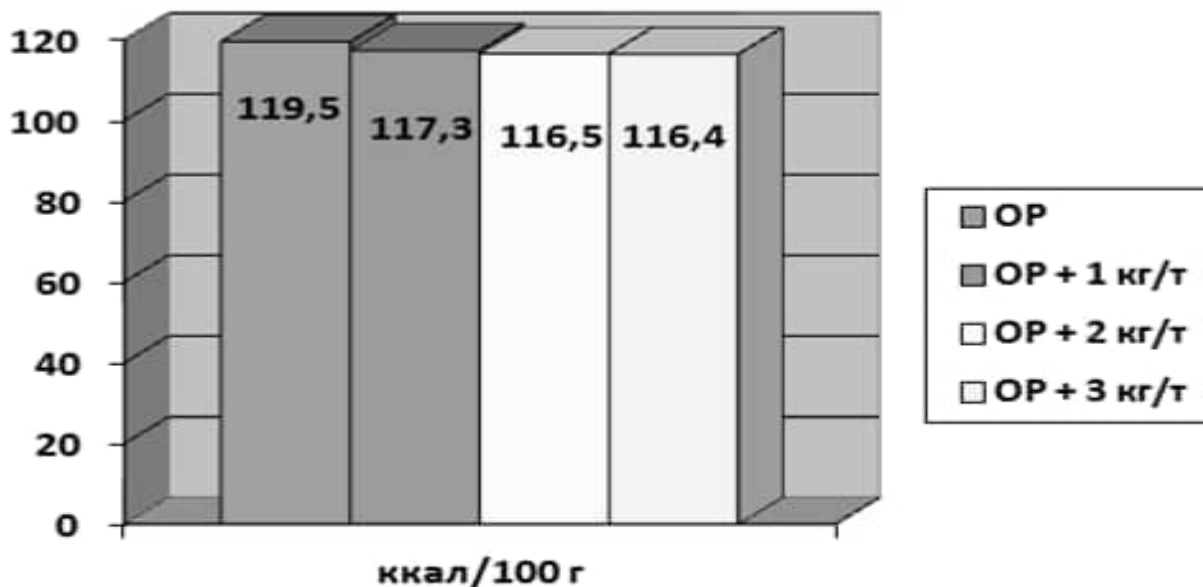


Рисунок 1. Пищевая ценность мяса цыплят-бройлеров при введении в комбикорма «Беласорб», ккал/100 г

Из представленных расчетных данных таблицы 2 и рисунка 1 видно, что введение цыплятам-бройлерам кормовой добавки адсорбента микотоксинов «Беласорб» способствует повышению диетических свойств мяса, при достоверном повышении белка и снижении жира. Калорийность средней пробы мяса птицы, выращенной в опытных птичниках № 106, № 104 и № 108 была – на 1,82 %, 2,47 % и 2,56 %, соответственно ниже, чем от птицы контроля, что повысило диетические свойства продукта.

Энергетическая ценность мяса составила 487,5-491,2 кДж. Энергетическая ценность мяса, за счет снижения уровня жира в грудных и бедренных мышцах, была эффективной. Снижение калорийности мяса способствовало соблюдению правил и нормализации рационального питания населения, что обеспечивает здоровье и долголетие потребителя.

Выводы

На основании проведенной научно-исследовательской работы нами было достоверно установлено:

1. Положительный эффект от применения в птицеводстве адсорбента микотоксинов «Беласорб», который способствовал улучшению санитарного состояния корма, а, следовательно, качеству производимой получаемой продукции птицеводства.

2. При анализе химического состава грудных мышц зафиксировано увеличение массовой доли протеина в образцах от птичника № 104 – на 0,87 п.п. и в образцах от птичника № 108 – на 0,9 п.п., по сравнению с контрольными показателями. При этом отмечено снижение массовой доли жира на 0,72 п.п. (птичник № 104) и – на 0,73 п.п. (птичника № 108), по сравнению с контролем.

3. Калорийность мяса цыплят-бройлеров, выращенных в опытных птичниках № 106, № 104 и № 108, была на 1,82%, 2,47% и 2,56%, соответственно, ниже, чем от птицы контроля, что повысило диетические качества продукта.

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ПРОДУКТИВНОСТЬ КУР-НЕСУШЕК ПРИ ИСПОЛЬЗОВАНИИ В РАЦИОНЕ НЕТРАДИЦИОННЫХ КОРМОВ

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Abstract. Improving the efficiency of protein utilization from feed depends not only on the balanced ration in terms of essential nutrients, particularly amino acids, but also on their availability. Feather meal serves as a significant reserve in terms of protein content. Studies on the use of feather meal in laying hen diets have revealed that this feed additive exerts a stimulating effect on the productivity of hens. The justification for incorporating feather meal into laying hen diets as a protein ingredient was obtained through experimental analysis, including physiological parameters, productivity, and the quality of the produced output. The obtained results open up prospects for the practical application of feather meal in agriculture, providing a basis for further research and the implementation of this approach in the practice of feeding poultry in agriculture.

Key words: Laying Hens, Eggs, Productivity, Safety.

Введение

Современное птицеводство – динамичная и высокоразвитая отрасль животноводства, обеспечивающая человечеству ценные продукты, такие как яйца, мясо и жиры, богатые белками, липидами и необходимыми элементами. Птицеводство играет ключевую роль в обеспечении населения высококачественными продуктами, благодаря технологическим и экологическим преимуществам, таким как эффективное использование кормов и быстрый цикл воспроизводства. Птицы характеризуются интенсивным белковым обменом и высокими требованиями к уровню и качеству протеина в рационе. Белок является неотъемлемой частью кормов для сельскохозяйственных животных и птицы, прямо влияющей на их продуктивность. Тем не менее, потребность в белке удовлетворяется текущими кормовыми ресурсами только на уровне 70-75% [3, 5].

Для решения проблемы дефицита белка, который ежегодно возрастает, наряду с применением готовых белковых препаратов важно использовать нетрадиционные источники растительного белка. Использование нетрадиционных источников протеина и энергии в комбикормах для сельскохозяйственной птицы позволит не только успешно решить белковую проблему, но и сократить импорт для этих целей зернофуражных культур [10].

Интеграция нетрадиционных кормовых компонентов представляет собой инновационный подход в птицеводстве, способный существенно улучшить устойчивость и эффективность производства. Это позволяет расширить ассортимент кормовых ингредиентов, разнообразив рационы для сельскохозяйственной птицы и уменьшив зависимость от дорогостоящих протеиновых кормов. Данная инициатива особенно актуальна в условиях нестабильности цен на традиционные корма. Использование нетрадиционных кормов способствует укреплению кормовой базы и, таким образом, повышению продуктивности в птицеводстве [2].

В последние годы активно развиваются новые технологии переработки пера, которые позволяют получить высокобелковую кормовую добавку. Крупное перо птицы и другие перьевые отходы содержат до 85–88% белка в форме кератина. Извлечение протеина из пера



птицы становится важным направлением в развитии птицеводства. Ранее считавшиеся отходами перья теперь превращаются в ценный ресурс. Обработанное по новой технологии (при температурной обработке не выше 60°C), перо превращается в перьевой продукт, который эффективно усваивается организмом птицы.

При соблюдении технологических параметров процесс обработки пера позволяет сохранить белок в наиболее полезной форме, что делает его ценным компонентом для кормления птицы [1].

В дополнение к производству ценных белковых кормов, вторичная переработка сырья является важным направлением в экологической перспективе, так как способствует уменьшению антропогенной нагрузки на окружающую среду через снижение объема образующихся отходов. Эффективное управление вторичными ресурсами является ключевым элементом стратегии экологически устойчивого развития экономики для любого государства. Сокращение объема отходов путем их вторичной переработки не только оптимизирует производственные процессы, но также способствует уменьшению негативного воздействия на окружающую среду, поддерживая тем самым устойчивое использование ресурсов и обеспечивая экологическую уравновешенность в долгосрочной перспективе [6].

В связи с этим вызывает большой интерес проведение исследований, направленных на изучение динамики массы тела, продуктивности и яйценоскости, а также качественных характеристик яичной продукции у кур-несушек гибридного кросса Ну-Line Brown W-36 при введении в их рацион новой кормовой добавки на основе пера.

Материал и методы исследований

Для оценки эффективности использования кормовой муки из пера в рационе кур-несушек был проведен научно-хозяйственный опыт. Объектом исследований стали куры-несушки одновозрастного промышленного стада кросса "Ну-Line Brown W-36", содержащиеся в производственных корпусах, оборудованных клеточными батареями. Эксперименты проводились методом аналогов, в опыте было сформировано пять групп кур-несушек (контрольная и четыре опытные), каждая из которых составляла 100 голов [8].

В период проведения опыта кормление кур-несушек осуществлялось одинаковыми по составу комбикормами в соответствии с рекомендованными нормами кормления [9], контрольная группа получала основной комбикорм, а птице опытных групп в рацион вводилась кормовая мука из пера (КМП) (Табл. 1).

Таблица 1. Схема проведения опыта

Группа	Особенности кормления
Контрольная (КГ)	Основной комбикорм (ОК)
Опытная 1 (ОГ1)	ОК + КМП* 2,0 кг/тонну
Опытная 2 (ОГ2)	ОК + КМП* 2,5 кг/тонну
Опытная 3 (ОГ3)	ОК + КМП* 3,0 кг/тонну
Опытная 4 (ОГ4)	ОК + КМП* 3,5кг/тонну

* КМП- кормовая мука из пера

Согласно рекомендациям по работе с кроссом, в помещениях поддерживались соответствующие необходимые параметры микроклимата.

Использование кормовой добавки из пера, представляет собой перспективное решение для укрепления кормовой базы птицеводства. Современные технологии переработки пера позволяют максимально использовать его высокобелковый потенциал. Отходы перопуховых производств и крупное перо птицы, содержащие до 85-88% белка, становятся источником ценных питательных веществ.

Цель проведенного исследования заключалась в оценке возможности интеграции пера, обработанного с использованием новых технологий, в рационы птицы. Процесс



температурной обработки пера, который не превышал 60⁰С, приводил к получению перьевого продукта.

Для достижения поставленной цели исследования, были определены задачи по определению оптимальных доз добавки кормовой муки из пера в рационы кур-несушек. Это позволило установить эффективное количество добавки, способствующее максимальной продуктивности птицы.

Определялась динамика живой массы птицы в течение всего периода проведения опыта при введении кормовой добавки из пера. Оценивался среднесуточный прирост и определялось влияние добавки на скорость роста живой массы кур-несушек в различных группах. Проводилась мониторингизация сохранности птицы во всех группах на протяжении всего эксперимента, что является важным аспектом по определению обеспечения здоровья и благополучия кур.

Экспериментальная часть работы выполнена на базе птицефабрики SA «Floreni» и в лаборатории департамента Животноводческих ресурсов и контроля качества продукции Технического Университета Молдовы в 2022 году.

Результаты исследований и их обсуждение

Результаты исследования показали, что у кур-несушек при введении в их рационы кормовой добавки из пера наблюдалась более высокая интенсивность процессов роста и развития. При использовании перьевого кормовой добавки на уровне от 2% до 3,5% от общей массы комбикорма был установлен больший прирост массы птицы, что свидетельствует о эффективности использования данной добавки для повышения продуктивных показателей кур-несушек.

Таблица 2. Динамика живой массы кур-несушек, г

Возраст, недель	Группа				
	КГ	ОГ1	ОГ2	ОГ3	ОГ4
8	665,0±1,0	669,5±0,6	671,8±1,0	673,9±1,4	674,4±1,0
12	1144,4±2,2	1181,2±1,8	1172,7±3,2	1166,9±3,2	1158,2±3,1
17	1400,8±2,6	1462,8±2,0	1454,7±3,6	1449,6±5,2	1441,6±2,1
22	1710,4±1,5	1773,6±2,4	1761,9±2,4	1752,1±3,3	1747,0±2,0
26	1772,3±4,3	1841,2±0,8	1834,9±4,7	1826,3±8,0	1818,4±4,4
34	1835,9±4,9	1897,1±7,1	1886,3±2,0	1878,2±1,5	1871,0±0,6
Абсолютный прирост, г	1170,9	1227,7	1214,5	1204,1	1196,6
Среднесуточный прирост, г	6,43	6,75	6,67	6,62	6,58
Относительный прирост, %	176,1	183,4	180,8	178,7	177,4
Масса подопытных кур на конец опыта в % отношении к контрольной группе	100,0	103,3	102,8	102,3	101,9

Важно отметить, что в пределах оптимального диапазона введения добавки из пера, ее уровень должен строго контролироваться, чтобы не привести к избыточному потреблению. Всегда необходимо учитывать также наличие кормовых компонентов и потребность птицы в различных питательных веществах. Тем не менее, проведенные исследования дают важную информацию для развития эффективных стратегий использования нетрадиционных кормовых добавок, таких как перьевая мука для оптимизации производства птицы.

При проведении эксперимента в период начальной стадии яйцекладки в возрасте кур-несушек 17 недель, первая опытная группа продемонстрировала значительное увеличение живой массы по сравнению с контрольной группой и оказалась выше на 62 г или 4,4%. Во второй опытной группе живая масса была выше на 53,86 г (на 3,8%), тогда как группа в третьей опытной группе она увеличилась на 48,82 г или 3,4%. Куры несушки четвертой опытной группы по сравнению с контролем увеличили массу на 40,8 г (на 2,9%), что оказалось ниже результатов, полученных в других опытных группах. Важно отметить, что начальная живая



масса была практически одинаковой у всех групп, с разницей не более чем в 1,4% что не превышало допустимого отклонения для живой массы при формировании групп.

В конце опыта, в возрасте 34 недель, наибольшие приросты живой массы были получены также у кур-несушек опытных групп. Разница по сравнению с контролем по живой массе в 1-й, 2-й, 3-й, 4-й опытных группах соответственно составила: 61,25; 50,46; 42,36 и 35,15г, или была большей на 3,3; 2,7; 2,3 и 1,9% соответственно, что указывает на более интенсивную скорость роста кур-несушек опытных групп.

Птица первой опытной группы, которой предоставлялась кормовая добавка из пера в количестве 2% от массы комбикорма, показала наибольший прирост по живой массе. В сравнении с контрольной группой разница в большую сторону составила по: абсолютному приросту 56,78 г, среднесуточному приросту - 0,32 г (или 4,9%) и по относительному приросту - 7,63%. Эти данные говорят о высокой активности роста и активизации метаболических процессов у кур-несушек, получавших исследуемую добавку. Согласно исследованиям, установлено, что с 8 по 34 недели проведения эксперимента наблюдались заметные различия в темпах прироста живой массы кур-несушек. Эти наблюдения могут быть интерпретированы как ответ организма птицы на включение исследуемой добавки, что подчеркивает важность её воздействия на процессы роста и развития птицы. При одинаковых условия содержания для птицы в контрольной и опытных группах, значительные различия в живой массе говорят о глубоком воздействии белковых компонентов, присутствующих в добавке из пера, на биохимические и физиологические процессы в организме птицы. Это может свидетельствовать о выраженной биологической активности данной добавки, влияющей на усвоение питательных веществ, обмен веществ, и, как следствие, на интенсивность роста птицы.

Полноценность питания птицы при оптимальных условиях содержания характеризуется также таким важным показателем как сохранность птицы. Для определения сохранности кур на протяжении всего периода исследований производили учет павшего поголовья (Табл.3).

Таблица 3. Сохранность кур-несушек за период опыта

Показатель	Группа				
	КГ	ОГ1	ОГ2	ОГ3	ОГ4
На начало опыта, голов	96	96	96	96	96
На конец опыта, голов	91	95	94	93	93
Сохранность, %	94,8	98,9	97,9	96,8	96,8

Анализ сохранности поголовья в ходе опыта позволила установить оптимальную норму ввода кормовой добавки из пера. Лучшая сохранность на протяжении всего эксперимента была отмечена в первой опытной группе, где уровень ввода кормовой добавки из пера составил 2% от массы комбикорма. Разница в сохранности между первой опытной группой и контрольной составила 4,1%, подчеркивая эффективность введения изучаемой кормовой добавки. Птица второй опытной группы, получавшая 2,5% перьевой добавки, также продемонстрировала высокую сохранность поголовья, хотя была несколько ниже, чем в первой опытной группе. Разница в сохранности кур контрольной и второй группой была 3,0%. Полученные результаты позволяют утверждать, что уровень ввода перьевой добавки 2,0% и 2,5% от массы комбикорма является оптимальным для обеспечения максимальной сохранности кур-несушек.

Для поддержания продуктивности кур-несушек также требуется обеспечение рационального и сбалансированного кормления с использованием высококачественных кормов. Любые отклонения от нормативов в условиях кормления и содержания высокопродуктивной птицы могут повлечь за собой ухудшение уровня яичной продуктивности [4].

Товарная продукция в яичном птицеводстве определяется количественными параметрами, такими как яичная продукция и ее масса. Уровень яйценоскости тесно связан с морфо - физиологическим состоянием репродуктивных органов несушек и зависит от интенсивности метаболических процессов в организме кур [7].

Проведенные исследования продемонстрировали, что внесение добавки из пера в рацион кур-несушек существенно повышает интенсивность процессов яйценоскости. Птица опытных групп (ОГ1, ОГ2, ОГ3, ОГ4) показала значительно больший рост полученного общего количества произведенных яиц по сравнению с контрольной группой, причем лучшими показателями отличалась птица в ОГ1 (8402 шт.) и ОГ2 (8223 шт.) (Табл 4.).

Таблица 4. Результаты исследования яйценоскости кур-несушек

Показатели	Группа				
	КГ	ОГ1	ОГ2	ОГ3	ОГ4
Среднее количество кур-несушек, гол	96	96	96	96	96
Получено яиц всего, шт.	7838	8402	8223	8181	8071
Интенсивность яйцекладки, %	79,97	85,73	83,90	83,47	82,35
Средняя масса яйца, г	61,25	62,54	62,22	62,08	62,00
Выход яичной массы, кг	480,0	525,4	511,6	507,8	500,4

Интенсивности яйцекладки возросла у кур в опытных группах ОГ1, ОГ2, ОГ3 и ОГ4 на 7,2%; 5%; 4,4% и 3% относительно контроля. Яичная масса также была выше в опытных группах в сравнении с контрольной на 45,4 кг (9,5%), 31,6 кг (6,6 %), 27,8 кг (5,8%) и 20,4 кг (4,3%). Куры опытных групп продемонстрировали более высокий выход яичной массы по сравнению с контрольной группой.

Средняя масса яиц кур в контрольной группе составила 61,25 г, а в опытных была выше на 1,29 г (2,1 %), 0,97 г (1,6 %), 0,83г (1,4%) и на 0,75 г (1,30 %) (Рис. 1).

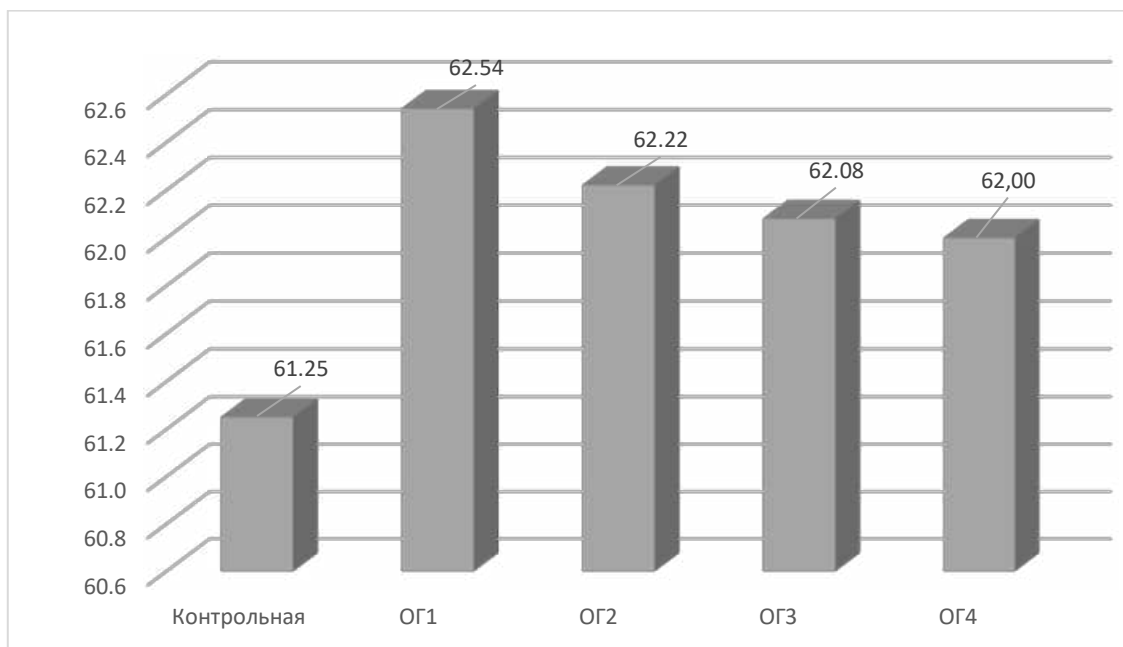


Рис. 1. Средняя масса яиц кур-несушек, подопытных групп, г

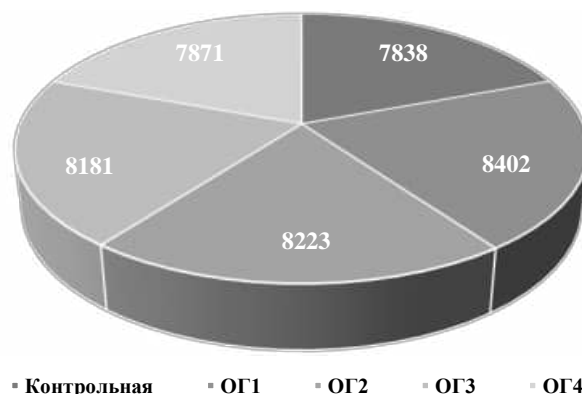


Рис. 2. Валовый сбор яйца, шт.

Валовой сбор яиц в опытных группах составил: в ОГ1 8402 шт., в ОГ2 - 8223шт., в ОГ3 - 8181 шт. и в ОГ4 - 8071 шт.; эти показатели превышали количество собранных яиц в контрольной группе на 564 шт. (7,2%), 385 шт. (5,0%), 343 шт. (4,4%) и 233 шт. (3%) соответственно. Увеличение яичной продуктивности в опытных группах по сравнению с контрольной, также указало на положительное воздействие на яйценоскость птиц. добавки на основе пера

Выводы и предложения

Результаты проведенных исследований предоставляют ценные практические данные для птицеводов и птицеводческих предприятий. Был выявлен оптимальный уровень ввода кормовой муки из пера в количестве 2,0% на 1 тонну комбикорма имеет, который оказал наибольшее положительное влияние на рост и развитие птицы и способствовал повышению их яичной продуктивности.

Данная кормовая протеиновая добавка из пера представляет собой потенциальное решение для сельскохозяйственных предприятий, сталкивающихся с проблемой дефицита белка в комбикормах и использование которой позволяет улучшить качество комбикормов, способствует снижению затрат на кормление птицы и, как следствие, к повышению экономической эффективности птицеводства.

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ИЗУЧЕНИЕ ТОКСИЧНОСТИ И БЕЗВРЕДНОСТИ СЕРЕБРОСОДЕРЖАЩИХ ПРЕПАРАТОВ

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Abstract. The aim of our research was to study the harmlessness (toxicity) of a constructed substance based on sodium dithiosulfate (I) in the presence of iodide ions, protargol and silver nitrate in comparison with protargol and silver nitrate. To assess the harmlessness of silver-containing drugs on white rats, the drugs were administered once intramuscularly in a volume of 0.1 cm³ / head. The study of acute toxicity of sodium dithiosulfate (I) was carried out according to the "Guidelines for the toxicological assessment of chemicals and pharmacological preparations used in veterinary medicine" on clinically healthy white mice weighing 18-20 g. They were given a compound in the stomach on starch paste in a volume of 0.5 cm³ different doses of the compound - from 5,000,0 mg / kg to 30 000,0 mg/kg, starch paste was injected into mice of the control group. It has been established that the silver-containing compound dithiosulfatoargentate (I) sodium in the presence of iodide ions is



harmless and has no reactogenicity in relation to laboratory animals, its LD50 was 15,500 mg/kg of body weight, – the compound belongs to low-hazard substances (Class IV). Silver-containing preparations protargol, silver nitrate have reactogenicity at the injection site and at the same time are harmless to laboratory animals.

Keywords. Harmlessness, sodium dithiosulfate (I), rats, protargol, silver nitrate

Введение

В настоящее время в мировой практике накопилось достаточно фактов и имеется множество научных публикаций о развитии резистентности микроорганизмов к различным химиотерапевтическим препаратам, вследствие чего эффективность их значительно снижается. При этом разработка более «сильных» и высокодозных препаратов не обеспечивает биоцидный и лечебный эффект на фоне повышенной токсичности и аллергенности.

Из микроэлементов серебро и иод обладают сильно выраженными антибактериальными, противовирусными и противогрибковыми свойствами.

Об антибактериальных свойствах серебра и его соединений было известно народной медицины. Так серебросодержащие препараты активно использовались в гуманной и ветеринарной медицины до изобретения антибиотиков в 40-ые годы XX века [П.А.Красочко и др., 2019, 2020, Е.М.Гордина и др., 2021).

Но широкое использование антибактериальных препаратов показало их ряд недостатков. Во-первых, появление и быстрое распространение антибиотико-резистентных штаммов микроорганизмов вызывает необходимость разработки новых антибиотиков. Во-вторых, антибиотики негативно влияют на макроорганизм в целом, вызывая дисбактериозы, снижают иммунный статус. В-третьих, антибиотики не действуют на вирусы.

Этот ряд недостатков стимулируют поиск новых препаратов, обладающих антибактериальными и противовирусными свойствами, но не вызывающие резистентность. В этом плане очень перспективным направлениям исследований являются серебросодержащие препараты. Также положительным эффектом серебросодержащих препаратов является очень большое различие в токсичности соединений серебра для низших форм жизни (одноклеточные, бактерии, вирусы и т.д.), и для высших организмов (животные, человек), достигающее 5-6 порядков (в 10⁵-10⁶ раз) [П.А.Красочко и др., Е. Н. Петрицкая и др., 2016; Д. Т. Реджепов и др., 2021; M. Herisse et al., 2017) , так как концентрации соединений серебра, летальные для микроорганизмов, практически безвредны для животных.

Кроме этого, установлено, что ионы серебра губительно действуют более чем на 650 видов бактерий, а действие любого антибиотика ограничено 5-10 бактериями. Также ионы серебра биоцидно действуют на вирусы, патогенные грибы при сохранении жизнедеятельности полезных микроорганизмов – пробиотиков (эубиотиков), т.е. не развивается дисбактериоз, который является постоянным спутником при применении антибиотиков. Сравнительный анализ противомикробных свойств ионизированного серебра выявил, что его бактерицидный эффект в 1750 раз сильнее карбоновой кислоты (фенола) и в 3,5 раза сулемы и хлорной извести [Н.Н.Щкиль и др., 2011;Д.А.Евгелевский и др., 2015; П.А.Красочко и др., 2020).

Согласно литературным данным, чистое металлическое серебро инертно и не реагирует с тканями человека, животных или микроорганизмами до ионизации. Антибактериальные свойства соединений серебра определяются биологической активностью ионов серебра, образующихся при диссоциации соединений серебра в воде. Активность катионов серебра зависит от их биодоступности [Е.Н.Петрицкая и др.,2016).

После открытия в 1881 году немецким акушером, доктором медицины К. Креде противомикробного действия 1 % раствора азотнокислого серебра (AgNO₃) различные соли серебра стали активно применяться, вплоть до изобретения антибиотиков, как сильные антибактериальные средства [(А.Евгелевский и др., 2015). В конце XIX – начале XX века был разработан целый ряд субстанций и лекарственных препаратов на основе серебра: колларгол,



протаргол, альбаргил, эларгол, силаргель, аргосульфан и другие. Некоторые из них с успехом применяются и в настоящее время (А.Ю.Айдиев и др. . 2015).

Серебросодержащие соединения не оказывают заметного токсического влияния на макроорганизм, в малых концентрациях серебро необходимо для полноценного функционирования органов и систем животного и человека. Соединения иода имеют широкий антимикробный спектр действия - они с одинаковой эффективностью подавляют грамположительные, грамотрицательные бактерии, грибковую микрофлору; не наблюдается появление устойчивых к иоду штаммов микроорганизмов; а иодполимерные соединения не оказывают прижигающего, раздражающего и токсического действия ни на отдельные ткани и органы, ни на организм животных в целом даже в концентрациях, в десятки раз превышающих терапевтические. С учетом совместимости растворов иода с многочисленными соединениями и недостаточной изученности использования иода с ионами серебра возникла необходимость изучения его биоцидного и лечебного действия в комплексе с современными препаратами. Сконструированный состав субстанции на основе дитиосульфатоаргентата натрия в присутствии иодид-ионов обеспечивает стабильное антибактериальное действие (в разведениях 10^1-10^6) в отношении всех тестируемых микроорганизмов (*Escherichia coli*, *Salmonella enterica*, *Streptococcus pneumoniae*, *Staphylococcus aureus*). В связи с вышеизложенным, представляется вполне обоснованным и актуальным направлением исследований - оценка токсичности и безвредности разработанной субстанции на основе комплексного соединения серебра в присутствии иодид-ионов.

Целью наших исследований явилось изучение безвредности (токсичности) сконструированной субстанции на основе дитиосульфатоаргентата (I) натрия в присутствии иодид-ионов, протаргола и нитрата серебра в сравнении с протарголом и нитратом серебра.

Материалы и методы исследований.

Исследования проводились на базе кафедр химии, эпизоотологии и инфекционных болезней УО «Витебская ордена «Знак Почета» государственная академия ветеринарной медицины».

Для исследований использовали серебросодержащие препараты (дитиосульфатоаргентат (I) натрия в присутствии иодид-ионов, протаргол и нитрат серебра)

Для оценки безвредности серебросодержащих препаратов использовали 24 белых крыс с массой 160-170 г. Из опытных групп был 4 группы (3 опытных и 1 контрольная). Крысам первой опытной группы вводили однократно внутримышечно дитиосульфатоаргентат (I) натрия в присутствии иодид-ионов, второй – протаргол, третьей – нитрат серебра, контрольной – физиологический раствор в объеме по 0,1 см³/гол. За белыми крысами вели клиническое наблюдение в течение 10 сут. При этом особое внимание уделяли общему состоянию животных и местной реакции на месте введения препарата. По истечении срока наблюдения их умерщвляли согласно национальным и международным требованиям по биоэтике, производили патологоанатомическое вскрытие и осмотр места введения препаратов.

Изучение острой токсичности субстанции провели согласно «Методических указаний по токсикологической оценке химических веществ и фармакологических препаратов, применяемых в ветеринарии» (Минск, 2007).

Для изучения острой токсичности в опыте использовали 70 клинически здоровых белых мышей обоего пола, массой 18-20 г. Животные содержались на стандартном рационе со свободным доступом к корму и воде.

Для определения острой токсичности при введении в желудок, препарат задавали на крахмальном клейстере внутрижелудочно натошак при помощи шприца с зондом однократно. Для чего было сформировано шесть опытных и одна контрольная группа по 10 белых мышей в каждой. Мышам 1 группы ввели препарат в дозе 5 000,0 мг/кг, 2 группы – 10 000,0 мг/кг, 3 группе – 15 000,0 мг/кг, 4 группе – 20 000,0 мг/кг, 5 группы – 25 000,0 мг/кг, 6 группы – 30 000,0



мг/кг, мышам контрольной группы вводили крахмальный клейстер в объеме, соответствующем объему вводимого препарата.

За животными вели постоянное клиническое наблюдение в течение 14 дней, при этом учитывали поведенческие реакции (возбуждение или угнетение), характер поедаемости корма, степень проявления реакции на внешние раздражители, клинический статус, время возникновения и характер проявления интоксикации, сроки наступления гибели животных. По истечении срока наблюдения их умерщвляли согласно национальным и международным требованиям по биоэтике, производили патологоанатомическое вскрытие и осмотр места введения препаратов.

Павших животных подвергали патолого-анатомическим исследованиям.

Результаты исследований

Одним из важнейших показателей препаратов является безвредность. Результаты исследований на лабораторных животных представлены в таблице 1.

Таблица 1. Оценка безвредности и реактогенности серебросодержащих препаратов на белых крысах

Испытуемый препарат	Результаты наблюдения за животными (местная реакция)	Тканевая реакция в месте введения вакцины (вскрытие)
Дитиосульфатоаргентат (I) натрия в присутствии иодид-ионов	–	–
Протаргол	Припухлость в первые 2 дня после введения	–
Нитрат серебра	Припухлость в первые 5 дней после введения	Воспалительная реакция на месте введения
Контрольная	–	–

Примечание: «–» - отсутствие реакции

Как видно из данных таблицы, белые крысы после подкожного введения серебросодержащих препаратов в течение опыта оставались живыми и на месте введения препаратов при вскрытии, тканевая реакция не отмечена.

В процессе проведения опыта получены следующие результаты: выявлено, что у мышей в 1 группе, получавших препарат в дозе 5 000,0 мг/кг, в течение всего срока наблюдения (14 дней) не было клинических признаков интоксикации. Клинико-функциональный статус у всех животных не имел отклонений от физиологического состояния, присущего мышам данной возрастной группы. В течение опытного периода гибели мышей в группе 1 не было. У животных 2-группы (доза 10 000,0 мг/кг) была отмечена гибель 1 особи на 1 сутки наблюдения. У животных 3-группы (доза 15 000,0 мг/кг) в течение первых суток, а также на 2-4 сутки наблюдалось снижение двигательной активности и реакции на внешние раздражители, после чего произошла нормализация выявленных нарушений, а через 16 часов и на 2-е сутки была отмечена гибель по 1 и 3 мыши в указанные сроки. У животных 4-группы (доза 20 000,0 мг/кг) в течение первых суток, а также на 2-5 сутки наблюдалось снижение двигательной активности и реакции на внешние раздражители, после чего произошла нормализация выявленных нарушений, а через 12 часов и на 2-е сутки была отмечена гибель по 2 и 3 мыши в указанные сроки. У животных 5-группы (доза 25 000,0 мг/кг) в течение первых суток, а также на 2-6 сутки наблюдалось снижение двигательной активности и реакции на внешние раздражители, после чего произошла нормализация выявленных нарушений, а через 12 часов и на 2-е сутки была отмечена гибель по 4 и 2 мыши в указанные сроки. У животных 5-группы (доза 25 000,0 мг/кг) в течение первых 48-и часов наблюдалось снижение двигательной



активности и реакции на внешние раздражители, а через 5, 18 и 24 часа, а также на 2 сутки после введения препарата была отмечена гибель по 3, 2, 3, 2 мыши в указанные сроки.

Животные контрольной группы оставались клинически здоровы.

Павших животных подвергали вскрытию, при этом установлено, что печень, почки, селезенка темно-вишневого цвета и кровенаполнены, катарально-геморрагические изменения в желудочно-кишечном тракте, содержимое в желудке и кишечнике отсутствовало. У выживших мышей при вскрытии патологоанатомических изменений внутренних органов отмечено не было.

При расчете параметров острой токсичности методом Г.Н. Першина установлено, что при пероральном введении препарата мышам, LD_{50} составило 15 500 мг/кг массы тела. Таким образом, препарат относится к веществам малоопасным (IV класс) с LD_{50} более 5000 мг/кг, согласно ГОСТ 12.1.007-76.

Проведенными исследованиями установлено, что у разработанного препарата на основе натрия дитиосульфатоаргентата для лечения акушерско-гинекологических заболеваний коров LD_{50} составило 15 500 мг/кг массы тела. Таким образом, препарат относится к веществам малоопасным (IV класс) с LD_{50} более 5000 мг/кг, согласно ГОСТ 12.1.007-76.

Выводы. По результатам проведенных опытов были сделаны следующие выводы:

1. Серебросодержащее соединение дитиосульфатоаргентат (I) натрия в присутствии иодид-ионов является безвредным и не обладает реактогенностью в отношении лабораторных животных;

2. Серебросодержащие препараты протаргол, нитрат серебра обладают реактогенностью на месте введения и в то же время являются безвредными для лабораторных животных.

3. LD_{50} Натрия дитиосульфатоаргентата составило 15 500 мг/кг массы тела – соединение относится к веществам малоопасным (IV класс) с LD_{50} более 5000 мг/кг, согласно ГОСТ 12.1.007-76.

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ИЗУЧЕНИЕ ИММУНОСТИМУЛИРУЮЩЕЙ АКТИВНОСТИ ЛИПОЛИСАХАРИДОВ ИЗ *SACCHAROMYCES CEREVISI* ПУТЕМ ОЦЕНКИ ЭКСПРЕССИИ ПОВЕРХНОСТНЫХ МАРКЕРОВ ДЕНДРИТНЫХ КЛЕТОК КРОВИ

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Abstract. The purpose of this research is to evaluate the immunostimulating effect of lipopolysaccharide from *Saccharomyces cerevisi* by the expression of surface markers of immunocompetent cells. Bacterial lipopolysaccharides of the producer strain *Saccharomyces cerevisi* are obtained by thermal hydrolysis in a 1% sodium hydroxide solution at 100 °C. Isolation of mononuclear cells from peripheral blood and obtaining immature DCs. A sterile Ficoll-Pak gradient with a density of 1077 g/l was poured into 15 ml propylene tubes. Monocytes were isolated from the MPC fraction by the adhesion method. A suspension of mononuclear cells (3×10⁶/ml) in a nutrient medium was poured into 12-well plates. The cells were incubated in a CO₂ incubator for 45 minutes to ensure complete adhesion of monocytes. After that, the medium with unattached cells was removed



and the wells were washed from lymphocytes with DPBS. Isolated PBMCs were cultured in AIM-V nutrient medium with the addition of cytokines: 100 ng/ml GM-CSF and 50 ng/ml IL-4 at 37 °C in a humidified atmosphere with 5% CO₂ for 6 days. Then the polysaccharides under study were added. The studies were carried out in 3–6-fold repetitions. On the surface of DCs, the expression of the following molecules was studied: class II GCS molecules - HLA-DR, costimulatory molecules CD80 and CD86, co-inhibitory molecules CD273, DC differentiation marker CD209. To determine the expression of surface molecules, cells were incubated with monoclonal antibodies. It was found that the level of expression of CD80, CD86, CD273 and HLA-DR molecules on dendritic cells (DC) was 1.5-2 times higher ($p < 0.05$) when compared with the corresponding control group, which indicates the immunobiological activity of lipopolysaccharide from *Saccharomyces cerevisi*. Key words: lipopolysaccharide, *Saccharomyces cervisi*, dendritic cells, surface markers of immunocompetent cells..

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Введение

Бурное развитие иммунологии, микробиологии, химии (органического и неорганического синтеза), фармакологии и других смежных наук привело к тому, что появилось новое направление в иммунологии – иммунологическая регуляция. Приемы иммунотерапии, направленные на исправление дефекта иммунорегуляции, можно объединить общим термином «иммунокоррекция»

Из линейки иммунокорректоров или иммуностимуляторов Впоследние годы внимание исследователей привлекают бактериальные липолисахариды (ЛПС).

Строение ЛПС определяет результат иммунного ответа – будет ли бактериальная клетка распознана и уничтожена защитной системой организма-хозяина или же фагоцитоз будет предотвращен и будет обеспечено выживание бактерии.

Широкий спектр биологической активности ЛПС связывают с широким диапазоном молекулярных масс, констатируя, что физиологическая активность хорошо коррелирует с величинами молекулярных масс. Так, низкомолекулярные ЛПС (5000 - 15000) имеют тенденцию к проявлению *антикомплементарной активности*, в то время как высокомолекулярные (75000-125000) стимулируют ретикулоэндотелиальную систему. *Антикомплементарная активность* сводится к тому, что формирование мембраноатакующего комплекса происходит на О-специфических полисахаридных цепях, а не на мембране бактериальной клетки. Это защищает бактерию от лизиса.

Липополисахариды стимулируют многие защитные реакции организма: увеличивают количество лейкоцитов и их фагоцитарную активность, повышают активность системы комплемента, резистентность клеточных и субклеточных мембран к действию повреждающих агентов. Под влиянием ЛПС макрофаги, полиморфно-ядерные нейтрофилы и другие клетки продуцируют интерлейкины (ИЛ-1, ИЛ-6), простагландины, оксид азота (NO), кислородные радикалы и др.

Поликлональный активирующий эффект липополисахаридов может быть реализован без участия макрофагов и Т-лимфоцитов, хотя Т-клетки с регулирующей поликлональный ответ функцией, возможно, могут вовлекаться в процесс за счет прямого воздействия на них липополисахаридов.

Рассматривая механизм неспецифического иммуностимулирующего действия компонента микробных клеток, большинство авторов считают, что они преимущественно действуют на популяцию В-клеток, а также активируют синтез неспецифических иммуноглобулинов. Взаимодействие ЛПС со специфическими рецепторами на поверхности В-лимфоцитов сопровождается увеличением поступления ионов кальция внутрь этих клеток с последующим быстрым увеличением уровня циклического гуанидинмонофосфата и медленным нарастанием уровня циклического аденозинмонофосфата. Увеличение активности названных нуклеотидов приводит вначале к пролиферации (активность у ГМФ), а затем к



дифференцировке (активность у АМФ) лимфоцитов в плазматические клетки, синтезирующие иммуноглобулины.

Установлено, что ЛПС напрямую активируют миелоцитарный росток костного мозга, одним из проявлений которого является мегакариоцитоз и лейкоцитоз, сменяющий кратковременную лейкопению. При повторяющихся эндотоксиновых атаках вновь развивается лейкопения (как следствие истощения резервов миелопоэза). Реакция костного мозга может реализовываться и вследствие действия колониестимулирующих факторов, освобождающихся из активированных ЛПС фибробластов и эндотелиальных клеток, которые ускоряют пролиферацию и дифференцировку ряда клеток. Благодаря способности ЛПС активировать фагоцитирующие клетки происходит выброс лизосомальных энзимов, усиление метаболизма арахидоновой кислоты, ускорение кислородного метаболизма, что, с одной стороны, может быть причиной повреждения близлежащих клеток (в частности, эндотелиальных), а с другой – интенсификации процессов фагоцитоза. Последний может усиливаться способностью ЛПС обуславливать активацию синтеза гамма-интерферона, фибронектина и С3b-компонента комплемента, которые являются мощными опсонинами. Однако стимулирующим эффектом на мононуклеарные фагоциты обладают лишь низкие дозы ЛПС, тогда как более высокие, напротив, блокируют их основные функции. Дисфункция системы фиксированных макрофагов печени является одним из ключевых звеньев в развитии самой тяжелой системной реакции организма на ЛПС – эндотоксинового шока. Хорошо известны адьювантные эффекты ЛПС. Он способен вызывать пролиферацию, дифференцировку и активацию Т- и В-лимфоцитов, в результате чего стимулируется как клеточное, так и гуморальное звено иммунного ответа на любые антигены. Возникающие как следствие эндотоксиновой агрессии гиперпродукция цитокинов и медиаторный хаос сменяются глубокой депрессией системы фиксированных макрофагов со всеми вытекающими отсюда последствиями (включая угнетение синтетической и секреторной функции клеток-мишеней).

Учитывая высокую биологическую активность бактериальных ЛПС возникает необходимость оценки иммуностимулирующей активности этой группы иммуностимуляторов.

Известно, что при воздействии на иммунокомпетентные клетки различных иммуностимулирующих веществ происходит экспрессии поверхностных маркеров и изменения их иммунофенотипа.

Целью настоящих исследований является оценка иммуностимулирующего действия липолисахарида из *Saccharomyces cerevisi* по экспрессии поверхностных маркеров иммунокомпетентных клеток.

Материалы и методы

Исследования проводились на базе кафедр микробиологии, вирусологии, эпизоотологии и инфекционных болезней УО «Витебская ордена «Знак Почета» государственная академия ветеринарной медицины» и лаборатории иммунологии и вирусологии ГНУ «Институт биофизики и клеточной инженерии НАН Беларуси».

Объекты исследований

В исследованиях использовали ЛПС из *Saccharomyces cerevisi*, периферическую кровь доноров, дендритные клетки (ДК).

Материалы и реагенты

В работе использовали следующие реагенты:

- антикоагулянты: натриевая соль гепарина («Белмедпрепараты», РБ);

- питательные среды и буферные растворы:

1) DPBS для отмывки клеток, не содержащий ионов двухвалентных металлов (Biowest, Франция);

2) бессывороточная среда AIM-V для роста клеток (Gibco, США) с добавлением 0,3 г/л L-глутамина (Lonza, Швейцария), 10 mM HEPES (Gibco, США);



- ЛПС из *Bacillus subnilis* (10,2 mg/ml);
- другие реагенты: градиент плотности «фиколл-пак» (1077 г/л) (Biowest, Франция), АВ0-сыворотка (РНПЦ трансфузиологии и медицинских биотехнологий);
- моноклональные антитела к антигенам человека: CD80, конъюгированное с FITC; CD86, конъюгированное с PE; CD209, конъюгированное с APC; CD273, конъюгированное с PerCP-eFl1710; HLA-DR, конъюгированное с PE-Cy7.

Оборудование

- инкубатор углекислотный C150 (Bindder, США);
- шкаф ламинарный BA safe-1.2 (Белаквилон, РБ);
- центрифуга MPW (MPW-260R, Китай);
- микроскоп инвертированный (BestScope, Китай);
- цитометр Attune NxT (ThermoFisher, США).

В работе использовали следующее программы: Statistica, версия 12 (StatSoft, США); FCS Express, версия 7 (DeNovo Software, США), «StatPlus» 4.9 («AnalystSoft», США).

Бактериальный липополисахаридиз штамма-производителя *Saccharomyces cerevisi* получают путем термогидролиза в 1 %-ном растворе гидроксида натрия при 100 °С в течение 60 мин, после остывания реакционной смеси до 20-22 °С осуществляют центрифугирование при 8000-10000 об/мин в течение 10 мин, доводят рН надосадочной жидкости до 1,0- 2,0 с помощью 5 %-ного раствора соляной кислоты, После образования осадка, который отделяют от надосадочной жидкости центрифугированием при 8000-10000 об/мин в течение 10 мин, а полученный липополисахарид растворяют в деионизированной воде при рН 9,0 при следующем соотношении ингредиентов, мас. %: липополисахарид штамма-производителя *Saccharomyces cerevisi* - 50 мг и деионизированная вода остальное, После, чего полученный раствор стерилизуют путем мембранной фильтрации под давлением 0,1-0,5 атм через фильтровальную установку, снабженную мембраной с размером пор 0,2 мкм. (5,6,7).

Забор донорской крови был проведен на базе Институт биофизики и клеточной инженерии НАН Беларуси. Образцы венозной крови, объемом 50 мл каждый, помещали в маркированные стерильные полипропиленовые пробирки с антикоагулянтом – 100 мкл гепарина натрия.

Выделение мононуклеаров из периферической крови и получение незрелых ДК

В пропиленовые пробирки объемом 15 мл разливали стерильный градиент фиколл-пак с плотностью 1077 г/л в количестве 4 мл на пробирку. На градиент фиколл-пак аккуратно наслаивали 8 мл разведенной крови. Пробирки центрифугировали в течение 30 минут при 500g для разделения фракций. После центрифугирования слой плазмы удаляли, затем собирали кольцо МПК (мононуклеары периферической крови). Клетки переносили в чистую пропиленовую пробирку, доводили объем клеточной взвеси до 15 мл DPBS и отмывали дважды полученную суспензию клеток от градиента и тромбоцитов путем центрифугирования, 10 минут при 300g, производили подсчет в камере с сеткой Горяева.

Моноциты выделяли из фракции МПК методом адгезии. Взвесь мононуклеаров (3×10^6 /мл) в питательной среде разливали по 12-луночным планшетах. Клетки инкубировали в CO² инкубаторе 45 минут для полной адгезии моноцитов. После чего, среду с не прикрепившимися клетками удаляли и отмывали лунки от лимфоцитов DPBS. Выделенные МПК культивировали в питательной среде AIM-V с добавлением цитокинов: 100 нг/мл ГМ-КСФ и 50 нг/мл ИЛ-4 при 37 °С в увлажненной атмосфере с 5 % CO₂ в течение 6 суток. Затем добавляли исследуемые полисахариды

Через сутки анализировали иммунофенотип и морфологию клеток.

Инкубация клеток с бактериальным ЛПС Saccharomyces cerevisi

Исследования проводили в 3–6-кратных повторях. Взвесь культуры ДК разливали по лункам 12-луночного планшета. В лунки помещали следующие вещества: лунка 1 – отрицательный контроль ДК, лунки 2–4 – ДК с рабочими растворами исследуемых веществ



бактериального ЛПС из *Saccharomyces cerevisi* в концентрации 10 мкг/мл Рабочие растворы с полученной концентрацией готовили непосредственно перед исследованием.

Для *in vitro* исследований использовали концентрации на порядок ниже, поэтому для ЛПС из *Saccharomyces cerevisi* делали несколько разведений, после чего оценивали их влияние на отвечаемость полисахаридов.

Планшеты с ДК инкубировали при 37 °С в увлажненной атмосфере с 5 % CO₂ на протяжении 24 часов.

По завершении времени культивирования культуры суспендировали в лунках, взвесь помещали в пробирки, отмывали дважды в DPBS и суспендировали в 1 мл DPBS.

Определение поверхностных и внутриклеточных маркеров клеток

На поверхности ДК была исследована экспрессия следующих молекул:

- 1) молекул ГКС II класса – HLA-DR,
- 2) костимуляторных молекул CD80 и CD86,
- 3) коингибиторных молекул CD273,
- 4) маркер дифференцировки ДК – CD209.

При определении экспрессии поверхностных молекул клетки инкубировали с моноклональными антителами 15 мин при +4°С в темноте. Несвязавшиеся антитела отмывали путем центрифугирования в DPBS, после чего супернатант удаляли, а клетки ресуспендировали в 250 мкл DPBS. Учет производили на проточном цитофлуориметре.

Методы статистической обработки данных

Для статистической обработки полученных данных применяли программное обеспечение «Statistica», версия 10–12 («StatSoft», США), «StatPlus» 4.9 («AnalystSoft», США). Значения показателей, преимущественно, представлены в виде Me (25 – 75), где Me – медиана, а 25 и 75 – интерквартильный размах в виде 25-й и 75-й перцентилей. Для сравнения двух независимых выборок использовали U-критерий Манна-Уитни. В качестве критерия достоверности различий показателей принимался уровень значимости $p < 0,05$.

Результаты исследований

При оценке стимулирующего действия ЛПС из *Saccharomyces cerevisi* учитывали следующие поверхностные маркеры иммунокомпетентных клеток:

HLA-DR (МНС-II) – главный комплекс гистосовместимости (МНС) класса II, антигенпредставляющая молекула для представления пептидных антигенов.

CD80 (B7-1) – мембранный белок суперсемейства иммуноглобулинов, связывается с CD28 и CTLA-4 с низкой аффинностью и быстрой кинетикой связывания, что позволяет быстрые взаимодействия между коммуницирующими клетками, экспрессируется на дендритных клетках

CD86 – мембранный белок суперсемейства иммуноглобулинов, экспрессированный на антиген-представляющих клетках, который действует как ко-стимулирующий сигнал для активации Т-лимфоцитов.

CD209 маркер дифференцировки ДК, представляющий собой рецептор лектина С-типа.

CD273 (B7-DC, PD-L2) Молекула B7-DC экспрессируется на ДК, регуляторных В-клетках, макрофагах, мезенхимальных стволовых клетках, клетках опухолей, в том числе, некоторых и перевиваемых клеточных линиях.

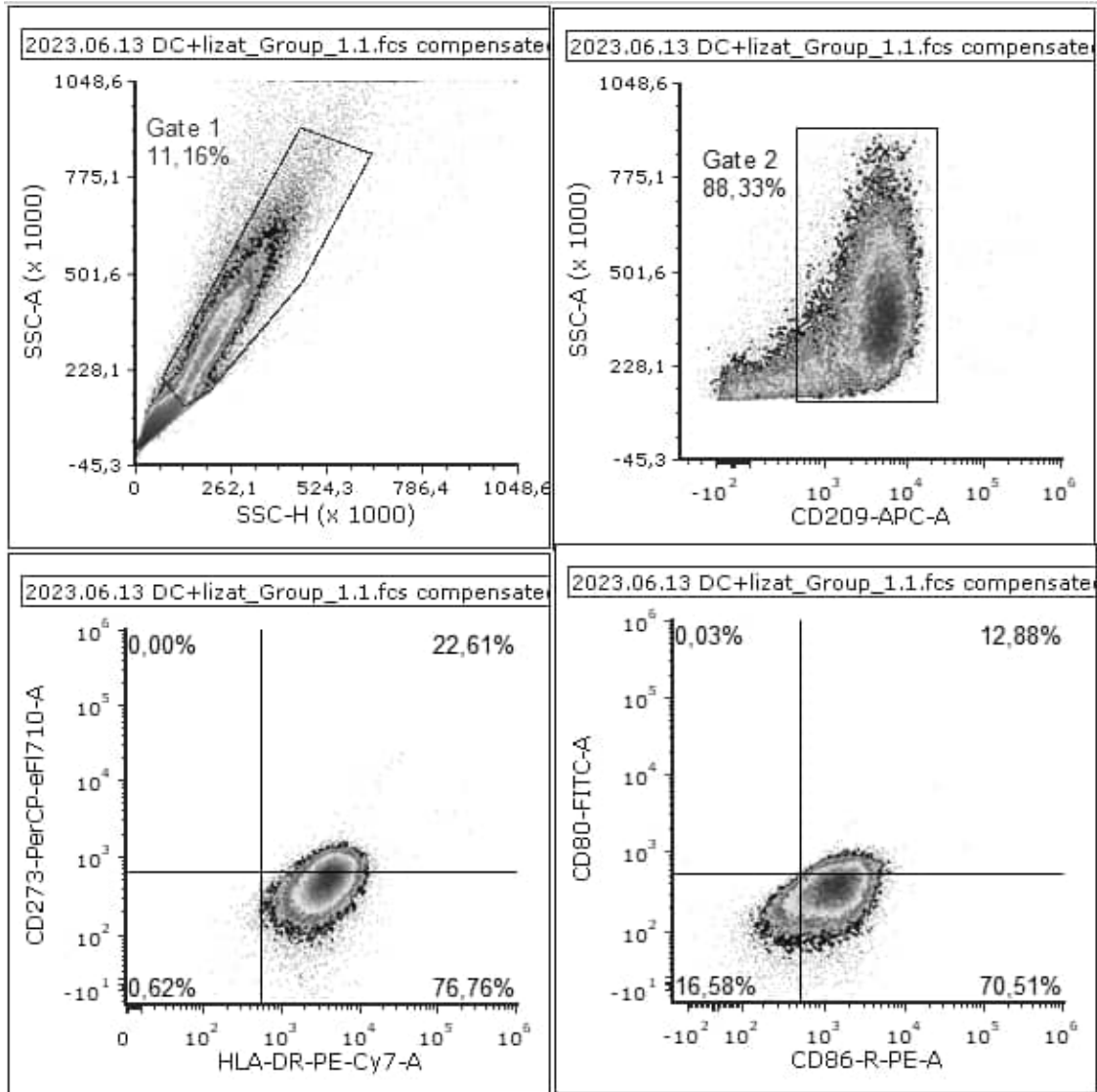


Рисунок 1. Анализ иммунофенотипа ДК, культивированных с полисахаридом из *Saccharomyces cerevisi*

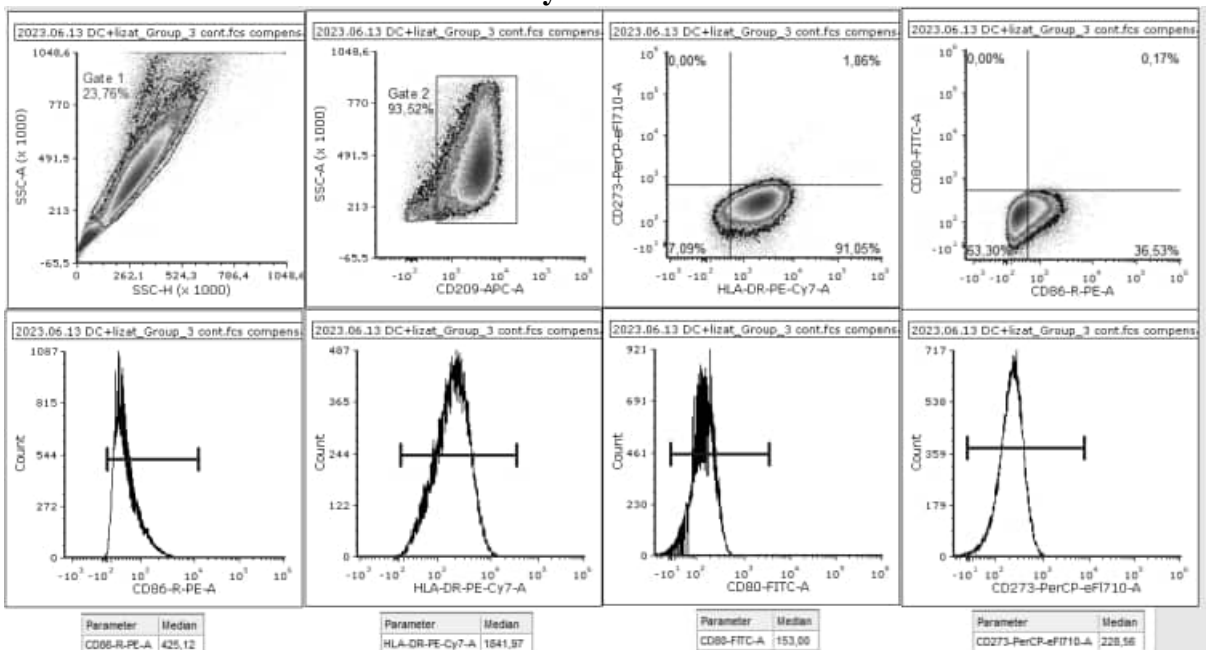


Рисунок 2. Анализ иммунофенотипа ДК (контроль)



Таблица 1. Сравнительные данные иммунофенотипирования ДК ЛПС из *Saccharomyces cerevisi*

Образцы	CD86	HLA-DR	CD80	CD273
контроль				
Me(25-75)	421(338-495)	1829(1056-1844)	151(122-163)	244(226-353)
Saccharomyces cerevisi (4,5 mg/ml)				
Me(25-75) усл. ед.	872(771-1809)	2263(2118-4284)	203(181-233)	236(230-338)
Mann-Whitney U Test	0,049534613	0,049534613	0,049534613	0,976212649

Полученные результаты проведенных исследований, представленные в таблице, показали иммунобиологическую активность исследованного ЛПС из *Saccharomyces cerevisi*.

Уровень экспрессии молекул CD80, CD86, CD273 и HLA-DR на дендритных клетках (ДК) был в 1,5-2 раза выше ($p < 0,05$) при сравнении с соответствующей контрольной группой

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ТРАНСФОРМАЦИЯ АГРАРНОГО СЕКТОРА ЭКОНОМИКИ РЕСПУБЛИКИ БЕЛАРУСЬ В НАЧАЛЕ XXI В.

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Abstract. The article discusses the main stages of reforming the agricultural sector of the economy at the beginning of the XXI century. The priority directions of the socio-economic development of the Belarusian village are determined. The results of the activities of state programs adopted for a five-year period are analyzed. The positive aspects of the functioning of the agricultural sector are substantiated and the factors hindering its development are highlighted.

Keywords: agricultural sector, agricultural business, agro-town, Belarusian village, state program.

Процесс реформирования аграрного сектора экономики Республики Беларусь на протяжении многих лет осуществляется на основе ряда важных документов в виде государственных программ, принимаемых на пятилетний срок. Каждая из программ по реформированию АПК Беларуси представляет собой четкий план действий, оптимальный для определенного периода социально-экономического развития государства. Все эти документы направлены на поддержание снабжения населения продовольствием на уровне, достаточном для здорового питания при высокой доступности продуктов всем социальным группам, и обеспечение защиты интересов сельхозпроизводителей.

Отправной точкой процесса развития аграрной отрасли экономики в стране считается время принятия Коллегией Кабинета Министров Республики Беларусь «Государственной программы реформирования Агропромышленного комплекса (АПК) Республики Беларусь» – 6 августа 1996 года. Этот документ послужил началом практической работы по реформированию сельского хозяйства в направлении постепенного перехода от командно-административной модели к рыночной экономике. При этом допускалось наличие системы хозяйствования, предполагающей свободное функционирование хозяйствующих субъектов при сохранении государственного регулирования отдельных сторон их деятельности.

В 2000 г. вступила в силу Республиканская программа повышения эффективности АПК на 2000–2005 гг., гарантировавшая продовольственную безопасность страны. Годом позднее началась реализация Государственной программы совершенствования АПК на 2001–2005 гг., одобренная Указом Президента Республики Беларусь от 14 мая 2001 года № 256. В этом документе определены цели формирования микро- и макроэкономической системы хозяйствования, обеспечивающей устойчивое развитие и последовательное повышение эффективности агропромышленного производства, а также гарантии продовольственной безопасности государства. Более того, отмечены основные направления интенсификации производственной сферы, пути решения кадровых и жилищных проблем [1].

В процессе реализации данной программы постепенно повышались закупочные цены на сельскохозяйственную продукцию, увеличились инвестиции в АПК, в том числе за счет лизинговых отношений при поставке селу наиболее сложной техники с привлечением не только собственных и бюджетных средств, но и льготных финансовых ресурсов за счет фонда поддержки кредитов банков. Это позволило добиться положительных результатов практически по всем направлениям развития агропромышленного комплекса Республики Беларусь.



Однако, оставались достаточно острыми следующие проблемы: высокие затраты на единицу продукции, недостаточное материально-техническое обеспечение хозяйств, сложная демографическая ситуация на селе, существенные различия в уровне жизни сельского и городского населения. Недостаток этих программ заключается в том, что они были ориентированы исключительно на развитие сельского хозяйства и не затрагивали вопросов, имеющих отношение к социальной сфере белорусского села.

Как отмечают В. Г. Гусаков и В. И. Бельский [1], за годы реализации Государственной программы совершенствования АПК на 2001–2005 гг. произошли следующие изменения:

были восстановлены объемы производства сельхозпродукции;

при сохранении государственной поддержки АПК произошла его переориентация на рыночные отношения;

были восстановлены крупные товарные сельскохозяйственные предприятия; колхозы и совхозы были преобразованы в унитарные предприятия;

кооперативные объединения, акционерные компании, сочетающие в себе государственные и негосударственные формы собственности.

Новый, важный этап в развитии белорусского села начался в 2005 г. и связан с принятием Государственной программы возрождения и развития села на 2005–2010 гг. В качестве приоритетных задач выделялись следующие: «...возрождение и развитие социальной и производственной сфер белорусского села, обеспечение условий для устойчивого ведения сельскохозяйственного производства; повышение доходов сельского населения, создание основ для престижности проживания в сельской местности и улучшения демографической ситуации на селе; обеспечение эффективности производства сельскохозяйственной продукции и продовольствия в объемах, достаточных для внутреннего рынка и формирования экспортных ресурсов» [2].

Значимость данного документа заключается в том, что принятая в 2005 г. программа уже носила комплексный характер, так как была направлена как на развитие агропромышленного комплекса, так и на совершенствование социальной инфраструктуры сельских населенных пунктов. Главной целью данной Программы являлось укрепление аграрной экономики за счет повышения конкурентоспособности национального АПК, расширения возможности экспорта сельхозпродукции, проведения модернизации. Соответственно, на этой основе происходило обеспечение роста доходов сельских жителей, создание условий для жизнеобеспечения населения, повышение престижности сельского образа жизни и привлекательности сельскохозяйственного труда. Необходимо отметить, что период, на протяжении которого осуществлялось выполнение Программы, был достаточно продуктивным для аграриев страны. Дело в том, что АПК обеспечил стабильный рост показателей во всех отраслях.

К 2010 году за счет интенсивных факторов производство валовой продукции во всех категориях хозяйств увеличилось по сравнению с 2004 годом на 45 %, а на одного работающего составило 56 млн. рублей при задании Программы 30–35 млн. Более того, рентабельность сельскохозяйственного производства выросла до 18–20 %, производительность труда к уровню 2005 года увеличилась в 1,6 раза.

Итогом действия программы стало создание сети из 1481 агрогородка, в которых проводились строительство жилья, обеспеченного газо- и водоснабжением, канализацией; газификация уже построенных домов; реконструировались и создавались объекты социальной инфраструктуры: поликлиники, больницы, школы, детские сады, магазины, библиотеки, клубы, кафе. Появление благоустроенного населенного пункта в виде агрогородка, сочетающего в себе преимущества городской и сельской жизни, обозначило собой переход к качественно новому уровню в развитии социальной инфраструктуры в сельской местности. Их равномерное распределение по регионам страны позволило существенно улучшить положение сельских тружеников, обеспечить социальные стандарты не только проживающему в них населению, но в определенной мере и жителям прилегающих территорий [3].



Не менее важное значение для дальнейшего развития и аграрного сектора экономики, и сельских регионов Республики Беларусь имела Государственная программа устойчивого развития села на 2011–2015 гг. Данный документ определял следующие направления деятельности:

создание правовых и экономических условий для беспрепятственной и эффективной деятельности субъектов хозяйствования в сельской местности, обеспечиваемой за счет эффективной поддержки АПК со стороны государства;

привлечение инвестиций в сельскую местность;

развитие бизнеса и предпринимательства, повышение мотивации труда сельчан; технико-технологическое переоборудование АПК;

повышение темпов производства сельхозпродукции и продовольствия, а также рост их продаж; улучшение кадрового обеспечения сельхозпредприятий;

улучшение благоустроенности сел и агрогородков;

рост благосостояния жителей села; повышение престижности сельской жизни; привлечение и закрепление населения в селе [4].

В процессе ее реализации произошла оптимизация субъектов хозяйствования в сельских регионах Республики Беларусь. Так, в период с 2010 по 2015 г. их численность сократилась на 190 единиц. В крупных компаниях, занимающихся производством сельхозпродукции, были созданы отрасли, ориентированные на экспорт (молочная, сахарная, льняная и др.). В 2015 г. рост рентабельности от продаж продукции сельского хозяйства составил 11,5%. Кроме развития производственной сферы белорусского села, указанная программа носила ярко выраженную социальную направленность: развивалась торговля и сфера социального обслуживания. В результате реализации программных мероприятий план по созданию торговых объектов в агрогородках был перевыполнен. Так, в сельских регионах вместо 51 объекта торговли было открыто 96. Из 9265 реконструированных магазинов 2380 располагалось в агрогородках. В сфере социального обслуживания как создавались стационарные учреждения для инвалидов и престарелых, так и организовывались выездные бригады по обслуживанию пожилого сельского населения на дому.

Однако, как показала реализация данной Программы, в последние годы сформированные на этапе возрождения белорусского села механизмы хозяйствования, обеспечившие существенный рост валовой продукции АПК, оказались недостаточными для решения актуальнейшей проблемы – укрепления экономики сельскохозяйственных организаций. Дефицит финансовых средств стал главным препятствием полномасштабного выполнения производственных программ отрасли.

Последующее развитие сельских регионов осуществлялась в рамках следующих документов: Программы социально-экономического развития Республики Беларусь на 2016–2020 гг., Государственной программы развития аграрного бизнеса в Республике Беларусь на 2016–2020 гг., Государственной программы развития аграрного бизнеса в Республике Беларусь на 2016–2020 гг. и Директивы Президента Республики Беларусь от 4 марта 2019 г. № 6 «О развитии села и повышении эффективности аграрной отрасли» [4, 5, 6, 7, 8].

Так, в рамках Программы социально-экономического развития Республики Беларусь на 2016–2020 гг. осуществлялся инновационный путь развития аграрной отрасли экономики, преимущественно посредством сокращения затрат на производство сельхозпродукции, повышения ее качества, а также роста экспорта продукции и продовольствия сельхозпредприятий [5].

Последующее функционирование национального АПК осуществлялось в соответствии с основными положениями Государственной программы развития аграрного бизнеса в Республике Беларусь на 2016–2020 годы. Ее целью являлось повышение эффективности сельскохозяйственного производства и сбыта сельскохозяйственной продукции и продуктов питания, а также повышение их конкурентоспособности, обеспечение внутреннего рынка страны отечественной сельскохозяйственной продукцией и продовольствием в необходимых



объемах и надлежащего качества на основе формирования рыночных механизмов хозяйствования и развития аграрного бизнеса [6].

В процессе реализации Государственной программы развития аграрного бизнеса в Республике Беларусь на 2016–2020 гг. удалось урегулировать спрос и предложение по различным видам сельхозпродукции. В частности, объем продукции растениеводства к концу 2020 г. удалось увеличить на 9,3 % по сравнению с 2016 г., а продукции животноводства – на 18,3 %. Достижение поставленных результатов осуществлялось путем обеспечения хозяйствующих субъектов материальными и техническими ресурсами, применения инновационных технологий в сельхозпроизводстве, повышения конкурентоспособности сельхозпредприятий и др.

В рамках постановления Совета Министров Республики Беларусь № 314 от 21 мая 2019 г. «О комплексе мер по реализации положений Директивы Президента Республики Беларусь № 6 от 4 марта 2019 г. «О развитии села и повышении эффективности аграрной отрасли» было предусмотрено осуществление проекта «Деревня будущего»; развитие транспортной, инженерной, социальной инфраструктуры сельских населенных пунктов; предложены меры государственной поддержки АПК, повышения конкурентоспособности сельскохозяйственного производства в Республике Беларусь [8].

На современном этапе для Республики Беларусь проблемы устойчивого развития, экономической самостоятельности и экологической безопасности являются определяющими для повышения экономического роста, увеличения ВВП. В соответствии с «Национальной стратегией устойчивого социально-экономического развития Республики Беларусь на период до 2030 года», основной стратегической целью устойчивого развития Республики Беларусь является обеспечение высоких жизненных стандартов населения и условий для гармоничного развития личности на основе перехода к высокоэффективной экономике, основанной на знаниях и инновациях, при сохранении благоприятной окружающей среды для будущих поколений.

В настоящее время АПК Беларуси представлен организациями сельскохозяйственного производства, перерабатывающей промышленности, агросервисного обслуживания и подготовки кадров. Производством сельскохозяйственной продукции занимаются сельскохозяйственные организации (78,9%), крестьянские (фермерские) хозяйства (2,2%) и население (ЛПХ) (18,9%). Сельскохозяйственные организации развиваются по пути создания крупнотоварного производства.

Развитие сельского хозяйства, его производственного потенциала и специализации определяются спецификой природных условий, потребностью населения в продуктах питания, перерабатывающей промышленности – в сырье, целесообразными объемами экспортных поставок. Особенности климата и наличие разнокачественных сельскохозяйственных и пахотных угодий (на луговые угодья приходится 32–37%, в том числе в сельхозорганизациях крупнотоварного сектора – 33–39%), являются важнейшим условием развития различных отраслей.

В 2020 году завершена реализация Государственной программы развития аграрного бизнеса в Республике Беларусь на 2016–2020 годы, целями которой стало повышение эффективности сельскохозяйственного производства и сбыта сельскохозяйственной продукции и продуктов питания, а также повышение их конкурентоспособности, обеспечение внутреннего рынка страны отечественной сельскохозяйственной продукцией и продовольствием в необходимых объемах и надлежащего качества на основе формирования рыночных механизмов хозяйствования и развития аграрного бизнеса [6].

За период реализации Государственной программы развития аграрного бизнеса в Республике Беларусь на 2016–2020 годы полностью обеспечена продовольственная безопасность страны. Рост валовой продукции сельского хозяйства за исследуемый период по сравнению с 2015 г. составил 12,2 %, в том числе продукции растениеводства – 18,4 %, животно- водства – 6,9 %.



За 2016–2020 гг. объем экспорта сельскохозяйственной продукции и продуктов питания страны увеличился с 4,2 млрд долл. США до 5,8 млрд долл. США. Сальдо внешнеторговой деятельности на протяжении данного периода имеет положительное значение. Рост внешнеторгового оборота за последние пять лет в большей степени обеспечен за счет наращивания экспортных поставок – на 24,3 %, а прирост импортных закупок – составил лишь 4,7 %. По состоянию на конец 2020 г. география экспортных поставок была расширена до 116 стран мира.

Государственная программа «Аграрный бизнес» на 2021–2025 годы является логическим продолжением реализации комплекса мероприятий, содержащихся в Государственной программе развития аграрного бизнеса в Республике Беларусь на 2016–2020 годы. Исходя из этого, поставлена цель – повышение конкурентоспособности сельскохозяйственной продукции и продуктов питания, наращивание экспортного потенциала, развитие экологически безопасного сельского хозяйства, ориентированного на укрепление продовольственной безопасности страны, обеспечение полноценного питания и здорового образа жизни населения. Основными задачами развития АПК страны в контексте данного документа выступают [7]:

- достижение объемов и структуры производства продукции растениеводства, позволяющих сбалансировать спрос и предложение по важнейшим видам продукции;
- обеспечение научными и элитпроизводящими организациями республики производства и реализации оригинальных и элитных семян сельскохозяйственных растений высокопродуктивных сортов под полную потребность сельскохозяйственных организаций республики;
- достижение объемов и структуры производства продукции животноводства, позволяющих сбалансировать спрос и предложение по важнейшим видам продукции;
- увеличение численности поголовья племенных животных, позволяющее нарастить объемы реализации племенной продукции (материала);
- обеспечение производства прудовой и озерно-речной рыбы, а также ценных видов рыб;
- обеспечение инженерной защиты сельскохозяйственных земель от затоплений и подтоплений;
- восстановление потребительских качеств мелиоративных систем, утраченных за продолжительный период эксплуатации, и вовлечение мелиорированных земель в сельскохозяйственный оборот;
- увеличение объемов производства продукции сельского хозяйства в крестьянских (фермерских) хозяйствах;
- создание условий для устойчивого и динамичного развития АПК Республики Беларусь. В качестве целевых показателей, характеризующих цель документа и его задачи, определены темп роста экспорта продовольственных товаров и сельскохозяйственного сырья и рентабельность продаж в сельском хозяйстве.

Таким образом, развитие агропромышленного комплекса Республики Беларусь осуществляется в рамках государственных пятилетних программ, в рамках которых определены цели, задачи, наиболее приоритетные направления, объемы и источники их финансирования. Эти документы позволили полностью реализовать задачу обеспечения продовольственной безопасности страны за счет внутренних сельскохозяйственных резервов. Благодаря реализации запланированных мероприятий в рамках государственных пятилетних программ, обеспечивается устойчивое, инновационное развитие социальной и экономической сфер белорусского села. За время выполнения этих документов повысилась



конкурентоспособность сельскохозяйственной продукции и продуктов питания, увеличился экспортный потенциал, укрепилась продовольственная безопасность страны.

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КОНСТРУКЦИОННЫЕ ОСОБЕННОСТИ СОРТОВ ЛЮЦЕРНЫ

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Abstract. The article reviews alfalfa variety designs such as mixed cross and self pollinating variety, self pollinating variety based on high level of flower auto tripping and self fertility, autogamous variety self pollinating in not tripped flower, hybrids cross pollination of which is controlled by male sterility and together by male and female sterility, apomictic hybrid providing fixed heterosis, polyploid $2n=4x$ and $2n=6x$ hybrids obtaining via crossing parents producing unreduced $2n$ gametes and synthetic hybrids with cross pollination controlled by self incompatibility.

Keywords: alfalfa, variety, design.



Повышение урожайности люцерны методами селекции в последние пол века было самым низким среди других культур и составил 0,2-0,3% в год. Для сравнения этот показатель у кукурузы достигал 2,0%, а белого клевера 1,0% (53). В числе причин отмеченного явления называются широкая генетическая база сортов (43), геномная сложность (автотетраплоидная природа), многолетность, многоукосность, высокая инцухт депрессия, фокусирование селекционных программ не на повышении продуктивности, а на улучшении качества (33, 48), слабая эксплуатация всего потенциала генов, в частности межallelельных взаимодействий (12,28) и низкая наследуемость признаков не позволяющая проводить эффективно отбор по фенотипу (35).

Люцерна, в целом, эволюционно приспособлена для перекрестного опыления насекомыми, однако в ее популяциях обнаружен определённый полиморфизм элементов репродуктивной системы. Так, были выявлены растения с самопроизвольно открывающимися цветками (триппинг) (23, 27), самоопыляющийся без открытия цветков (42), пылью совместимой и несовместимой с семяпочкой собственного цветка (14,15), генетически и цитоплазматически обусловленной мужской стерильностью (20,22, 24), генетически контролируемой женской стерильностью (11,16, 21), формирующие нередуцированные $2n$ гаметы с соматическим числом хромосом (46), отдельными элементами апомиксиса (7,8, 9; 47)

Используя отмеченное разнообразие признаков репродуктивной системы люцерны был разработан ряд конструкций ее сортов, которые мы объединили в группы исходя в том числе из их потребности в насекомых опылителях.

Сорт со смешанным, само- и перекрестным энтомофильным опылением.

Большинство современных, возделываемых генотипов люцерны известные как синтетические, сложногибридные и гетерозисные сорта относятся к этой группе. Образование семян у них происходит после открытия цветка насекомым опылителем или автотриппингом. В первом случае преимущественно происходит перекрёстном опыление, а во втором самоопыление.

По генетической организации сорт с смешанным типом опыления является популяцией, а его воспроизводство осуществляется на основе образца полученного после осуществления всех селекционных процедур.

В создании сортов этой конструкции практикуются несколько подходов. Первый состоит в свободном, неконтролируемом переопылении в поликросс питомнике родительских компонентов подобранных на основе их высокой ОКС или значительных фенотипических характеристик в сочетании с позитивным или негативным отбором. В качестве родителей используются растения S_0 выделенные из популяций или полученные искусственной гибридизацией, самоопыленные линии или улучшенные популяции. Отмеченный цикл повторяется в следующих нескольких поколениях. Исходные родительские компоненты этой конструкции не сохраняются и не применяются для воспроизводства сорта. Число ее репродукций используемых для посева на корм в сельскохозяйственном производстве определяется нормами сортообновления.

Другим методом применяемый в селекции люцерны является фенотипический вариант рекуррентного отбора (35). Он состоит в проведении индивидуального отбора растений из одной или ряда генетически различающихся популяций, оценке S_0 растений и их самоопыленного потомства S_1 по фенотипу и проведение контролируемого скрещивания между собой S_1 потомства отвечающие задачам селекции. Затем весь цикл повторяется несколько раз с отбором S_0 растений уже из получаемых гибридных популяций. Рекуррентный отбор как и массовый отбор обеспечивает улучшение признаков контролируемых аддитивными генами и они мало эффективны когда признаки контролируются неаддитивными генами и даже могут вызывать их инцухт депрессию.

На посевах этой культуры в зависимости от условий возделывания и генотипа от 9 до 53% семян формировались в результате опыления растений собственной пылью (13, 18,



30, 36, 41). Исследования показали, что одно поколение самоопыления приводил к снижению семенной продуктивности на 42%, а пять на 71% (40), а урожайность кормовой массы после одного самоопыления составила 68% от родительских сортов, а после 7 поколений 28% (49). Причина столь значительной инцухт депрессии заключается в передаче вредных рецессивных генов замаскированных доминантными генами из поколения в поколение и их проявлении на каком-то этапе(19, 45), а также в исчезновении межallelных эффектов в процессе гомозиготации неаддитивных генов(19).

С целью снижения потерь урожая в следствии самоопыления, создаваемым сортам придают высокую гетерозиготность для чего в их состав включают большое число родительских компонентов разного генетического происхождения(6, 26). Кроме этого, рекомендуется проведение минимум три поколения самоопыления и отбор растений устойчивых к потере продуктивности по причине инбридинга (34).

Вместе с тем, исследованиями Университета Висконсин из США отмечена тенденция роста в более новых сортах люцерны этого типа межallelных эффектов. Так выявлено, что популяции созданные в 1940—1954 годах превосходили по продуктивности популяции выведенные в 1898 -1910 годах. Увеличение их урожайности было достигнуто за счёт накопления аддитивных генов ответственных за селективируемые признаки. Сорта созданные в 1979-1985 годах превышали по урожайности сорта выведенные в 1940-1954 годах. Рост продуктивности этих генотипов уже произошёл преимущественно за счет увеличения их гетерозиготности и использования неаддитивных взаимодействий(29). Следует однако подчеркнуть, что реализация межallelных эффектов в виде вклада в урожай люцерны возможно при обеспечении семенного поля высокой степенью перекрестного опыления, чем если не исключаются случаи самоопыления, то по крайней мере резко снижается их частота.

Сорт факультативный самоопылитель нуждающийся в открытии цветка для опыления и оплодотворения. В научной литературе он известен как самоопыляющийся сорт люцерны разработанный с целью выращивания семян в условиях недостатка насекомых опылителей. Данная конструкция образует семена в основном в результате самоопыления благодаря высокой степени автотриппига и самофертильности цветков, хотя они могут формироваться после перекрестного опыления когда триппинг распустившихся, но не раскрытых цветков осуществляют насекомые опылители. К числу этого типа сорта относятся Ellerslie-1, Au-Px, Vela и Ярославна.

По генетической организации эти конструкции являются популяциями, хотя с меньшей изменчивостью признаков и выраженностью инцухт депрессии, а название самоопыляющийся сорт относится не к их генетической организации, а к преимущественному способу опыления и оплодотворения. Созданные сорта этого типа не получили распространения в с/х производстве главным образом из-за низкой кормовой продуктивности.

Сорт строгий самоопылитель образующий семена в закрытом цветке(автогамный сорт). По генетической организации эта конструкция являлся бы гомозиготной линией способной формировать продуктивность конкурентноспособную с другими типами сортов и производить семена без участия насекомых опылителей.

Идея создания автогамного сорта люцерны была высказана в 30-ые годы прошлого столетия когда были выделены несколько растений из сорта Grimm способные формировать семена в закрытом цветке в условиях теплицы(32).

В 70-х – 80-х годах прошлого столетия в бывшем СССР создание автогамных сортов люцерны рассматривалось как один из путей решения проблемы дефицита семян этой культуры(1, 2, 5). Нами также был проведён поиск подобных форм. Для выявления растений способных образовывать семена без триппинга цветков использовались различия в поведении флагового лепестка. Обычно после открытия цветка он заворачивается вокруг пестично-тычиночной колонки и завядает, а если цветок не триппинговал, то флаговый лепесток не заворачивается, а просто завядает. Бобы образовавшиеся во втором случае считались



образовавшиеся в результате опыления в закрытом цветке (14). Однако отмеченный метод не показал себя достаточно надежным способом поиска автогамных растений в условиях поля из-за сложности точного установления флаговый лепесток завернулся вокруг пестично-тычиночной колонки и завял или просто завял (50). Нами для этих целей в условиях поля в пространство между лодочкой и флагом распутившихся, но нераскрытых цветков люцерны наносилась капля, а в последствии для массовости, цветки опрыскивались слабым раствором крахмала, пшеничной муки или бумажного клея, чем лодочка фиксировалась в закрытом виде и лишалась возможности триппинговать. Образование бобов с семенами в них свидетельствовал бы о опылении в закрытом цветке, а полученный материал подлежал дальнейшему изучению. В отмеченных поисках нами не был обнаружен ни один боб в числе исследованных растений. Автогамных сортов люцерны не создано.

Сорт(гибрид) строгий энтомофильноопыляемый перекрестник. Этот генотип предназначен для получения высокой продуктивности за счёт эффекта гетерозиса посредством скрещивания двух и большего числа родительских линий. По генетической организации он является гибридом первого поколения. У люцерны примерно две трети признаков ответственных за урожай обусловлены неаддитивной вариансой, что указывает на перспективность использования отмеченного феномена в создании новых генотипов (25).

Разработаны две конструкции этого типа сорта – гибрид с незакрепленным и гибрид с закрепленным гетерозисом. Наибольшая урожайность семян у этих генотипов достигается при опылении 100% цветков пыльцой отцовских компонентов перенесенная насекомыми. Автотриппинг или отсутствие триппинга не ведут к образованию семян.

а) Гибриды с незакрепленным гетерозисом. Для посева на корм рекомендуется использовать только семена первого поколения.

Гибрид F_1 созданный скрещиванием цмс- линии с Rf-линией. Контроль перекрёстного опыления у этой конструкции обеспечивается стерильностью пыльцы материнской линии, чем предотвращается ее самоопыление и создаются условия для опыления пыльцой отцовской линии содержащая ген восстановителя фертильности в доминантном состоянии.

Данный генотип имеет несколько недостатков. Во-первых, сильная инцухт депрессия растений люцерны не позволяют создавать константные гомозиготные линии с удовлетворительной продуктивностью семян (31). Исследования показали, что после 55 поколений самоопыления не только не наступила полная гомозиготация и фенотипическая однородность линий люцерны, но в них увеличился процент растений с аномальными частями (4).

Во-вторых, дикие насекомые опылители введённые в культуру работают локально, по этой причине они недостаточно активно перемещаются между рядами родительских компонентов посеянных на участке гибридизации отдельно с целью механизированной уборки семян. Кроме этого, они не охотно посещают цмс растения из-за не развитости пыльцы являющиеся для них кормом. В следствии отмеченных обстоятельств степень перекрёстного опыления и в целом продуктивность гибридных семян люцерны в целом не высокая (51).

Вместе с тем подобные генотипы созданы и возделываются в с/х производстве. Их разработчиком является Американская компания Dairyland Seeds, которая для этих целей использует созданную ею же технологию ^{ms} SANTRA (52). К настоящему времени районированны третье (HybriForce 3600, HybriForce 3430 с низким содержанием лигнина, HybriForce 3400 и HybriForce 3420/WET с мочковатой корневой системой без выраженного центрального корня) и четвёртое поколение гибридов (HybriForce 4400 и HybriForce 4420 WET с мочковатой корневой системой) (54).

Гибрид F_1 получаемый скрещиванием цмс- линии с Rf- линией с женской стерильностью. Контроль перекрестного опыления у этого генотипа обеспечивается неразвитостью мужского гаметофита материнской линии. При этом восстановитель фертильности семян также не образует, что обусловлено не развитостью женского



гаметофита. Семена на участке гибридизации формирует только материнский компонент при поступлении пыльцы от отцовской формы, которые и являются семенами F_1 .

Самостерильность родительских линий обеспечивает этой конструкции одно важное преимущество. Она позволяет размещать растения на семенном поле случайно, чем повышается степень перекрестного опыления и продуктивность гибридных семян (10, 17). Недостатком этого гибрида также является невозможность получения константных гомозиготных линий с высокой семенной продуктивностью. Подобные генотипы люцерны не созданы.

Синтетический гибрид *Syn1*. Создание этой конструкции осуществляется ступенчатым скрещиванием родительских компонентов обладающие высокой ОКС, а качестве механизма контроля перекрестного опыления в них используется несовместимость пестика и пыльцы одного родительского компонента и их совместимость с пыльцой и пестиком других родительских компонентов. Гибрид воспроизводится на основе исходных родительских компонентов, которые сохраняются и размножаются частями стебля.

Разработаны две конструкции сорта этого типа. Первая (49) предполагает проведение скрещивание четырёх гетерозиготных клонов А,В,С,Д в двух этапах. Сначала отдельно скрещиваются линии А и В и отдельно С и D, затем гибрид АВ с гибридом CD.

Другая конструкция синтетического гибрида люцерны разработана нами (3). Она также состоит в ступенчатом скрещивании нескольких родительских компонентов с той разницей, что в каждый из них методами биотехнологии включаются четыре гаплоидных набора хромосом хорошо комбинирующиеся друг с другом и с каждым гаплоидным набором других родительских компонентов [(a,b,c,d) x (e, f, g, h)] x [(i, j, k, l) x (m, n, o, p)]. Семена убранные с последнего участка гибридизации обоим схем являются семенами *Syn1*.

Преимуществом синтетических гибридов люцерны является их высокая семенная продуктивность, которая достигается повышенным перекрестным опылением за счет случайного распределения родительских растений по всему участку гибридизации и производством гибридных семян обоими родителями. Недостатком - сложность достижения 100 %-ной самонесовместимости родительских линий и большие затраты на вегетативное размножение радоначальных растений. Вместе с тем, разрабатываемая последние несколько десятилетий технология размножения растений люцерны искусственными семенами(соматическими эмбрионами)(39) демонстрирует возможность снижения затрат на вегетативное размножение родительских растений. Сорта люцерны на основе самонесовместимости не созданы.

Гибрид получаемый скрещиванием родительских линий производящие нередуцированные $2n$ гаметы. Конструкция построена на способности нередуцированных гамет также производить гетерозис (16, 37) и состоит в получении организма с увеличенной плоидностью половым путем. Разработаны две схемы гибридов люцерны этого типа. Тетраплоидный генотип создается путём скрещивания двух диплоидных линий производящие $2n$ гаметы, а гексаплоидный гибридизацией линии $4n=4x$ с линией $2n=2x$. Автор этой схемы (38) указывает, что выведение коммерческих полиплоидных гибридов люцерны отмеченным способом возможно если: 1) родительские диплоидные компоненты будут производить 100% или близкие к 100% $2n$ пыльцу и $2n$ яйцеклетки, 2) существует надежный контроль перекрёстного опыления, 3) будут произведены высокопродуктивные инбредные линии, 4) тетраплоидные гибриды полученные этим способом могут быть использованы для создания гексаплоидных гибридов. Сортов люцерны этой конструкции не создано.

б) Гибрид с закрепленным гетерозисом (апомиктичный гибрид). Для посева на корм используются семена F_1 и последующих поколений. Этот генотип формирует семена не половым путём посредством слияния гаплоидных клеток образовавшиеся в процессе мейоза, а митозом, в результате которого формируются семена с соматическим набором хромосом. По сути происходит клонирование растения семенами. У такого гибрида семена F_2 и



последующих поколений полностью воспроизводят генотип F_1 растения с сохранением уровня продуктивности. Конструкция апомиктичного гибрида разработана для кукурузы. Она состоит в посеве на участке гибридизации двух родительских компонентов - самоопыленной линии размножающейся половым путём, которую используют в качестве материнской формы и отцовской линии, образующая с ней высокий уровень гетерозиса и являющийся поставщиком пыльцы с генами апомиксиса. Контроль перекрестного опыления обеспечивается механическим удалением метелок на материнских рядах. Семена образовавшиеся на них являются семенами F_1 гибрида, которые в дальнейшем размножаются простым воспроизводством (8). Достоинством апомиктичного гибрида люцерны наряду с возможностью многократного использования эффекта гетерозиса, также является производство семян F_2 и последующих поколений (репродукций) без насекомых опылителей. Коммерческие апомиктичные гибриды этой культуры не созданы.

Таким образом, разработанные конструкции сортов можно рассматривать как резерв для более полного использования потенциала генов контролируемые селекционируемые признаки и тем самым повышения продуктивности люцерны.

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РОЛЬ ФАКТОРОВ СРЕДЫ В ВЫРАЩИВАНИИ СЕМЯН ЛЮЦЕРНЫ

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Abstract. Unregulated environmental factors, seed crop management, insect pollinators and variety productivity form hierarchical sequence of influence to seed type of alfalfa plant development. Less (or more) previous levels of the hierarchy deviate from optimal requirements, more (or less) the variety could realize its potential productivity. To grow seed maximally corresponding to original genetics of the variety seed field has to be protected from foreign



genoplasma entering and its genetic structure should be preserved of changing under negative impact of the biotic and abiotic factors of the environment.

Keywords: alfalfa, seed type of plant, genetic structure of variety populaton

Возможность активного использования кормового потенциала люцерны во многом определяется наличием в рынке дешевых семян с высокими сортовыми качествами.

Эта культура обладает значительной фенотипической пластичностью – способностью изменять свой фенотип под воздействием условий выращивания. На этом ее свойстве построена концепция усиления технологией возделывания выраженности признаков обеспечивающие урожай семян и отдельно признаков обеспечивающих урожай корма. Таким образом развивается семенной тип растения с немногочисленными, но прочными, устойчивыми к полеганию генеративными стеблями, с минимальным количеством вегетативных побегов или их полным отсутствием, обильным количеством цветков и семян, хорошим плодово- и семяобразованием, и кормовой тип растения с многочисленными и тонкими генеративными стеблями, с минимальным количеством вегетативных побегов, повышенной облиственностью, увеличенным содержанием протеина и хорошей переваримостью.

На формирование семенного типа растения люцерны влияют четыре фактора образующие иерархическую зависимость и расположенных по значимости в следующей последовательности: 1) не регулируемые факторы среды; 2) технология возделывания на семена; 3) обеспеченность семенного травостоя насекомыми опылителями и 4) потенциал семенной продуктивности сорта. Смысл отмеченной иерархии факторов можно выразить в виде обратного отношения ‘ чем больше (или меньше) предыдущие уровни отклоняются от оптимальных значений, тем меньший (или больший) вклад оказывают последующие уровни на формирование семенного типа растения и урожайность семян’ или ‘ чем больше(или меньше) предыдущие уровни отклоняются от оптимальных значений, тем в меньшей(или большей) степени реализуется потенциал продуктивности семян сорта. Вместе с тем высокая фенотипическая пластичность люцерны обладает одним недостатком - изменение параметров условий произрастания растений ведёт к безвозвратной смене направления их развития и потере ею формируемых характеристик. Подобная угроза для семенного типа растения в первую очередь исходит от нерегулируемых факторов среды, из которых в Республике Молдова чаще всего встречаются выпадение избыточного количества атмосферных осадков и не постоянство их распределения по годам и в период вегетации при наличии достаточного температурного ресурса. Отрицательный эффект отмеченного фактора усиливается на богатых почвах и целом проявляется в виде израстания травостоя ведущий к снижению или даже потере растением способности образовывать семена.

Возделывание люцерны на семена с целью ослабления воздействия избыточного количества увлажнения, осуществляется с учетом теории торможения ростовых процессов, которая состоит в поддержании влажности почвы в пределах 90% от капиллярной влагоемкости до цветения люцерны, а период цветения – созревания около 60%[1]. С этой целью применяются две стратегии.

Первая заключается в осуществлении семеноводства этой культуры в почвенно-климатических условиях зоны создания сорта где осадки находятся в некотором избытке или недостатке, и которые можно охарактеризовать как рискованные, но возможные для получения рентабельного урожая семян. В этом случае ослабление негативного воздействия нерегулируемых факторов на формирование семенного типа растения проводится технологией возделывания.

Так, в лесостепной зоне Республики Молдова основная причина низкого урожая семян люцерны, как было отмечено выше, состоит в выпадении в период опыления, плодово- и семяобразования атмосферных осадков в количестве значительно превышающие потребности семенных растений. При средней многолетней годовой их сумме 445 мм, в осенне-зимне-



весенний период выпадает 62 % осадков (275 мм) (соответственно осенью 23 %, зимой 16 % и весной 23 %), которые обеспечивают развитие мощного травостоя первого укоса. Особенностью этого травостоя является низкое плодообразование (доля цветков образующие бобы) (19,8- 26,7% %) главным образом из-за недостаточных среднесуточных температур воздуха мая (15,4 °C) и июня (18,8 °C) и хорошее семяобразование (доля оплодотворённых семян развивающиеся в полноценные семена) (77,1-77,7 %) и формирование в бобе среднем 3 семян. Однако обильные летние осадки (169 мм или 38 % от годовой нормы) часто вызывают значительное израстание и полегание этого травостоя.

Рост растений второго укоса (скашивание на корм первого укоса осуществляется в начале цветения) приходится в июне и июле - в месяцы с самым длинным световым днём. В отмеченных условиях у люцерны, как культуры длинного дня, рано наступает цветение, что ведёт к закладке уменьшенного количества цветков (50-60 % от первого укоса). Цветение этого травостоя происходит во второй половине июля и в августе характеризующиеся высокими среднесуточными температурами воздуха (соответственно 20,8 °C и 20,0 °C), что способствует значительному плодообразованию (52,7- 55,9 %), но угнетает в определенной степени семяобразование (65,1- 69,0 %) и заметно подавляет развитие полноценных семян в бобе (2,3).

С точки зрения получения удовлетворительного урожая семян в условиях не стабильного распределения атмосферных осадков в вегетационный период более надежным оказался травостой полутретьего укоса (скашивание первого укоса на корм осуществляется в начале бутонизации). Он формирует растения средней мощности с количеством цветков не менее 75% от первого укоса и характеризуется достаточно хорошим плодово- и семяобразованием. На травостое этого укоса в значительной степени проявился эффект торможения ростовых процессов - наибольшая урожайность семян районированных сортов в среднем за три года (460-482 кг/га) была получена при влажности почвы в период возобновления вегетации 82,4% НВ, в начале цветения 75,7% НВ, в конце цветения 57,0% НВ в период побурения бобов 56,1% НВ.

Другой пример. В уезде Кэлэрашь Румынии основная масса осадков 79%(319 мм) при среднем многолетнем их количестве 406 мм выпадает в осенне- зимне- весенний период. В отмеченных условиях старовозрастная люцерна оставленная на семена с первого укоса формирует мощный травостой с обильным побегообразованием. Однако недостаток осадков в летний период (87 мм или 21%), в сочетании с значительными средними дневными температурами (июнь 28 °C, июль 31 °C и август 31 °C) приводит к конкуренции генеративных стеблей за влагу и питание и как результат к плохому завязыванию, "запалу" и низкому урожаю семян. Травостои полутретьего и второго укосов в отмеченных условиях не представляют большего практического интереса без применения орошения с повышенными поливными нормами. Исследованиями установлено, что более эффективным является посев семенников люцерны в полевых севооборотах в октябре, ширококядно, с пониженной нормой высева, часто с применением влагозарядкового полива и использовании ее как однолетней культуры. В этих посевах растения до наступления устойчивых отрицательных температур, успевают сформировать небольшую корневую шейку. Весной следующего года от неё отрастает уменьшенное количество хорошо развитых, прочных генеративных побегов с обильным количеством цветков. Из-за малого числа стеблей на растении конкуренция между ними за влагу и питание не возникает, и как следствие большинство опыленных семян развиваются в полноценные семена. Урожайность семян на этих посевах люцерны в отдельные годы достигала 8 - 10ц/га. Семенник после уборки распаивается [3].

Вторая стратегия состоит в размещении семенников люцерны в почвенно-климатических условиях где отмеченные неуправляемые факторы находятся в пределах или несколько ниже оптимальных значений. В этом случае недостающее их количество компенсируется дополнительным внесением. Преимуществом этого подхода является возможность значительного управления процессом формирования семенного травостоя.



Ярким примером реализации этой стратегии является организация семеноводства люцерны в странах Северной Америки. Так, в США 85 % семян люцерны от всего объема производимого в этой стране выращивается в пяти западных штатах- Калифорния, Айдахо, Орегон, Вашингтон и Невада [4]. В Канаде примерно половина площадей семенной люцерны находится в южных районах провинции Альберта, а другая половина в южных районах провинций Саскачеван и Манитоба. В 2004 году в этих двух странах было выращено 46000 тонн семян люцерны, что составило две трети от мирового производства. При этом весь объем семян был получен с участием пчелы листореза [5].

Известно, что семенной материал по сортовой чистоте должен соответствовать на 100% оригинальному генотипу. Он хорошо работает на сортах самоопыляющихся культур и на родительских компонентах перекрестноопыляемых культур являющиеся гомозиготными линиями или гибридами F_0 , у которых отклоняющиеся от основной массы фенотипы достаточно легко обнаруживаются визуально и удаляются механически до начала их цветения.

Сорта люцерны являются популяциями преимущественно с тетрасомным, полигенным наследованием, чем обуславливается значительная вариация их признаков. Кроме этого, как упоминалось выше, эта культура обладает значительной фенотипической пластичностью, что вызывает выравнивание различий количественных признаков в пунктирных посевах. По отмеченным причинам у сортов люцерны отсутствуют апробационные признаки проявляющиеся явно и устойчиво. Процесс ее апробации состоит в определении принадлежности семенного посева к сорту и ее репродукции на основе документов на семена которыми посеян семенной участок, а сортовая чистота устанавливается по присутствию, в частности в сортах синей люцерны, форм с желтой или вариативной окраской цветков.

Сорта люцерны районированные в нашей стране, а также растения распространенные вокруг земель с/х использования в основном относятся к синей люцерне, проникновение генплазмы которых, а также генплазмы нежелательных форм появившиеся в результате спонтанного мутагенеза и инбридинга фенотипически не проявляются и поэтому не могут быть удалены. В силу сложности генома люцерны можно было бы говорить о буферности селекционного достижения как о его способности сохранять оригинальную структуру и продуктивность при поступлении небольшого количества нежелательной генплазмы, однако из-за отсутствия возможности точного установления порога с которого она начинает производить изменения в популяции сорта, семеноводство этой культуры строиться на строгом избегании проникновения нежелательной генплазмы в семенные посевы.

Другой причиной снижения урожайности сорта является генетический сдвиг в популяции возникающий в результате гибели части растений под воздействием биотических и абиотических факторов среды и изменения растениями коэффициента размножения семян в следствии отличающейся от места создания сорта реакции генотипа-среда. Эти явления наблюдаются в обоих выше отмеченных стратегиях размножения семян этой культуры, однако в целом, чем большее давление отбора среды - число, сила и длительность воздействия отличающихся факторов, тем выше вероятность и степень изменения генетической структуры селекционного достижения. В этом случае уместно учитывать буферность сорта как его способность сохранять генетическую структуру в изменяющихся условиях среды в процессе семеноводства, что позволит в конечном счете осуществить посев на корм семенами максимально соответствующих оригинальной популяции. Таким критерием буферности является число воспроизводств семян после которых начинают происходить заметные изменения в популяции сорта. Так например, в 70-х годах прошлого столетия Республика Молдова рассматривалась как потенциальный регион для организации товарного семеноводства люцерны для регионов с недостаточным температурным ресурсом, в частности размножения семян сортов созданных в Нечерноземной зоне Российской Федерации. Исследованиями установлено, что максимум двукратное воспроизводство отмеченных сортов может быть осуществлено в экологических условиях лесостепной зоны нашей страны без существенного изменения генетической структуры их популяций [2].



Вместе с тем в нашей практике имеется пример когда биотические и абиотические факторы среды оказывали значительный сдвиг в популяции люцерны. Так, сорт Межотненская созданный в Межотненской опытной станции Латвии находился в районировании в Республике Молдова около 20 лет. По ботанической принадлежности он относился к синепестрогибридному сорто типу люцерны изменчивой это означало, что в ее популяции до 20-30 % растений обладали светло-голубыми, сиреневыми, зеленовато-желтыми, зеленовато-голубыми, розоватыми и почти белыми цветками, а остальные имели светло-фиолетовые и фиолетовые венчики. Первичное семеноводство Межотненской осуществлялось в НИИПК "Селекция" на основе первых завезенных семян, без периодического их обновления от оригинатора. В результате многократного воспроизводства семян отмеченного сорта в местных условиях из его популяции почти полностью исчезли растения с пестрогибридной окраской венчика, и в последние годы она была представлена в основном растениями с светло-фиолетовыми, фиолетовыми, синеватыми и очень редко беловатыми и розоватыми цветками разного оттенка. Отмеченное явление было обусловлено тем, что генотипы синей люцерны обладая в почвенно-климатических условиях нашей страны большей продуктивностью корма и семян частично вытеснили менее продуктивные растения с вариативной окраской венчика, а частично разбавили их генплазму в внутривидовых скрещиваниях. Полагаем, что отмеченные изменения в сорте Межотненская все же не привели к существенному ухудшению его ценности поскольку он успешно конкурировал по продуктивности с сортом Алтуна из Республики Молдова и сортом Радуга из Украины созданных позже.

Таким образом, для реализации потенциала продуктивности сорта люцерны важным является формирование семенного типа растения посредством обеспечения семенного посева оптимальными значениями нерегулируемых факторов среды, технологии возделывания на семена и насекомых опылителей, образующих иерархическую последовательность вклада в отмеченный процесс. Для сохранения продуктивного потенциала сорта целесообразно:

а) осуществлять первичного семеноводства селекционного достижения в экологических условиях его создания, в которых реакция генотип-среда полностью воспроизводит оригинальные фенотипы растений и позволяет эффективно проводить необходимые отборы;

б) проводить размножение семян на строгом недопущении проникновения несортной генплазмы в популяцию сорта;

в) установить сроки сортообновления и определить допустимое число воспроизводства семян за пределами экологической зоны создания сорта исходя из буферности сорта - его сопротивляемости сохранять генетическую структуру при негативном воздействии местных биотических и абиотических факторов среды.

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СТРАТЕГИИ ПРОДОВОЛЬСТВЕННОЙ БЕЗОПАСНОСТИ РЕСПУБЛИКИ МОЛДОВА (2023–2030 ГОДЫ): НАУЧНО- ПРАКТИЧЕСКИЙ АНАЛИЗ

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Abstract. The article provides a scientific analysis of the Food Security Strategy of the Republic of Moldova for 2023-2030, adopted by the Government of the Republic of Moldova in 2022. It is shown that the Strategy violates generally accepted scientific and practical canons and approaches to the formation of a system for ensuring food security. It is concluded that the Strategy does not achieve its main task - the strategic vision and priorities of the government to ensure food security and food independence of the country, does not solve the current task - the comprehensive development of the country's agro-industrial complex, to unconditionally provide the country's population with food of its own production.

Keywords: food security, strategy, food, standards, self-sufficiency, economic accessibility, physical accessibility

Принятие в ноябре 2022 г. Стратегии продовольственной безопасности Республики Молдова на 2023-2030 годы стало крайне актуальным и обнадеживающим документом не только для развития агропромышленного комплекса страны, но и в целом – для стратегического развития Республики Молдова. Стратегия, как утверждается, является документом государственной политики среднесрочного планирования, отражающая стратегическое видение и приоритеты правительства по обеспечению продовольственной безопасности страны.

Вместе с тем, обращает на себя внимание, что в Стратегии нарушены общепринятые научные и практические каноны и подходы к формированию системы обеспечения продовольственной безопасности.

Во-первых, в документе сразу оговаривается, что экономическая доступность питания в Стратегии не будет рассматриваться. Но, на наш взгляд, без анализа социального положения населения и перспектив его развития, повышения уровня покупательной способности населения невозможно сформировать цельную стратегию обеспечения продовольственной безопасности страны.

Во-вторых, Стратегия формируется, на наш взгляд, на недостоверном анализе и необъективной оценке состояния агропромышленного комплекса страны, перспектив его развития, практической возможности физического обеспечения (физическая доступность) необходимого уровня питания населения в соответствии с медицинскими нормами. Так, в данном стратегическом документе утверждается, что «...необходимое количество калорий в рационе населения Республики Молдова обеспечено, а уровень среднесуточного потребления пищевой энергии при потреблении продуктов питания на душу населения постоянно превышает значения, рекомендованные Всемирной организацией здравоохранения» и далее «... уровень самообеспечения Республики Молдова близок к 100% для большинства продуктов питания [5], за исключением некоторых продуктов, таких как: сливочное масло,



мясо птицы, помидоры, дыни, картофель, кукуруза. Что касается калорийности питания, то есть только утверждение без какой-либо конкретики. А ведь без учета калорийности питания нельзя рассчитать объем необходимых продуктов для полноценного питания для активной жизнедеятельности человека.

В-третьих, не учитываются теоретические положения и международная практика обеспечения продовольственной безопасности в плане соответствия объемов потребления различных продуктов питания медицинским стандартам. Причем рассмотрение проблем обеспечения продовольственной безопасности без учета энергетической ценности потребляемых продуктов, а всего лишь основанная на ранее достигнутых результатах уровня потребления, как это предусмотрено в Стратегии, невозможно определить объем производства и потребления продукции *необходимой для активной здоровой жизни* населения.

Именно этот фактор – потребление продукции *необходимой для активной здоровой жизни* населения является концептуально-важнейшим положением ФАО, которое была озвучена еще в 1974 г. на Римской Всемирной конференции по проблемам продовольствия: «Продовольственная безопасность – это когда все люди всегда имеют физический и экономический доступ к безопасному и питательному продовольствию в количестве, достаточном для удовлетворения своих потребностей и предпочтений в еде, *в объемах, необходимых для активной здоровой жизни*» [2].

На этой же конференции в ее Декларации термин «продовольственная безопасность» получил официальное закрепление и был определен как «...состояние экономики, при котором населению страны в целом и каждому гражданину в отдельности гарантируется обеспечение доступа к продуктам питания, питьевой воде и другим пищевым продуктам в качестве, ассортименте и объемах необходимых и достаточных для физического и социального развития личности, обеспечения здоровья и расширенного воспроизводства населения страны» [2].

В связи с этим, мы еще раз отметим основные теоретико-практические положения продовольственной безопасности, сформулированные на международном уровне по вопросам питания, которые, на наш взгляд, должны придерживаться национальные правительства и которые на в полной мере отражены в Стратегии [7]:

1. физическая доступность достаточной в количественном отношении, безопасной и питательной пищи;
2. *экономическая доступность к продовольствию должного объема и качества всех социальных групп населения;*
3. автономность и экономическая самостоятельность национальной продовольственной системы (продовольственная независимость);
4. надежность, то есть способность национальной продовольственной системы минимизировать влияние сезонных, погодных и иных колебаний на снабжение продовольствием населения всех регионов страны;
5. устойчивость, означающая, что национальная продовольственная система развивается в режиме расширенного воспроизводства.

Таким образом, продовольственная безопасность в международной практике – это четко функционирующая система, обеспечивающая все слои населения качественными и безопасными продуктами питания по принятым *физиологическим нормам* за счет *собственного производства и рационализации необходимого импорта* по тем продуктам, для производства которых нет внутренних условий. Причем, для продовольственной безопасности важно выделить и соблюдать порог самообеспечения (*порог продовольственной безопасности*) населения страны продуктами питания за счет внутреннего производства, который определяется соотношением собственного производства и импорта в объеме потребляемого продовольствия, импортные поставки не должны превышать 30–35% от собственного производства [7, с. 36].

К сожалению, данные, основополагающие концептуальные положение обеспечения продовольственной безопасности на национальном уровне в полном объеме в Стратегии не



просматриваются, что не дает объективной оценки существующего положения с продовольственным обеспечением населения страны, не способствует выработке перспектив развития агропромышленного комплекса, обеспечения продовольственной безопасности во всех аспектах ее проявления.

Более того, проведенный нами сравнительный анализ понятий продовольственной безопасности принятый на международном уровне ООН и предложенный в Стратегии продовольственной безопасности Молдовы показывает, что в ней продовольственная безопасность, к сожалению, рассматривается в довольно упрощенном виде – как физиологическое обеспечение населения продовольствием всего лишь на уровне ранее достигнутого потребления, которое, как показывает анализ, находится на приблизительном уровне *стандартов минимальной продовольственной корзины*, без возможности обеспечения населения *собственным продовольствием* в соответствии с медицинскими нормами, без возможности выхода на уровень обеспечения продовольственной независимости, без возможности обеспечения населения права на достойное питание.

В связи с этим следует отметить, что продовольственная безопасность государства должна обеспечивать население продовольствием в количестве, достаточном для удовлетворения своих потребностей и предпочтений в еде, *в объемах, необходимых для активной здоровой жизни*», что в сравнении с международными стандартами потребления соответствует суточной норме потребления в 3500 ккал;

Вместе с тем, на уровне Стратегии предусматривается объем потребления мяса в 2,5 раза, молока и молочных продуктов – в 2,8, рыбы – в 1,9, яиц – в 1,5 раза меньше объема обеспечения полноценного питания.

Таким образом, Стратегия продовольственной безопасности Молдовы, уже на концептуальном уровне не дает ответа на возможность выхода агропромышленного комплекса на уровень обеспечения полноценного питания *необходимого для активной здоровой жизни* человека (3500 ккал/сутки), а всего лишь предусматривает приблизительный уровень минимальной потребительской корзины – недопущения хронического недоедания. То есть, фактически обеспечение продовольственной безопасности в Молдове по основным продовольственным позициям предусматривается всего лишь на уровне минимальных пороговых значений – предельных величин, ниже которых произойдет нарушение физиологически-рационального питания, нормального процесса развития различных элементов воспроизводства, что приведет к формированию негативных, разрушительных тенденций в области национальной безопасности в продовольственной сфере.

В связи с этим для ясности ситуации с фактическим обеспечением населения продовольствием рассмотрим объем производства по важнейшим видам сельскохозяйственной продукции, дающих возможность обеспечения физической доступности безопасной и питательной пищи достаточного в количественном отношении. Следует отметить, что производство мяса и мясопродуктов по сравнению с 1991 г. уменьшилось в 3,3 раза, молока – в 5,7 раза, яиц – почти в 2 раза, фруктов и ягод – в 1,7 раза, овощей – в 4,3 раза, сахарной свеклы – в 3 раза. Данные приводятся нами в сравнении с 1990 и 1991 гг., так, как только в тот период в Молдове обеспечивалась продовольственная безопасность и продовольственная независимость страны [7].

Как показывает анализ, в Молдове четверть пахотной земли (25,2%) – используется для выращивания – подсолнечника (в 2021 г. по сравнению с 2000 г. площадь по выращивание подсолнечника увеличилась в 1,7 раза), мало имеющего отношения к продовольственной безопасности Молдовы и обеспечения продовольствием населения. Причем, такое массовое экстенсивное выращивание подсолнечника дает дополнительную нагрузку и так на деградирующую почву, нарушая севооборот, выхолащивает из нее питательные вещества. В плане обеспечения продовольственной безопасности данный резкий рост посевных площадей для выращивания подсолнечника снижает возможности увеличения обеспечения населения продовольствием. Наоборот, отвлечение земельных ресурсов в последние годы на эти



технические культуры привело к резкому сокращению посевных площадей (более чем в 2 раза по сравнению с 2000 г.)) под посев кормовых культур и значительному уменьшению производства кормов для животноводства (в 2021 г. произведено кормов в 1,9 раза меньше чем в 2000 г.). Кроме того, корма за три последних года подорожали вдвое. Только в 2022 г. стоимость кормов выросли на 50 процентов [4].

Возрастающий объем производства зерна и его использование также не дает преимущества в наращивании кормовой базы животноводства, так как зерно в основном идет на экспорт, снижая прибыль агропромышленного комплекса. Известно, что переработка зерна в корма для животноводства, а затем глубокая переработка продукции животноводства в мясные изделия значительно повышает финансово-экономическую эффективность производства зерна.

Как результат, практически все животноводство (КРС – 83%, коров – 93%, свиней – 42%) переместилось на крестьянские подворья (которые не являются промышленными производствами животноводческой продукции, так как не имеют и априори не могут иметь соответствующей технологической и кормовой базы), а являются всего лишь дополнительным заработком крестьян (стареющих по возрасту и уменьшающихся по количеству. Средний возраст работников сельского хозяйства по оценке министра г. Боля – 60 лет.) к их основной задаче – прокормить себя. Около половины сельских жителей выращивают продукцию для личного потребления. Около 90% молока производится владельцами животных, имеющих 1-2 коровы.

Согласно официальной статистике, на долю домашних хозяйств приходится 94% от общего производства молока, 43% – от общего объема выращивания скота и птицы (в живом весе) и 58,9 % от общего объема производства яиц.

Поэтому не удивительно, что основная стратегия развития животноводства с упором на крестьянские мелкие хозяйства ведет к ежегодному сокращению поголовья скота и птицы, что приводит к сокращению производства мяса и молока, а их недостаток замещается все увеличивающимися импортными поставками. Так, четверть потребляемого в стране мяса и более 50% молока и молочных продуктов [1] в основном из Украины. Кроме того, Молдова находится в числе крупнейших покупателей украинских сыров и масла. Более 50% потребляемого сливочного масла импортируется, а то, что производится в Молдове, в основном делается из импортного молока [3]. Отечественные фермы производят (2023 г.) лишь чуть более 5% потребления молока в Республике Молдова – то есть 30 тысяч из необходимых 568 тысяч тонн молока [6]. Таким образом, как отмечают экономические эксперты «...хотя Молдова и является аграрной страной, основные продукты питания сильно зависят от импорта» [3].

За последние 30 лет поголовье крупного рогатого скота сократилось более чем в 10 раз, коров и свиней – почти в 6 раз, птицы – в 6,5 раза. Данные таможни показывают, что в последние годы Республика Молдова не экспортирует говядину и свинину. При постоянном сокращении поголовья животных ни о какой продовольственной независимости в обеспечении мясом и молоком население страны не приходится говорить. К сожалению, до настоящего времени министерство подходов к решению данной проблемы не нашло, нет решения и в Стратегии.

Таким образом, произведенной продовольственной продукции в Молдове в сравнении с требуемыми медицинскими нормами для полноценного питания населения по основным видам продовольствия, *его производится значительно ниже требуемым норм питания*, особенно по продукции животноводства: мяса производится почти в 2 раза меньше требуемого, молока и молочных продуктов – в 4,1 раза меньше, яиц – в 1,4 раза, картофеля – в 2,4 раза, овощей – в 1,4 раза меньше медицинских норм полноценного питания. А производство молока и молочных продуктов, рыбы, картофеля и овощей производится значительно ниже уровня установленных для минимальной потребительской корзины, что приводит к увеличению импортных поставок. Таким образом, следует констатировать, что по



всем основным продуктам питания *физическая доступность* продовольственной безопасности Республики Молдова в современный период, несмотря на некоторые позитивные перемены в растениеводстве не обеспечена.

Важнейшей составляющей продовольственной безопасности является *экономическая доступность продовольствия*. Однако в Стратегии только продекларированы цели: «Обеспечение доступности продуктов питания для уязвимых групп», «Сокращение бедности», «Сокращение голода», которые планируется достигать путем продвижения более продуктивных и устойчивых к изменению климата методов ведения сельского хозяйства, которые позволят получить рост доходов и более безопасный доступ к производственным ресурсам, контрибуциям, знаниям, финансовым услугам и рынкам. Как видно более абстрактную формулировку методов снижения бедности и сокращения голода трудно придумать. А ведь проблема бедности в Молдове крайне обостряется и ежегодно растет. Так, как отмечается в Стратегии «... на местном уровне примерно 27,2 % населения столкнулись с отсутствием продовольственной безопасности в умеренной или тяжелой форме (по сравнению с 19,3 % в период 2014–2016 гг.), из них 4,5 % населения столкнулись с отсутствием продовольственной безопасности в тяжелой форме (по сравнению с 1,6 % в период 2014–2016 гг.)...». Но уже в 2023 г. в Молдове почти треть населения стала сталкиваться с абсолютной бедностью. Согласно «Отчету о состоянии страны», подготовленному Expert Group, различия между городской и сельской средой значительны: 17,1% городского населения и 40,1% сельского населения находятся за чертой бедности [8]. То есть, почти треть населения в Молдове голодает или не доедает. Проведенный нами анализ показывает, что невысокий уровень доходов населения, низкие пенсионные и социальные выплаты, постоянный неконтролируемый рост цен на продукты питания не обеспечивают продовольственную безопасность по важнейшему ее параметру – экономической доступности продовольствия.

В этой ситуации не рассмотрение в Стратегии проблемы экономической доступности продовольственной безопасности искажает не только теоретическую, но и практическую сущность проблемы обеспечения продовольственной безопасности страны.

Таким образом, принятая в 2022 г. Стратегии продовольственной безопасности Республики Молдова на 2023-2030 годы не обеспечивает свою основную задачу – стратегическое видение и приоритеты правительства по обеспечению продовольственной безопасности и продовольственной независимости страны, не решает текущую задачу – комплексное развития агропромышленного комплекса страны, для безусловного обеспечения населения страны продовольствием собственного производства и повышения жизненного уровня населения до финансовой возможности потребления продуктов питания по социальным нормативам, обеспечивающим физиологическую жизнедеятельность человека.

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METHODOLOGY FOR ESTIMATING THE THEORETICAL LIMIT OF THE
INFORMATION TRANSMISSION RATE OF AN OPTICAL COMMUNICATION
CHANNEL

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Abstract. The work is dedicated to the development of Li-Fi data transmission technology, taking into account the features of building optical communication channels. A method is proposed for estimating the theoretical limit of the information transfer rate, which can be provided by a silicon photomultiplier when used in an optical communication channel for a given value of the registration error in the range 10^{-4} – 10^{-8} bit.

Keywords: silicon photomultiplier, optical communication channel, information transmission speed, Li-Fi data transmission technology.

Currently, optical communication systems, both closed and open, are gaining wide popularity. Open systems have an undoubted advantage in situations where one or more objects are mobile, as well as at short distances in cases where it is impossible to lay a cable. Such systems can be implemented using Li-Fi and FSO technologies [1–3].



When implementing these technologies, photodetectors sensitive to optical radiation in the visible wavelength range are required. One of the most promising photodetectors for the implementation of this technology are silicon photomultipliers (Si-PMTs). Si-PMTs are photodetectors based on an ordered set (matrix) of p-n- junctions (cells, elements, pixels) created on a shared silicon substrate. They have a sufficiently large photosensitive surface up to 36 mm², a high photocurrent gain of $\geq 10^5$ and have good sensitivity in the visible region of the optical radiation spectrum [4, 5]. However, it has not been determined at present what is the theoretical limit of the information transfer rate of an optical communication channel when using a silicon photoelectronic multiplier as a photodetector, which was the purpose of this study.

The theoretical limit of the information transfer rate is understood as the maximum information transfer rate in an optical communication channel. To register one bit of information with a given probability of occurrence of a registration error δ and the data transfer rate S it is necessary to direct the optical radiation power W to the photodetector, which can be registered. The registering capabilities of a photodetector are determined by its dynamic range [6].

According to [7, 8], the photon statistics of most optical radiation sources used in modern optical data transmission systems are subject to the Poisson distribution. Then the theoretical limit of the information transfer rate that the photodetector can provide when used in an optical communication channel in case of a registration error δ can be determined using the formula (1):

$$W = -\frac{hcS}{\eta\lambda} \ln\delta, \quad (1)$$

where h – Planck's constant; c – speed of light; η – quantum registration efficiency; λ – wavelength of optical radiation.

That is, it is necessary to equate the power W and the critical power of the photodetector W_k . By critical, we mean a power value at which the energy characteristic deviates from the linear dependence by no more than 20%. After that, we express S from formula (1) and get the following expression:

$$S = -\frac{\eta\lambda W_k}{hc \ln\delta}. \quad (2)$$

Three commercially available silicon photomultipliers have been selected as research objects: KETEK PM 3325, ON Semi FC 30035 and КОФ5-1035. These Si-PMTs were chosen because they have a similar semiconductor structure.

The results of the study of the quantum efficiency of registration and critical power are presented in Table 1.

As can be seen from Table 1, an increase in overvoltage ΔU leads to an increase in quantum efficiency η and a decrease in critical power W_k . The increase in quantum efficiency is due to the structure of Si-PMT. Since Si-PMT is a photodetector consisting of an ordered set of p-n junctions, which are cells made on a shared substrate, the magnitude of the quantum efficiency of the photodetector is determined by the quantum efficiency of each of these cells. The dependence of critical power on overvoltage is due to the dependence of the quantum efficiency and the gain factor of the studied Si-PMTs. Thus, at low overvoltage, generating a sufficient number of non-basic carriers in the spatial charge region of Si-PMT's p-n-junctions, which significantly reduce the electric field strength there, is possible only at higher power values.

Table 1. Quantum efficiency and critical power of Si-PMTs

Si-PMT	Overvoltage, ΔU , V	Quantum efficiency, η , %	Critical power, W_k , nW
KETEK PM 3325	- 1,0	0,012	16,2
	0,0	22,9	7,0
	1,0	89,6	0,36
ON Semi FC 30035	- 1,0	0,012	14,4
	0,0	20,0	2,0
	1,0	86,4	0,36
КОФ5-1035	- 1,0	0,087	4,8
	0,0	16,6	4,2
	1,0	78,9	0,30

An increase in the registration error δ in the range from 10^{-4} to 10^{-8} at a constant supply voltage of Si-PMT leads to a two-fold decrease in the theoretical limit of the data transfer rate for all studied photodetectors (Table 2).

Table 2. The theoretical limit of the data transfer rate when changing the value of the registration error δ

Si-PMT	The theoretical limit of the transfer rate S for a given registration error, Mbit/s				
	$\delta = 10^{-4}$	$\delta = 10^{-5}$	$\delta = 10^{-6}$	$\delta = 10^{-7}$	$\delta = 10^{-8}$
KETEK PM 3325	1346,9	1077,5	897,9	769,7	673,5
ON Semi FC 30035	926,7	741,3	617,8	529,5	463,3
КОФ5-1035	818,9	655,1	545,9	467,9	409,5

Figure 1 shows the dependence of the theoretical limit of the information transfer rate on overvoltage in case of registration error equal to 10^{-4} . For other values of δ , the dependence is similar.

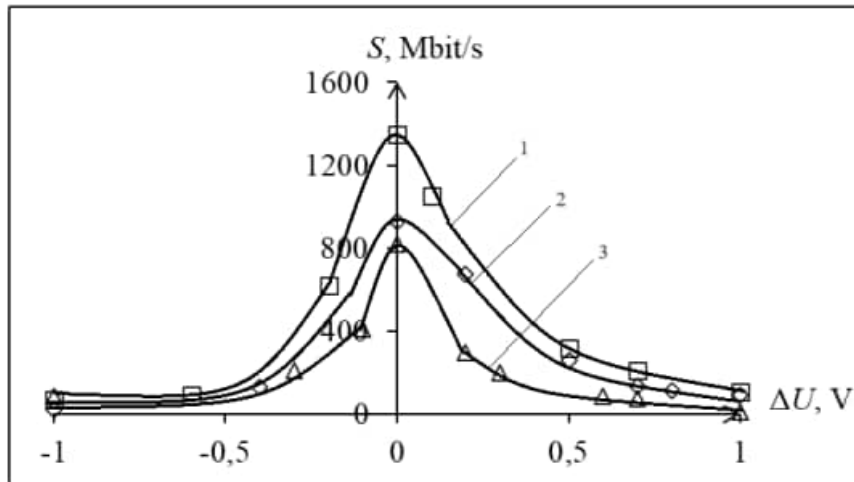


Fig. 1. Dependence of the theoretical limit of the information transfer rate on overvoltage in case of registration error equal to 10^{-4} :

1 – KETEK PM 3325; 2 – ON Semi FC 30035; 3 – КОФ5-1035.

As can be seen from Fig. 1, the highest values of the theoretical limit of the data transfer rate correspond to the breakdown voltage of all studied Si-PMTs. The highest values of S are observed for KETEK PM 3325, and the lowest for КОФ5-1035.

Thus, the theoretical limit of the data transfer rate of an optical communication channel with a silicon photomultiplier as a registering element can be estimated by the quantum efficiency, the critical power of optical radiation and the set value of the registration error.

The quantum efficiency of silicon photomultipliers increases with an increase in overvoltage and at an overvoltage of 1.0 V is 70–90 %.

An increase in the registration error value from 10^{-4} to 10^{-8} leads to a decrease in the theoretical limit of the data transfer rate of the optical channel with a silicon photomultiplier by half for all studied photodetectors.

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ASPECTS OF VIRTUAL REALITY IN THE TOURISM INDUSTRY

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Abstract: This article explains the impact of Virtual Reality (VR) on tourism, showcasing its innovative fusion with technology and travel. The introduction of virtual reality technology has marked a significant transformation across various sectors, with a notable and life-altering influence on tourism. VR in tourism breaks away from the traditional confines of travel experiences, allowing for immersive journeys to global destinations from the comfort of one's home. The article examines the emergence of virtual reality in tourism, detailing its applications and presenting its potential future path.

Keywords: virtual reality, tourism, innovative fusion, immersive journeys, global destinations.

I. Introduction

Virtual reality is interactive imagery or visuals that allow the viewer to fully navigate a scene in 360 degrees[2]. Unlike standard images or video captured from a stationary perspective, this technology allows individuals to discover places they might not otherwise be able to physically visit, and enhances the travel experience for those who do by providing an unprecedented level of immersion.

VR for the Tourism and Travel sector seems to be widely used and brings impact on tourism economics and its future according to recent statistics [1] (Fig 1.1.).

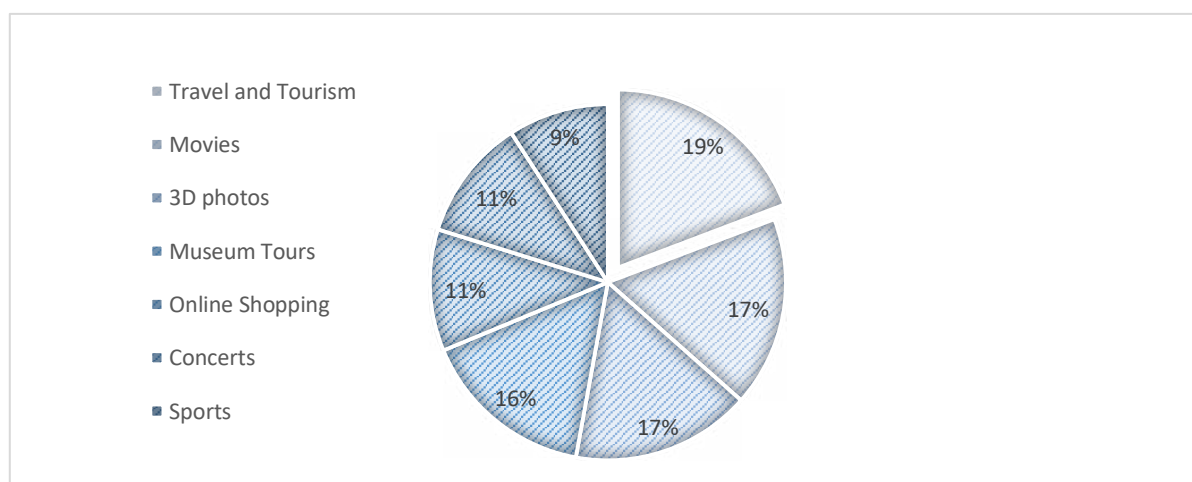


Fig 1.1. Virtual Reality Users Across Different Sectors

Virtual reality technology is creating remarkable changes in many industries, including the following:

- Boosting the number of travel reservations,
- Improving customer engagement with immersive virtual journeys,
- Potential to decrease travel expenses for both consumers and businesses in the travel industry,
- Mitigating the risks associated with environmental pollution.

Additionally, the ethical implementation of VR requires making sure that it is equally available to all tourists, irrespective of their economic background or physical capabilities.

Virtual reality technology offers a wide range of benefits across multiple sectors, transforming the way we learn, work, and interact with the world around us. This suggested use can ensure that the benefits of VR technology are shared equitably across society [6] (Fig1.2.).

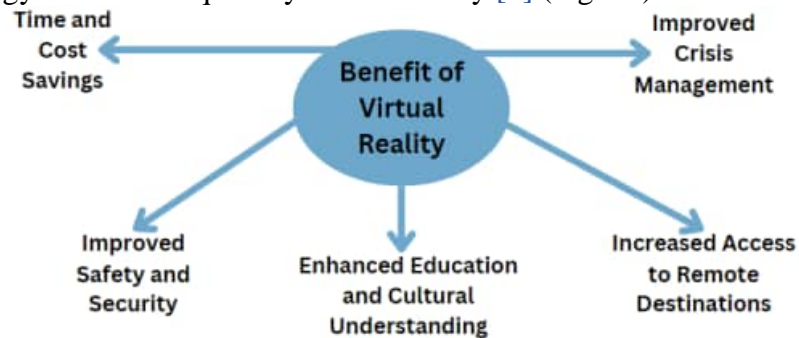


Fig 1.2. Virtual Reality benefits

Virtual Reality (VR) represents a groundbreaking shift in how we interact with digital environments, bringing a host of benefits across various sectors. This technology extends beyond the realms of entertainment, offering practical and transformative applications that are reshaping our approach to numerous fields. Below are some key benefits VR provides, demonstrating its diverse and impactful nature:

1. **Time and Cost Savings:** VR technology enables architects to virtually visualize their projects, eliminating the need for expensive physical prototypes and accelerating the design workflow [7].

2. **Improved Safety and Security:** Police officers utilize virtual reality environments to train for high-risk situations, such as hostage rescues. This method allows them to develop their skills in a safe, simulated setting, avoiding the dangers associated with real-life scenarios.

3. **Enhanced Education and Cultural Understanding:** Students have the opportunity to engage in virtual visits to historical landmarks and delve into diverse cultural experiences through VR, thereby significantly enhancing their educational journey.

4. **Increased Access to Remote Destinations:** Virtual Reality enables the experience of touring remote locations, such as deep-sea areas, by bringing these otherwise unreachable destinations within virtual reach.

5. **Improved Crisis Management:** Emergency personnel engage in virtual reality simulations of catastrophic events, such as earthquakes, to enhance their preparedness and streamline their response capabilities.

II. Fields Analysis

This overview examines the impact of Virtual Reality (VR) on the tourism sector, highlighting its environmental benefits, cost-effectiveness in travel, and technological advancements. It also explores the boundaries of VR, particularly its inability to fully replicate the sensory and cultural aspects of travel, such as touch, taste, and immersive experiences, based on recent surveys and research.

2.1. VR: Way for Sustainable Travel

A key advantage of Virtual Reality in the realm of Travel and Tourism is its potential to positively influence environmental sustainability. By lessening the need for actual travel, VR has the capability to lower the carbon emissions associated with the industry. This could be particularly important in the context of the urgency to combat climate change and reduce greenhouse gas emissions [7].

Yet, it's crucial to acknowledge that VR technology itself carries an environmental cost. The production and disposal of VR devices, along with the energy needed to operate them, also contribute to greenhouse gas emissions.

In essence, Virtual Reality holds promise in transforming the Travel and Tourism sector, offering a more engaging and interactive mode of travel while also potentially reducing its ecological footprint. As this technology continues to evolve, it will be fascinating to observe how it reshapes the future of travel [3].

2.2. VR: Reducing Travel Costs and Broadening Accessibility

Virtual Reality in the Travel and Tourism sector offers the significant advantage of making travel experiences more affordable. VR enables people to virtually visit destinations with a realism that closely approximates actually being there, all without incurring the costs of transport and accommodation. This is especially beneficial for individuals who may lack the financial resources to travel to certain places but still wish to experience them.

Travel agencies and companies also stand to gain from VR technology. They can virtually showcase destinations and experiences to prospective clients, saving on the expenses typically associated with physical travel. This approach can lead to lower marketing costs and a more streamlined booking process.

Take, for example, the Flushing Meadows Hotel & Bar in Munich, Germany. This boutique hotel, with its eleven designer-themed rooms and a rooftop bar, offers a distinct experience. Through a virtual tour, potential guests can immerse themselves in its artistic environment and enjoy stunning views of Munich and the Alps.

View The Flushing Meadows Hotel & Bar VR experience here or by entering the keyword “Flushingmeadows” into the VRdirect App [11] (Fig 2.1.).



Fig 2.1. Panoramic view of the cityscape of Munich all the way to the Alps

2.3. Reviving Tourism through Virtual Reality

In a remarkable utilization of Virtual Reality (VR) technology, Ukraine is harnessing its potential to rejuvenate its tourism sector, particularly spotlighting its vibrant capital, Kyiv. This innovative approach is vividly showcased on the YouTube channel DiscoVR, which has become a pivotal platform for potential tourists globally. By providing immersive VR experiences of Kyiv and other picturesque locations within Ukraine, DiscoVR [13] enables viewers to virtually explore these destinations from the comfort of their homes. (Fig 2.2.)

It allows people to get a realistic preview of what they can expect during their visit, enhancing their ability to plan trips that align with their interests. This is especially beneficial for those who are considering visiting Kyiv but want a more tangible sense of the city's atmosphere and offerings before making travel arrangements.



Fig 2.2. Virtual tour-Kyiv

2.4. Virtual reality VS real tour

VR offers a level of immersion that is impressive, but it cannot fully replicate the continuous, real-life experience of being physically present in a location. According to a recent study by the European travel company Italy4Real, a majority of adults, 81%, believe that VR cannot replace actual travel. Additionally, 92% of respondents felt that experiencing a destination through VR is not the same as physically visiting it. Significantly, 77% emphasized the importance of trying local cuisine, an experience VR cannot provide [3] (Fig 2.3.).

Other limitations of VR include the inability to replicate certain sensory experiences like smells and the unique ambiance created by local people and wildlife. Despite the rapid advancements in VR technology, it's widely accepted that virtual reality is not on track to replace traditional travel in the near future.

The study highlighted that 77% of individuals value the experience of local food, which remains a challenge for VR in the context of travel. Currently, VR is most effectively utilized in the tourism industry for marketing purposes, such as promoting travel destinations and hotels. However, as VR technology continues to evolve, it is anticipated that virtual travel experiences will become an increasingly significant aspect of the tourism sector.

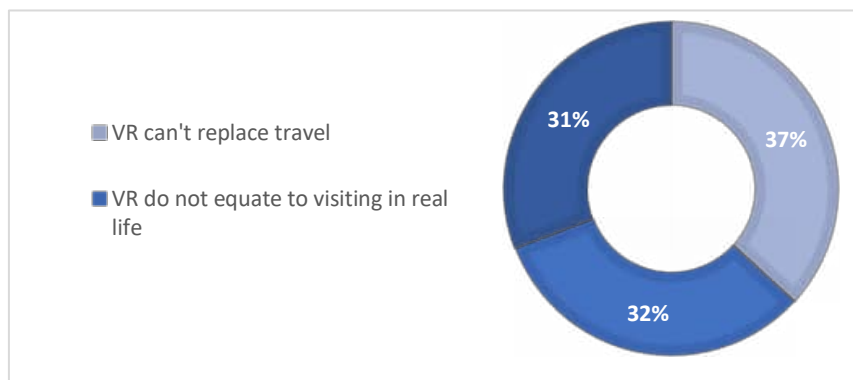


Fig 2.3. VR vs. Real Travel: A European Study on Travel Preferences

2.5. The Evolution of VR in Travel

At Immersion VR, the future of VR in tourism looks promising and shows no signs of slowing down. While it's challenging to predict the exact direction of VR travel or the new technologies that might emerge, we are noticing several trends gaining momentum in the industry:

- Increasing implementation of VR travel experiences by travel agencies
- Virtual tours of hotels offered by travel agencies and hoteliers
- Advancements in technology to enhance the realism of VR travel
- VR travel experiences tailored for senior citizens
- Virtual reality experiences simulating flights
- Virtual renditions of famous landmarks and destinations

- Interactive virtual interfaces for travel booking

Moreover, VR presents unique opportunities, such as the ability to visualize destinations that are yet to be constructed or to recreate historical sites and events. This allows potential visitors to virtually explore a planned resort before its actual development or to journey back in time to places like ancient Rome [12] (Fig 2.4.).



Fig 2.4. Visit ancient Rome

III. Object, Subject, And Methods Of Research

This study examines the impact of virtual reality (VR) technology in the tourism industry, with a particular focus on how VR influences the way consumers choose their holiday destinations.

According to data from Statista in Germany, about half of the German population would consider using VR to help select their holiday destinations if it were available at no cost. Interestingly, 13% of these respondents are even open to paying for VR experiences for travel planning.

Complementing this, research by Tourism Australia indicates that nearly 20% of consumers have already utilized VR to decide on holiday destinations. Furthermore, approximately 25% of consumers indicate a future interest in using VR for planning their travels [5] (Fig 3.1.).

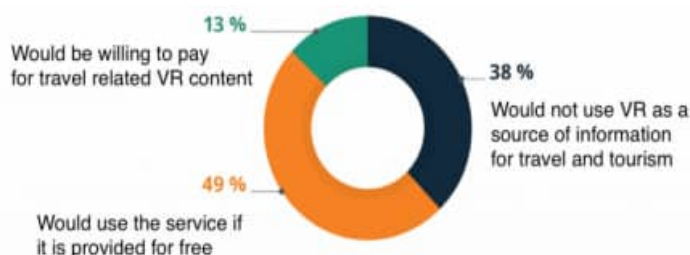


Fig 3.1. Tourism VR stats

The research methodology includes surveys and data analysis. The data from Statista is based on consumer responses in Germany, indicating their willingness to use VR in tourism. Tourism Australia's research further elaborates on this by evaluating the actual usage and future intention of consumers in employing VR for selecting holiday destinations.

Another example of a country harnessing virtual reality (VR) for tourism is Romania. This country has effectively used virtual reality (VR) technology to create engaging virtual tours of Bucharest, its capital city.

This innovative use of technology not only elevates the city's global profile but also marks it as an attractive destination in the evolving digital tourism landscape.

The virtual tours on YouTube [4] serve as a compelling invitation, influencing individuals' travel choices by providing a captivating preview of what Bucharest has to offer (Fig 3.2.).



Fig 3.2.-Bucharest VR tour

IV. Results

Upon analyzing the statistical data and examining the advancements in VR technology for travel, it's clear that Virtual Reality is poised to bring transformative changes to the tourism sector. The findings from Statista and Tourism Australia reveal an increasing trend among consumers towards utilizing VR for holiday planning. In Germany, close to half the surveyed individuals expressed an interest in using VR to choose their holiday destinations, and a significant portion are prepared to pay for such VR experiences [9].

Already, about 20% of consumers have used VR for selecting holiday destinations, and around 25% plan to use it in the future. The evolution of VR technology is not only boosting user engagement but also broadening the scope of possibilities in tourism. This includes virtual renditions of famous landmarks, VR flight simulations, and virtual walkthroughs of hotels and resorts. Of particular interest is VR's ability to digitally recreate destinations that are in the planning stages and to bring historical locations and events to life, such as ancient Rome, providing users with unique and immersive experiences [10].

Romania's use of VR to promote Bucharest exemplifies how nations are leveraging this technology to enhance their tourism attractiveness. The virtual tours offered on platforms like YouTube act as powerful marketing instruments, drawing in prospective tourists by offering a preview of what these places have to offer.

V. Conclusions

Virtual Reality (VR) technology is significantly impacting various industries, providing innovative solutions and enhancing experiences across multiple domains. Virtual reality (VR) significantly impacts fields like architectural visualization, offering cost-effective alternatives to physical models, and law enforcement training, providing safe, simulated risk scenarios.

Statistics show VR's growing influence in the Information and Communication Technology (ICT) sector, particularly in educating students in this domain, highlighting its scientific relevance.

In the context of education, VR brings a new dimension by enabling students to virtually visit historical sites and immerse themselves in different cultures, fostering a deeper understanding and appreciation. For tourism, VR extends the boundaries of exploration, allowing individuals to experience remote and otherwise inaccessible destinations, such as deep-sea environments, from the comfort of their homes [8].

By harnessing the power of VR, we can transcend traditional limitations, whether they be financial, physical, or geographical, thus broadening the scope of possibilities in our increasingly interconnected world. As VR continues to evolve, it stands to offer even more groundbreaking applications, reshaping our experiences and interactions in profound and exciting ways.

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DEEP INSIGHTS INTO PLANT DISEASE IDENTIFICATION: A COMPARATIVE EVALUATION OF NEURAL NETWORKS

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Abstract. Cotton, a vital crop in India constituting 23% of exports, grapples with challenges like diminished yield due to leaf diseases such as Cercospora, Bacterial blight, Ascochyta blight, and Target spot. Traditional manual observation by farmers is not only time-consuming and expensive but also prone to inaccuracies. This research addresses the pressing need for an effective model to enhance the detection of cotton leaf diseases. The study leverages various deep learning methods, including Convolutional Neural Network (CNN), Inception V3, VGG 16, VGG 19, and RESNET 152. A comprehensive dataset, sourced from Kaggle, encompasses images of both diseased and fresh cotton leaves and plants, totaling 2400 specimens for robust training. Implemented using Python 3.7.3 and equipped with Keras, TensorFlow, and Jupyter in the developmental environment, the models were meticulously evaluated by adjusting parameters such as batch size, dropout, and epochs. Remarkably, the models achieved disease-classification accuracy rates of 94.87%, 73.55%, 73.65%, 73.81%, and 97.33% for InceptionV3, VGG 16, VGG 19, CNN, and RESNET152V2, respectively, after 10 epochs. These accuracy rates outshined traditional handcrafted-feature-based approaches. Notably, the RESNET152V2 model not only exhibited superior accuracy but also demanded less training time. The results underscore a significant leap towards accurate and efficient detection of cotton leaf diseases, providing valuable insights for the agricultural sector. This research holds promise for revolutionizing disease management in cotton cultivation, contributing to increased yield and sustainable farming practices.

Keywords: Convolutional Neural Network (CNN), Inception V3, RESNET 152.

Introduction

Plant diseases pose a significant threat to agricultural security by substantially reducing crop yields and compromising their quality. Pests and diseases lead to the destruction of crops or plant parts, resulting in decreased food production and contributing to food insecurity. The accurate and precise diagnosis of these diseases has been a considerable challenge, traditionally relying on human annotation through visual inspection. Identifying plant diseases early is crucial as they affect the growth of their respective species.

Cotton plants, in particular, are susceptible to various attacks, including biotic and abiotic constraints like temperature fluctuations, diseases, and pests. Globally, nearly 576 kg per hectare of cotton crops are produced, with a 10% production loss attributed to different cotton leaf diseases. The increased use of technology has enhanced the efficacy and accuracy of disease detection in plants.

Research in the field of machine learning for plant disease detection has employed traditional approaches such as random forest, artificial neural networks, support vector machines (SVM), fuzzy logic, and the K-means method. These methods can be further improved by incorporating deep learning architectures like convolutional neural networks (CNNs), recurrent neural networks, and recursive neural networks, enhancing disease recognition rates and result accuracy.

This study aims to compare deep learning methods, including the conventional neural network (CNN), Inception V3, VGG 16, VGG 19, and RESNET 152, for identifying and diagnosing diseases in cotton leaves. Deep Neural Networks form the foundation of computer vision technologies, functioning similarly to neural networks with learnable weights and biases. A deep neural network (DNN) is an artificial neural network (ANN) with multiple layers between the input and output layers. Neural networks consist of neurons, synapses, weights, biases, and functions. Deep learning, a subset of machine learning, employs multiple layers to progressively extract higher-level features from raw input. Inspired by the human brain, deep learning algorithms learn from vast amounts of data, refining their tasks through repeated iterations in multiple layers to enhance outcomes.

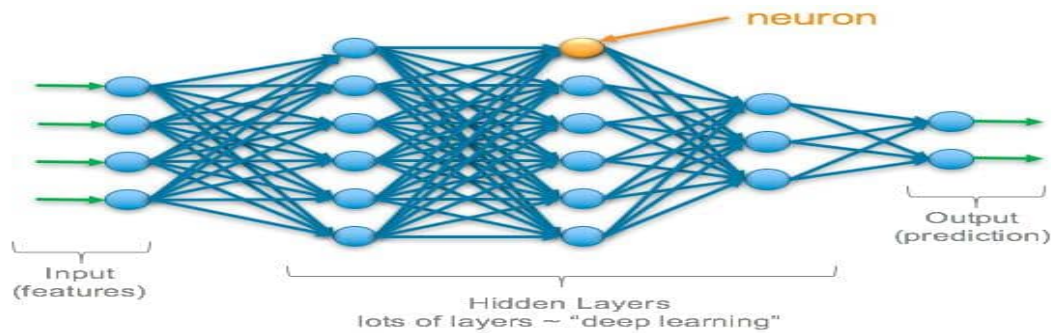


Fig 1. Deep Learning

Deep learning methods have proven to be highly effective tools in various computer vision tasks, including object recognition, biometric detection, and classification. These methods have the capability to match filters directly derived from the data. The paper is structured as follows: Section 1 introduces the application of deep neural networks in identifying cotton diseases. Section 2 reviews related works on the recognition of plant diseases. Section 3 outlines our methodology. Information regarding the results and discussions can be found in Section 4. Finally, Section 5 offers conclusions and suggestions for further research.

Literature Review

Zhong L. et al. (2019) introduced a deep learning-based classification framework for remotely sensed time series, conducted in Yolo County, California. The study compared the performance of different classifiers, including Long Short-Term Memory (LSTM), one-dimensional convolutional (Conv1D) layers, XGBoost, Random Forest, and Support Vector Machine. The Conv1D-based model exhibited the highest accuracy (85.54%) and F1 score (0.73), outperforming other classifiers.

In their 2017 review, Ray M et al. discussed the detection of fungal diseases in plants, emphasizing the potential of biosensors as an alternative solution, albeit requiring further modifications, improvements, and validation for on-field applications.

A survey by A Kamilaris et al. (2018) explored 40 research efforts utilizing deep learning techniques in various agricultural and food production challenges. Their findings indicated that deep learning consistently provided high accuracy, surpassing commonly used image processing techniques.

Yu Sun et al. (2018) proposed a deep learning approach for automatically discovering discriminative features in plant disease severity classification. Fine-tuning on pretrained deep models, particularly the VGG16 model, demonstrated superior performance, achieving an accuracy of 90.4% on the test set.

Parul Sharma et al. (2020) investigated the feasibility of training a convolutional neural network (CNN) using segmented and annotated images. Utilizing segmented images (S-CNN) significantly improved model performance, increasing from 42.3% to 98.6% on independent data.

M. Nagaraju et al. (2020) conducted a review focusing on neural network techniques for processing image data, with an emphasis on detecting crop diseases. The study covered data acquisition sources, deep learning models/architectures, evaluation results, and highlighted future prospects for hyperspectral data analysis.

Anupam Bapat et al. (2020) performed a study on plant leaf disease detection using deep learning, exploring various representations from the Plantsvillages dataset and achieving improved results through block-scaled optimization. Siddhartha Arjaria et al. (2020) applied a Convolution Neural Network (CNN)-based approach for plant disease detection, achieving high accuracy and demonstrating superiority over pre-trained models such as VGG16, InceptionV3, and MobileNet.

Yalcin, H et al. (2016) proposed a CNN architecture for classifying plant types using image sequences from smart agro-stations. The study emphasized the significance of preprocessing steps and validated the effectiveness of the CNN model on the TARBIL dataset.

Rahnemoonfar M. et al. (2017) presented a simulated deep convolutional neural network for yield estimation, addressing the challenges of manual counting and offering a time-efficient

alternative. Bargoti S. et al. (2016) utilized the Faster R-CNN object detection framework for fruit detection in orchards, conducting ablation studies to understand the practical deployment of the detection network.

Xiaoyue Xie et al. (2020) proposed a real-time detector for grape leaf diseases based on an improved deep convolutional neural network, achieving promising results in terms of precision and detection speed. Nilay Ganatra et al. (2020) conducted a comprehensive review of research on deep learning applications in precision agriculture, highlighting the high potential of these techniques.

Zhang X. et al. (2018) introduced a deep learning-based model for leaf disease recognition in maize, achieving high accuracy with reduced model parameters compared to VGG and AlexNet structures. Dyrmann M. et al. (2016) designed and trained a deep convolutional neural network for efficient filter capacity and coverage in product image classification. Tamoor K et al. (2020) presented a novel approach to fruit production prediction using deep neural networks, achieving accuracy through different optimization methods. Zhang Y et al. (2017) designed a 13-layer convolutional neural network (CNN) with various data augmentation methods and observed superior performance compared to state-of-the-art approaches. The study validated the effectiveness of the 13-layer structure and highlighted significant GPU acceleration benefits.

Materials and Methods

The main aim of the articles is to automatically detect the cotton disease using images which helps to assess during the farming activities. For this research we have downloaded cotton leaf dataset from Kaggle. Kaggle is a data source where 50,000 public datasets and 400,000 public notebooks available. Every day a new dataset is uploaded on Kaggle. We have 4 categories of images diseases cotton leaf, diseased cotton plant, fresh cotton leaf, fresh cotton plant. The images are kept inside folders train, test, and validation folders. The images are further grouped into subfolders each containing separate class of images. For this research, nearly 2400 specimens (600 images in each class) were accessed for training purposes. This developed model is implemented using python version 3.7.3 and the model is equipped on the deep learning package called Keras.

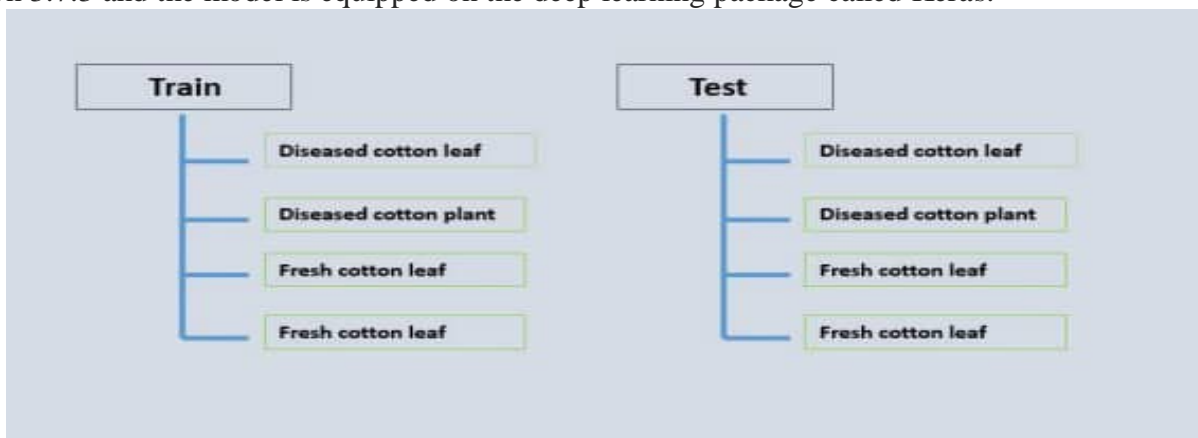


Figure 2. Types of Datasets

System Architecture

The framework for the plant disease identification system leverages deep learning methods to train models for detecting diseases in plant leaves, utilizing images sourced from primary and secondary agricultural data. The initial step in our disease identification system involves acquiring images from an online data source. Subsequently, image pre-processing techniques are applied to prepare the acquired images for further analysis. The pre-processed images are then fed into the Convolutional Neural Network (CNN) algorithm for feature extraction through neural networks. The most suitable features representing the image are extracted using an image analysis technique. Based on these extracted features, training and testing data are generated for disease identification. Finally, a trained knowledge base classifies a new image into its corresponding syndrome class. This process

is repeated, and other deep learning algorithms such as Inception V3, VGG 16, VGG 19, and RESNET152V2 are applied to identify the best model for cotton leaf identification.

- Step 1: Dataset selection.
- Step 2: Feature selection using information gain and ranking.
- Step 3: Application of the CNN classification algorithm.
- Step 4: Calculation of each feature value in the input layer.
- Step 5: Determination of the bias class for each feature.
- Step 6: Generation of the feature map, proceeding to the forward pass in the input layer.
- Step 7: Calculation of convolution cores in a feature pattern.
- Step 8: Production of a sub-sample layer and feature values.
- Step 9: Backpropagation of the input deviation of the kth neuron in the output layer.
- Step 10: Presentation of the selected features and classification results.

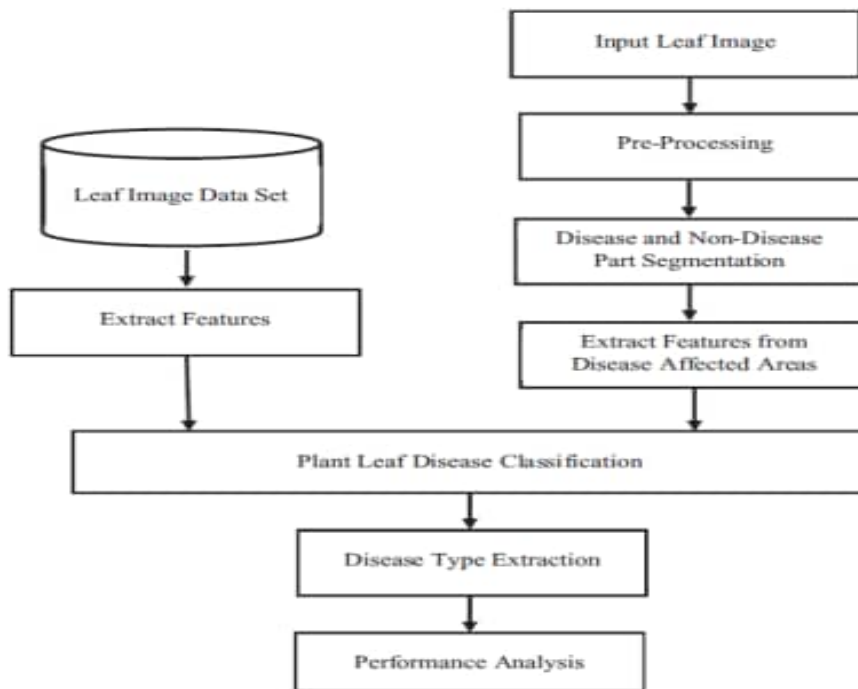


Fig 3. Block diagram of automatic disease identification system

Result and analysis

To assess the performance of the models, various parameters such as batch size, dropout, and different numbers of epochs were incorporated. The implemented models achieved disease-classification accuracy rates of 94.87%, 73.55%, 73.65%, 73.81%, and 97.33% using InceptionV3, VGG 16, VGG 19, CNN, and RESNET152V2, respectively, with respect to 10 epochs. These rates surpassed those of traditional handcrafted-feature-based approaches. In comparison with other deep-learning models, the implemented RESNET152V2 model demonstrated superior performance in terms of accuracy and required less training time. Through the utilization of deep learning models, leaf diseases are identified based on the pigments in the leaf, distinguishing between healthy and diseased leaves. The binary cross-entropy function is employed to calculate the loss. Increasing the number of epochs may enhance accuracy, but it also poses the risk of overfitting and increased waiting time. The trained model provides results and the probability of disease occurrence. This paper successfully achieves the goal of detecting diseases in leaves through the implementation of Convolution Neural Network.

TRAINING AND TESTING OUTCOME FOR CONVOLUTIONAL NEURAL NETWORK

CNN Model:

A Convolutional Neural Network (CNN) is a type of neural network model that enables the extraction of higher-level representations for image content. In contrast to classical image recognition, where features are manually defined, CNN takes raw pixel data from images, trains the model, and automatically extracts features for improved classification. Our models are built on convolutional neural networks, known for their effectiveness in image recognition and categorization.

The foundational model serves as a base, and we enhance its accuracy by adjusting hyperparameters and modifying the CNN model structure. The convolutional neural network comprises two layers using a 3 x 3 filter, with Rectified Linear Unit (relu) as the activation function. Relu is a commonly used activation function in deep learning models, returning 0 for any negative input and the input value for positive values ($f(x) = \max(0, x)$). The output layer employs the sigmoid function.



Figure 4. Training CNN Model

In this study, we constructed a CNN model consisting of 32 filters in the convolutional layer, a kernel size of 3, and pooling size of (2,2). The architecture includes four convolutional layers with the rectified linear unit (relu) activation function. To reduce the dimensions of feature maps, four pooling layers were applied. Additionally, three dropout layers with rates of 50%, 10%, and 25% were incorporated. The Dropout layer randomly sets input units to 0 during training, preventing overfitting. The model was compiled using CNN with the Adam optimizer, a stochastic gradient descent method based on adaptive estimation of first-order and second-order moments.

The training process was conducted for ten epochs, where an epoch refers to one cycle through the full training dataset in artificial neural networks. Training a neural network for multiple epochs enhances its ability to generalize to new, unseen input data during testing. The model concludes with two fully connected layers followed by a dense layer with four units and a SoftMax for output. This extensive network comprises approximately 14,965,578 parameters, with 250,890 trainable and 14,714,688 non-trainable parameters.

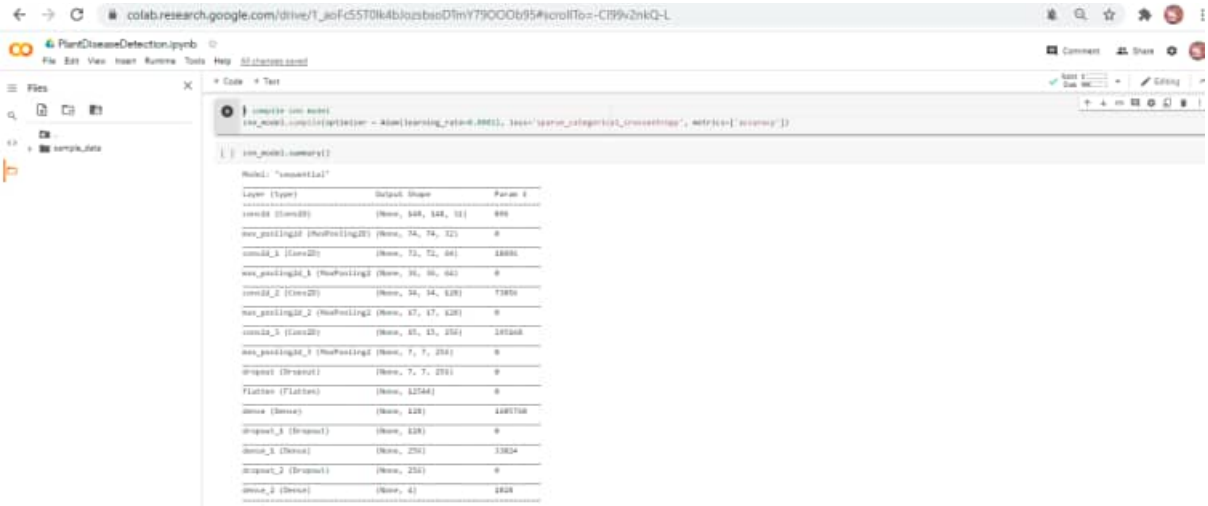


Figure 5: CNN Model Summary

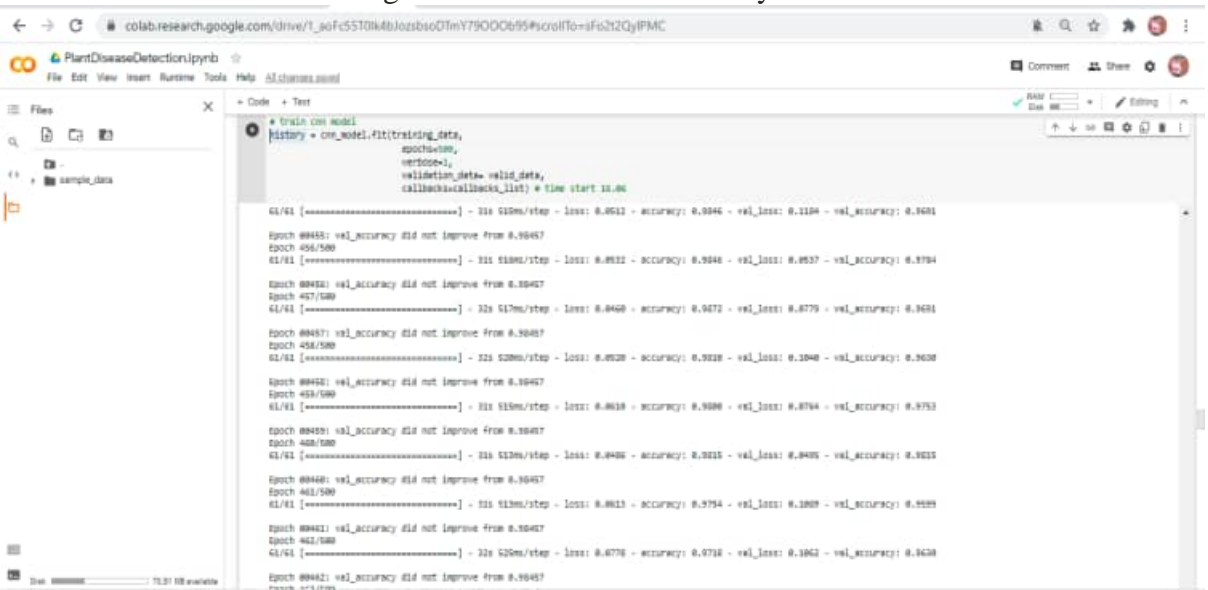


Figure 6: Accuracy of CNN Model

Accuracy and Loss are the two most well-known metrics in Deep learning. Accuracy is a method for measuring a classification model's performance. It is typically expressed as a percentage. Accuracy is the count of predictions where the predicted value is equal to the true value. It is binary (true/false) for a particular sample. Accuracy is often graphed and monitored during the training phase though the value is often associated with the overall or final model accuracy. In our CNN model initially accuracy was very low but with increase in epoch we received a high accuracy. Initially training and testing loss was very high and with increase in epoch loss started decreasing. After 10 epoch we received accuracy of 97.62%.

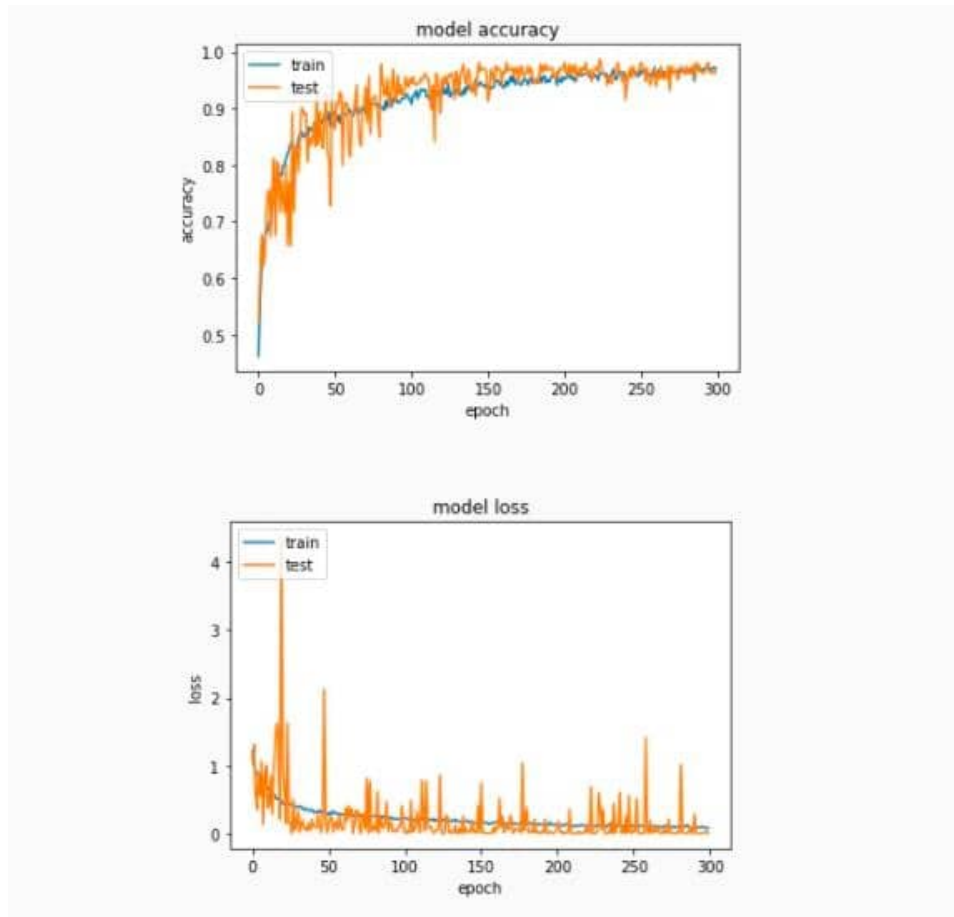


Figure 7. Accuracy and Loss of CNN Model

Table 1. TRAINING AND TESTING OUTCOME FOR CNN

Epochs	Training Data Lost	Training accuracy in %	Testing Data loss	Testing accuracy in %
1	1.2668	0.4239	1.1550	0.8176
2	1.0705	0.5295	0.9566	0.9195
3	0.9644	0.5920	1.1414	0.9707
4	0.8841	0.6284	0.8928	0.9208
5	0.8573	0.6509	0.9468	0.9208
6	0.8248	0.6740	0.9649	0.9762
7	0.8101	0.6807	0.8196	1.0000
8	0.7123	0.6921	0.8876	0.9345
9	0.7111	0.7129	0.8926	0.9873
10	0.6912	0.7381	0.8997	0.9762

TRAINING AND TESTING OUTCOME FOR INCEPTION V3

Inception-v3 is a convolutional neural network architecture from the Inception family that makes several improvements including using Label Smoothing, Factorized 7 x 7 convolutions, and the use of an auxiliary classifier to propagate label information lower down the network (along with the use of batch normalization for layers in the sidehead). Inception v3 is a convolutional neural network **for assisting in image analysis and object detection**, and got its start as a module for GoogLeNet. It is the third edition of Google's Inception Convolutional Neural Network, originally introduced during the ImageNet Recognition Challenge. We have tested same data set through Inception V3 model and we receive 100% accuracy after 10 epoch.



Table 2. TRAINING AND TESTING OUTCOME FOR INCEPTION V3

Epochs	Training Data Lost	Training accuracy in %	Testing Data loss	Testing accuracy in %
1	2.0140	0.7401	1.0249	0.7222
2	0.7547	0.8785	0.2171	0.9444
3	0.4645	0.9149	0.1363	0.9444
4	0.6390	0.9021	0.1251	0.9444
5	0.6016	0.9190	0.0513	0.9444
6	0.4437	0.9329	0.0368	1.0000
7	0.8518	0.9021	0.6182	0.9444
8	0.4498	0.9416	0.1105	0.9444
9	0.5562	0.9426	0.0010	1.0000
10	0.5157	0.9487	0.0010	1.0000

TRAINING AND TESTING OUTCOME FOR VGG 16 AND VGG 19

VGG16 is a convolution neural net (CNN) architecture which was used to win ILSVR(Imagenet) competition in 2014. It is considered to be one of the excellent vision model architecture till date. Most unique thing about VGG16 is that instead of having a large number of hyper-parameter they focused on having convolution layers of 3x3 filter with a stride 1 and always used same padding and maxpool layer of 2x2 filter of stride 2. It follows this arrangement of convolution and max pool layers consistently throughout the whole architecture. In the end it has 2 FC(fully connected layers) followed by a softmax for output. The 16 in VGG16 refers to it has 16 layers that have weights. We have tested same data set through VGG16 model and we receive 77.78% accuracy after 10 epoch.

Table 3. TRAINING AND TESTING OUTCOME FOR VGG 16 AND VGG 19

Epochs	Training Data Lost	Training accuracy in %	Testing Data loss	Testing accuracy in %
1	1.2868	0.4936	1.1249	0.5556
2	0.9862	0.6053	1.1933	0.6111
3	0.9024	0.6412	0.7966	0.7778
4	0.8691	0.6627	0.8158	0.6667
5	0.9322	0.6361	1.0051	0.6667
6	0.8368	0.6730	0.6658	0.7778
7	0.7391	0.7176	0.6687	0.7778
8	0.7539	0.6914	0.5906	0.7778
9	0.6641	0.7381	1.0657	0.7222
10	0.9751	0.6674	0.8098	0.7778

TRAINING AND TESTING OUTCOME FOR RESNET152V2

Residual Network having 152 layers variant. In this post, we will cover the concept of ResNet50 which can be generalized to any other variant of ResNet. Prior to the explanation of the deep residual network, I would like to talk about simple deep networks (networks having more number of convolution, pooling and activation layers stacked one over the other). Since 2013, the Deep Learning community started to build deeper networks because they were able to achieve high accuracy values. Furthermore, deeper networks can represent more complex features, therefore the model robustness and performance can be increased. We have tested same data set through Resnet 152 V2 model and we receive 88.89% accuracy after 10 epoch.



Table 4. TRAINING AND TESTING OUTCOME FOR RESNET152V2

Epochs	Training Data Lost	Training accuracy in %	Testing Data loss	Testing accuracy in %
1	1.4618	0.8093	0.0069	1.0000
2	0.4206	0.9288	0.0103	1.0000
3	0.3835	0.9416	0.3192	0.8889
4	0.3231	0.9498	0.9201	0.8889
5	0.1914	0.9662	0.3125	0.9444
6	0.2973	0.9616	0.7044	0.9444
7	0.2958	0.9657	0.0167	1.0000
8	0.3025	0.9692	1.0431	0.9444
9	0.3309	0.9682	0.5506	0.9444
10	0.2806	0.9733	0.4829	0.8889

The trained InceptionV3, VGG 16, VGG 19, CNN and RESNET152V2 model is tested with different cotton disease; cotton stage and cotton weed image dataset. Parameters like accuracy value, loss value, ETA (Estimated time of arrival value) are computed. Diseases like cercospora leaf spot, fusarium wilt, verticillium wilt, and cotton boll rot, bacteria blight are recognized. Cotton stages like flower stage, cotton boll, matured cotton and barnyard grass, lambs quarters weed are also recognized. One Epoch is defined as the total of all images processed one time forward and backward individually in the convolution neural network. Epoch are used once to update the weights *one*

$$epoch = \frac{\text{number of iteration} * \text{batch size}}{\text{total number of images in trainin}}$$

Conclusion

In this research, our objective is to compare the effectiveness of various deep learning methods, including conventional neural network (CNN), Inception V3, VGG 16, VGG 19, and RESNET 152, for identifying and diagnosing diseases in cotton leaves. The implementation of deep learning models was carried out using Python and the Keras package, with Jupyter serving as the development environment. Multiple experiments were conducted to optimize the model by adjusting parameters such as dataset color, the number of epochs, augmentation techniques, and regularization methods.

The performance of the models was evaluated by considering different parameters, including batch size, dropout rates, and varying numbers of epochs. The implemented models demonstrated disease-classification accuracy rates of 94.87%, 73.55%, 73.65%, 73.81%, and 97.33% using InceptionV3, VGG 16, VGG 19, CNN, and RESNET152V2, respectively, over ten epochs. These accuracy rates surpassed those achieved by traditional handcrafted-feature-based approaches. It was observed that increasing the number of epochs led to improved accuracy; however, it also raised the risk of overfitting. Notably, the RESNET152V2 model outperformed other deep-learning models in terms of accuracy while requiring less training time.

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TEHNOLOGIA INFORMAȚIEI ȘI COMUNICAȚIILOR PRIN SPECTRUL LEGILOR NAȚIONALE

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Abstract. In the article, the necessity and a way of training and development of competences are presented to the audience of the course units with the subject of information and communication technology within the higher undergraduate studies, which aims to align with the principle of the supremacy of the law from the perspective of the way the state reacts to technical-scientific evolution through the spectrum of the main laws that define the space of national normative acts regarding information and communications technology.

Keywords: Law, computerization, electronic, e-government, competence, education, higher education.

Abstract. În articol, se prezintă necesitatea și o modalitate de formare și dezvoltare a competențelor, audienților unităților de curs cu tematica referitoare la tehnologia informației și comunicațiilor în cadrul studiilor superioare de licență, ce vizează alinierea la principiul supremației legii din perspectiva modului de reacție a statului la evoluția tehnico-științifică prin spectrul principalelor legi care definesc spațiul actelor normative naționale cu privire la tehnologia informației și comunicațiilor.

Cuvinte cheie: Lege, informatizare, electronic, e-guvernare, competență, educație, studii superioare.

Dezvoltarea a diferite servicii bazate pe sistemele de calcul electronic, precum sînt poșta electronică, world wide web (www), file transfer protocol (FTP), social media, educație online și altele, au permis observarea facilităților oferite de acestea, pentru ca informația să fie păstrată/stocată, generată/creată, transmisă/recepționată, modificată. În acest sens, forma în care se prezintă informația ține de aspecte ale tehnologiilor implicate în procesele respective, generic folosindu-se sintagmele „formă electronică”, „formă digitală”, „formă informatică”. Aceste aspecte permit de a privi și trata informația, astfel vehiculată, ca elemente „materiale”. Astfel, se poate vorbi și despre conturarea unui spațiu al acestor „obiecte materiale”, care este cunoscut prin diferite denumiri precum sînt „spațiu informatic”, „spațiu cibernetic”, „spațiu virtual”, „spațiu online”. Trebuie de menționat, că chiar dacă acești termeni sunt adesea utilizați în mod interșanjabil, ei pot avea semnificații specifice în contexte diferite. Astfel, de exemplu, „spatiu informatic” poate fi interpretat ca un termen general care acoperă toate aspectele tehnologiei informației și comunicațiilor, în timp ce „spatiu cibernetic” și „spatiu virtual” se referă mai detaliat la securitatea cibernetică și, respectiv, la medii și structuri digitale create sau simulate. Pe cînd „spațiu online”, mai degrabă, se referă la mediul virtual sau digital creat de internet, în care utilizatorii pot interacționa, accesa informații, comunica și efectua diverse activități, inclusiv în regim live. În general, a apărut necesitatea ca societatea umană să implice acest nou tip de spațiu, prin elementele și serviciile acestuia, în vederea transformării spațiului informațional de la formele consacrate la forme „informatică”.

Cum spațiul informațional rezează un mediu de activitate vital pentru un stat democratic din perspectiva tuturor domeniilor de activitate (finanțe, economie, educație, infrastructură etc), odată cu transformarea impusă de nivelul de dezvoltare al acestuia, multe servicii esențiale/critice precum sînt serviciile bancare, educația, energia etc încep să se bazeze, în mare măsură, pe sisteme și infrastructură care sînt conectate la rețele informatice. Pe măsură ce societatea umană, indiferent că



este vorba despre sectorul public sau sectorul privat, continuă să se „digitalizeze”, în sensul integrării domeniilor de activitate cu spațiul informatic, implicit se „produce informatizarea” și a spațiului informațional. Devine indispensabilă și grija, în aceste condiții, față de aspectul de asigurare a drepturilor și libertăților fundamentale ale omului. Ca consecință se relevă necesitatea de ajustare a cadrului juridic, care se reflectă inclusiv prin implementarea de noi acte normative și desigur prin modificarea și abrogarea actelor normative corespunzătoare, în vederea „producerii informatizării” spațiului informațional, într-o formă care să corespundă avansului tehnologic și așteptărilor societății.

Actualmente activitatea de „digitalizare” este esențială și din perspectiva rezilienței și dezvoltării pe termen lung a unui stat, cel puțin din considerentul că spectrul de activități care poate și necesită a fi transformat, în vederea dezvoltării, prin aplicarea de „forme informatice” este unul foarte mare. În această activitate grandioasă de transformare a mediului de viață umană, legată inclusiv și de transformarea spațiului informațional, bazată pe „digitalizare”, este necesar de a implementa și susține diferite instrumente juridice care să poată fi aplicate în vederea reglementării situațiilor generate.

Ca răspuns la transformarea evidențiată, spațiul educațional național, fiind flancat de *principiul calității și principiul relevanței*, și de finalitățile educaționale cu referire la competența cheie: *competențe în matematică, științe și tehnologie* [1], pentru învățământul superior, ciclul I: învățământ superior de licență, prevede unități de curs care abordează tehnologiile informaționale. Abordările sînd ghidate spre formarea și dezvoltarea de competențe, în special, din perspectiva profilului instituției de învățământ. Astfel, instituțiile de învățământ bazate pe profilul real abordează tematici ca: programare și dezvoltare software, administrare a sistemelor și rețelelor, design și dezvoltare web etc. Pe cînd instituțiile bazate pe profilul umanist abordează tematici ca: competențe de office, gestionarea informației, baze de date și cercetare online, creativitate digitală etc. Distincțiile sînt evidente și majore, totuși pe ambele paliere prezentate, cel real și cel umanist, se înscrie tematica care abordează relația spațiului informatic cu statul de drept - Republica Moldova (RM).

În acest context, ținem să specificăm că *respectarea Legii* este un aspect esențial al unui stat de drept, care asigură ordinea și stabilitatea într-o societate, ceea ce contribuie și la realizarea misiunii educației transpusă în *dezvoltarea potențialului uman pentru a asigura calitatea vieții, creșterea durabilă a economiei și bunăstarea poporului* [1]. Astfel, apare cerința ce se referă la formarea și dezvoltarea de competențe precum sînt: cunoașterea legilor și regulamentelor, conștientizarea drepturilor și responsabilităților, respectarea procedurilor legale, cunoașterea contextului legal internațional, care pot fi rezumate la competența de a se alinia principiului supremației legii. Principiul supremației legii este un concept juridic fundamental care afirmă că legea este cea mai înaltă autoritate într-o societate și că toți, inclusiv autoritățile guvernamentale, sunt supuși și trebuie să se conformeze legii. Acest principiu este un pilon al statului de drept prin faptul că contribuie la asigurarea unei societăți ordonate, bazate pe reguli, și protejează drepturile individuale împotriva abuzurilor de putere.

În cele ce urmează ne vom direcționa studiul spre prezentarea unor elemente din care poate fi constituită tematica *cadrul normativ aferent tehnologiei informației și comunicațiilor* integrată în cadrul unităților de curs ce se referă la tehnologia informației și comunicațiilor. Desigur denumirea tematicii poate fi și alta, ca exemplu fiind *tehnologia informației și comunicațiilor – aspecte legislative*.

Studiul, aspectelor normative ce ar putea fi abordate în cadrul orelor de curs, acoperă perioada ce demarează cu constituirea RM și pînă la momentul actual, adică pentru perioada anilor 1991-2023, și este direcționat spre următoarele problematice: Cum a reacționat RM din punct de vedere al legislației la oportunitatea oferită de profilerarea tehnologiei informației și comunicațiilor; Cum au fost acoperite din punct de vedere al legilor elementele cheie ale spațiului informațional informatizat; Ce entități/structuri naționale au fost și sînt implicate în dezvoltarea spațiului informațional informatizat; Care este aspectul juridic a comunicărilor electronice din perspectiva puterii juridice.

Pe parcursul existenței RM, spațiul actelor normative a fost ajustat la noile realități, pe care le prezintă transformarea spațiului informațional, în vederea constituirii unui cadru legal adecvat



nivelului de dezvoltare a societății. Din această perspectivă vom discuta despre dezvoltarea cadrului juridic aferent, care se oglindește în diverse legi naționale.

În RM, actualmente, statul se concentrează pe digitalizarea a cât mai multe domenii, inclusiv, pe dezvoltarea conceptului „e-guvernare”, în vederea asigurării bunăstării poporului și alinierii la cele mai bune practici și standarde internaționale. Aceasta se reflectă prin crearea, în mai 2010, a Centrului de Guvernare Electronică, drept instituție publică aflată în subordinea Cancelariei de Stat a RM.[5] În mai 2018, denumirea Instituției publice „Centrul de Guvernare Electronică (E-Government)” a fost schimbată în Instituția publică „Agenția de Guvernare Electronică [5]. Sectorul privat de asemenea este antrenat activ în procesul de digitalizare, eforturile fiind direcționate, în principal, spre îmbunătățirea eficienței și desigur spre reducerii de costuri oferite de oportunitățile digitalizării.

Procesul de informatizare în RM are la baza mai multe documente normative sub formă de legi adoptate de Parlamentul RM, cu impact asupra spațiului informațional național.

Astfel, în iulie 2001 a intrat în vigoare **Legea cu privire la informatică. Acest act normativ este încă în vigoare, necăzind că a suferit mai multe modificări, și impune** informatizarea societății ca obiectiv strategic de prim ordin. Prevederile acesteia sînt **direcționate spre** stabilirea principalelor reguli și condiții de activitate în domeniul informaticii, dreptului de acces la informație și serviciile informatice. De asemenea sînt vizate relațiile de proprietate în domeniul informaticii asupra obiectelor, precum sînt resursele informaționale și sistemele informatice, care plasate în câmpul bunurilor publice în cazul creării acestora în urma finanțării de la bugetul de stat. Legea respectivă avea ca parte componentă în capitol separat pentru conceptul de „document electronic”, care a fost abrogat în august 2020 [6]. **Drept entități ale statului vizate de legea respectivă Ministerul Transporturilor și Comunicațiilor, Agenția Națională pentru Reglementare în Telecomunicații și Informatică, Ministerul Dezvoltării Informaționale.**

În ianuarie 2004 a intrat în vigoare *Legea cu privire la informatizare și la resursele informaționale de stat*. Aceasta, de-a lungul timpului, a suferit mai multe completări și modificări, ultimele dintre care s-a realizat în anul 2022. Normele juridice se referă pe lîngă la ceea ce reprezintă noțiunea de informație documentată, care sînt resursele informaționale de bază, crearea, și evaluarea sistemelor informaționale de stat, politica informațională de stat, accesul la resursele informaționale de stat, platforma guvernamentală de interoperabilitate (MConnect), și la proprietarul (statul), posesorii (autoritățile și instituțiile publice), deținătorii (autoritățile publice, instituțiile publice și alte entități de stat), administratorii tehnici (autoritățile publice, instituțiile publice și alte entități de stat), utilizatorii (persoanele fizice și/sau persoanele juridice de drept public sau privat) sistemelor informaționale de stat. Legea respectivă vizează și domeniul național de nivel superior „.md” în rețeaua globală Internet, prin care stipulează că acesta este proprietate a statului și nu poate fi obiect al vânzării sau închirierii. Cu privire la politica informațională de stat este stipulat că aceasta este orientată spre crearea condițiilor juridice, economice, organizatorice și de altă natură, necesare asigurării unei dezvoltări armonioase a societății și a statului.

Pe perioada respectivă, de valabilitate a legii, au fost vizate mai multe entități cu competențe în domeniul sistemelor și resurselor informaționale de stat, precum Departamentul Tehnologii Informaționale, Ministerul Dezvoltării Informaționale, Ministerul Economiei și Infrastructurii, Agenția de Guvernare Electronică, Ministerul Economiei, Agenția Servicii Publice [7].

În august 2004 a intrat în vigoare **Legea privind comerțul electronic**. Această lege, de-a lungul timpului, a suferit numeroase modificări și completări și care începînd cu aprilie 2023 a fost redenumită în *Legea privind serviciile societății informaționale*. Această modificare, se referă și la necesitatea de a transpune prevederi din *Directiva Parlamentului European și a Consiliului privind anumite aspecte juridice ale serviciilor societății informaționale, în special ale comerțului electronic, pe piața internă* (directiva privind comerțul electronic) [3]. **Documentul normativ, național, inițial se concentra pe principiile de reglementare a modului de utilizare a informației în formă electronică în cadrul relațiilor ce apar între participanții la comerțul**



electronic, dar ulterior s-a direcționat pe principiile de reglementare și condițiile de furnizare de servicii mai largi, pe care le oferă societatea informațională. De asemenea conține stipulări referitor la regimul juridic al comunicărilor electronice și al **contractului încheiat prin mijloace electronice**. Astfel, legislația RM, echivalează după puterea juridică și puterea doveditoare, comunicarea electronică și informația în formă scrisă [8].

Odată cu reliefaarea spațiului informațional „informatizat” a apărut necesitatea de a avea prevederi legislative care să vizeze componente cheie ale acestuia, precum sînt documentul și semnătura electronică. Astfel, cu referire la documentul și semnătura electronică, în RM, au fost emise succesiv mai multe legi. În noiembrie 2004 a intrat în vigoare Legea cu privire la documentul electronic și semnătura digitală, care stabilea bazele juridice de utilizare a documentelor electronice și de aplicare a semnăturii digitale în spațiul digital al RM [9]. În vederea alinierii la necesitatea aplicării Directivei nr. 1999/93/CE a Parlamentului European și a Consiliului din 13 decembrie 1999 privind un cadru comunitar pentru semnăturile electronice [4], în aprilie 2015 legea respectivă a fost abrogată și a intrat în vigoare **Legea cu privire la documentul electronic și semnătura digitală, care la rîndul său a fost abrogată în anul 2022 [10], concomitent a intrat în vigoare Legea privind identificarea electronică și serviciile de încredere**. Aceasta, din urmă, transpune prevederi ale Regulamentului (UE) al Parlamentului European și al Consiliului privind identificarea electronică și serviciile de încredere pentru tranzacțiile electronice pe piața internă [12].

Dezvoltarea spectrului și incidenței, în societate, a serviciilor de comunicații a impus necesitatea de a asigura accesul liber, precum și calitatea acestora, la prețuri rezonabile. În acest sens, în martie 2008, a intrat în vigoare Legea comunicațiilor electronice. Respectivul act normativ, de-a lungul timpului, a avut mai multe modificări și completări, care transpun prevederi ale mai multor Directive a Parlamentului European și a Consiliului [11]. Drept entități ale statului vizate de legea respectivă *Ministerul Dezvoltării Economice și Digitalizării, Agenția Națională pentru Reglementare în Comunicații Electronice și Tehnologia Informației*.

Oportunitatea oferită de implementarea tehnologiei informației și comunicațiilor în diferite domenii de activitate a fost vizată normativ de către RM încă de la începutul constituirii ca stat suveran și independent. În acest sens, în prim plan, se plasează cadrul normativ bazat adoptat de către Parlamentul RM. Astfel, în cadrul unităților de curs necesită a fi cercetate aspecte ce se conțin în mai multe legi, care sînt în vigoare și care acoperă spectrul aspectelor asociate procesului de „digitalizare” a societății, inclusiv „e-guvernarea”. Drept repere sigure, în acest sens, servesc și prevederi ale diferitor acte normative de nivel european precum sînt directivele și regulamentele UE. Amploarea cu care cadrul normativ național este adaptat „extinderii spațiului informatic” este elucidat de numeroasele entități/structuri ale statului care au atribuții în implementarea politicii statului în domeniul tehnologiei informației și comunicațiilor. Un efect juridic important al integrării spațiului informatic cu celelalte domenii este că, prin lege, din perspectiva puterii juridice și puterii doveditoare comunicarea electronică se echivalează cu informația în formă scrisă.

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OKUL DIŞI TEKNOLOJİK VE BİLİMSEL EĞİTİM KURUMLARI-BİLİM TÜRKİYE ÖRNEĞİ

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Abstract. Science Turkey is a community affiliated with the T3 Foundation, especially children and young people throughout the country which aims to bring the national technology move to all segments of society through science centers and works to raise awareness in society about science and technology. We have workshops with a total of 7 different themes, although in some 5 science centers. In these workshops, courses are given in the fields of mathematics, natural sciences, astronomy, technology, agricultural technologies and entrepreneurship. We have some science centers with technology exhibitions and a planetarium.

We aim to increase society's interest in science and technology by supporting the national technology move with the work we carry on in science centers.



Keywords: Science Türkiye, Science Üsküdar, T3 Foundation, Out-of-School Education, Scientific Education.

Okul Dışı Eğitim:

- 1987 yılında Lauren Resnick tarafından Amerikan Eğitim Araştırmaları Birliğinin başkanlığını yaptığı dönemde ortaya attığı bir kavramdır.
- Öğrencilerde öğrenme güçlüklerini ortadan kaldırmak, öğrencilerin becerilerini geliştirmek, toplumsal bağları güçlendirmek ve eğitime olan ilgiyi arttırmak hedefler arasındadır [4].

Bilim Türkiye

Bilim Türkiye, bilim merkezleri aracılığıyla milli teknoloji hamlesini toplumun her kesimine ulaştırmayı hedefleyen ülke genelinde öncelikle çocuklar ve gençler olmak üzere bilim ve teknolojiyle ilgili toplumda farkındalık oluşturmaya çalışan T3 Vakfına bağlı bir topluluktur [3].

Hedef Kitle

Atölye içerikleri 6-14 yaşları arasındaki öğrencilerin hazır bulunurluk ve bilişsel düzeyleri dikkate alınarak hazırlanmıştır. Ancak yaptığı farklı etkinlik ve atölyelerle toplumda 7 den 70'e herkese ulaşmayı hedeflemektedir.

Bilim merkezlerimiz okullarda teorik olarak öğrendiğimiz bilgilerin günlük hayattaki karşılığını insanlara bilim ve teknoloji ışığında gözlemlene fırsatı sunmaktadır.

Atölye eğitimleri, etkinlikler, veli-çocuk atölyeleri, yarışmalar, tematik atölyeler vs. gibi farklı alanlarda yaptığı çalışmalarla toplumun her kesimine kendi ilgi alanları doğrultusunda bilim ve teknolojiyle ilgili bilgi edinme imkânı sağlamaktadır.

Atölye Eğitimleri: Atölye eğitimlerimiz genellikle öğrencinin her atölyeye ayda bir kez birer saat faydalanacağı şekilde planlanmıştır. Atölyelere gelen öğrencilerimize 1 saatte çok yoğun bir eğitim veremeyeceğimizin farkındayız. Zaten amacımız eğitimlerimizle öğrencilerin aklında bilim ve teknolojiyle ilgili olumlu duygular oluşturmak. Onlara ışık tutmak ve ileride yapabilecekleri çalışmalarla ilgili heveslenmelerini sağlamak. Tamamen ücretsiz olarak gerçekleştirdiğimiz bu eğitimlerdeki amacımız topluma fırsat eşitliği sunmak ve ilgili olan öğrencilerin zihinlerinde gelişime açık bir kapı aralamaktır.

Tematik Atölyeler: Atölye temalarına uygun özel gün ve haftalarda bilim merkezlerimiz o güne uygun atölyeler yaparak toplumu bilinçlendirmeyi ve o günlerle ilgili bilimsel ve teknolojik çalışmalar yapmayı amaçlamaktadır.

Veli – Çocuk Atölyeleri: Veli-çocuk atölyeleri öğrencilerimizin velileriyle beraber çalışmalarını ve veli- çocuk arasındaki iletişimi kuvvetlendirmelerini sağlayacak ortak çalışmalar yapmalarını hedeflemektedir.

Yarışmalar: Akıl ve zekâ oyunları turnuvası, kodlama turnuvası, bilgi yarışmaları vs gibi yarışmalarla öğrencilerimize analitik düşünme becerisi geliştirmeyi, grup çalışmasının önemini anlamayı ve neden sonuç ilişkisi kurmalarını sağlamayı hedefliyoruz.

Atölyelerimiz

Bilim Türkiye, öğrencilere her ay farklı temalardaki atölyelerden birer saat faydalanacak imkan sağlamaktadır. Öğrenciler içerikleri daha önceden yayımlanan 7 farklı atölyeden istediklerine kayıt oluşturup eğitim alabilirler. Uzun dönem eğitim almak isteyen öğrenciler paket program dediğimiz atölyelerden faydalanabilirler.

Atölyeler hafta içi okullardan gelen öğrencileri hafta sonu bireysel kayıt yapan öğrencileri ağırlamaktadır. Atölye içerikleri 6-8 yaş, 9-11 yaş ve 12-14 yaş olmak üzere üç gruptan oluşmaktadır.

Atölye içerikleri o yaş grubundaki öğrencilerin bilişsel düzeyi dikkate alınarak hazırlanmıştır. Atölye eğitimlerindeki amaç öğrenciyi bir sınava hazırlamak değil okulda ya da farklı bir yerde öğrendiği bilgileri uygulamalı olarak olabildiğince somut bir şekilde deneyimlemesini sağlamaktır.

Teknoloji Atölyesi

Teknoloji Atölyeleri, öğrencilere kodlamanın temeli sayılan algoritmik düşünmeyi öğretmek kodlama becerilerini geliştirmeyi hedeflemektedir. Bunun yanı sıra çeşitli eğitim setleri kullanarak



robotiğin temelini oluşturan elektronik devreleri ve mekanik sistemleri bütüncül olarak kavramalarına olanak sağlamaktadır.

Proje tabanlı öğrenme yönteminin benimsendiği atölyelerimizde, öğrencilere üretim odaklı düşünme alışkanlığı da kazandırılmaktadır. Öğrenciler atölyelerde 3B tasarım, 3B yazıcı kullanımı, animasyon yapımı, mobil uygulama geliştirme, mini ev robotlarının yapımı, yenilenebilir enerji teknolojileri gibi çeşitli konuları içeren projelere dâhil olmaktadır [1].

Girişim Atölyesi

Sürekli gelişen, rekabetçi ve küresel dünyada yeni fikirler geliştirmek, risk alıp iş kurmak kaçınılmaz bir zorunluluktur. Bu zorunluluğu yerine getirebilmek için **yenilikçi, öngörülü, lider ve cesur** girişimciler yetiştirilmelidir.

Girişimcilik Atölyesi'nde de küçük yaş grubu öğrencilere girişimcilik üzerine **fikir geliştirme, inisiyatif alma, risk analizi, maliyet hesabı ve pazar araştırmaları** gibi konularda eğitimler verilerek geleceğin girişimcilerini yetiştirmek hedeflenmektedir [1].

Tasarım Atölyesi

Birçok bilimsel çalışma, sanat eğitiminin öğrencilerde **yaratıcılık, akademik performans, motor beceriler, özgüven, sebat ve odaklanma** becerilerini artırdığını göstermektedir. Sanatla uğraşan kişiler iç dünyasına doğru bir yolculuğa çıkarlar.

Tasarım Atölyeleri, öğrencilerin yaratıcılıklarını ortaya çıkararak üretmenin zevkini tadabilecekleri birçok farklı atölye çalışması içermektedir. Öğrenciler **tezhip, ebru, minyatür** gibi geleneksel Türk sanatlarının yanında **taş boyama, tel bebek, seramik, boyama ve dokuma atölyesi** gibi birçok farklı alanda tasarımlar yaparak kendilerini ifade etme fırsatı bulurlar [1].

Doğa Bilimleri Atölyesi

Doğa Bilimleri Atölyeleri, doğanın dili olan fizik, kimya, biyoloji gibi temel bilimleri içeren atölye içerikleriyle öğrencilere **doğayı bilimsel bir gözle okuma yeteneği** kazandırmayı hedefler.

Öğrenciler **tohum atölyesi, kuş atölyesi, evimizdeki kimya atölyesi, kristaller atölyesi, devrilmeyen yapılar atölyesi, çok enerjiksiz atölyesi** gibi birçok atölye eğitimine katılarak eğlenceli deneylerle gözlemleyerek, keşfederek ve sorgulayarak bilimin eğlenceli yönüyle tanışır [2].

Astronomi, Havacılık ve Uzay Atölyesi

Astronomi, Havacılık ve Uzay Atölyeleri; öğrencilerin madde, temel kuvvetler, aerodinamik ve aviyonik sistemler ile ilgili bilimsel prensipleri eğlenceli deneylerle keşfetmesini hedeflemektedir.

Atölyelerde galaksiler, güneş sistemi, ötegezegenler, takımyıldızlar, uzay araçları ve uzayda yaşam gibi temalara ilişkin konular interaktif ve sorgulama temelli yöntemlerle işlenmektedir. Planör, paraşüt, uçak, insansız hava araçları, helikopterler ve roketler gibi çeşitli hava araçlarının çalışma prensipleri simülasyonlar ve modellemeler aracılığıyla keşfedilmektedir [2].

Tarım Teknolojileri Atölyesi

Gelişen teknolojiyle birlikte dünyada birçok değişim ve dönüşüm yaşanmaktadır. Yapılan çalışmalar, bu dönüşümün çevresel sorunları da beraberinde getirebileceğini öngörmektedir.

Tarım Teknolojileri Atölyeleri, sürdürülebilir bir dünya ve ekonomi için doğayı seven ve koruyan nesiller yetiştirmeyi hedeflemektedir.

Bu hedef doğrultusunda, öğrencilerde **zirai bilgi birikimi** oluşturmaya ve öğrencilerin çeşitli **yazılım, otomasyon çalışmalarının zirai faaliyetlere entegrasyonu** üzerine projeler geliştirmelerine yönelik eğitim içerikleri sunulmaktadır [1].

Matematik Atölyesi

Matematik Atölyeleri, öğrencilerin matematikle ilgili varsa olumsuz düşüncelerini değiştirmeyi günlük hayat problemlerine kendi çözümlerini geliştirecek becerileri kazandırmayı ve matematikle ilgili bilimsel ve teknolojik gelişmelerden öğrencileri haberdar etmeyi amaçlamaktadır.

Atölye içerikleri teorik bilgiyi uygulamalı ve eğlenceli yollarla öğrenciye kazandırmayı hedeflemektedir. Matematik eğitimi simülasyonlar, dijital uygulamalar, teknolojik aletler ve çeşitli matematiksel materyallerle desteklenmektedir. Öğrencilerin mobil uygulamalar ve üç boyutlu modellemelerle geometrik ve cebirsel ifadeleri somutlaştırarak zihinlerinde anlamlı hale getirmeleri sağlanmaktadır.



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УДК 374.1

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OKUL DIŐI EĐİTİMDE STEM EĐİTİM ÖRNEĐİ- GEOMETRİK CİSİMLER VE AÇILIMLARI

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Abstract. It is a coordination office that provides services for the benefit of society, affiliated with Bilim Turkey T3 Foundation. The trainings written for this coordinatorship are prepared according to the 5E Model. The course content written below has been prepared as STEM training in accordance with the 5E model. Students asked to first explore the expansion of geometric objects and then design and combine them with a 3D pen. After combining the materials they have prepared, students have the opportunity to control them and assimilate the subject.

While preparing this lesson plan, the aim is to teach students the concepts of 3D and 2D with the materials they have prepared themselves.

Keywords: Out-of-School Mathematics Education, Science Turkey, Stem Education, 5E Model, Geometric Objects.

STEM, fen, teknoloji, matematik ve mühendislik alanların iç içe geçerek kullanıldığı, müfredatlar arası bir yaklaşımdır. Öğrenciler fen ve matematik dersinde öğrendiklerini günlük hayatta mühendislik ve teknoloji ile birlikte kullanmasını amaçlar.

Dünya'da teknoloji ve inovasyonda ilerlemeyi amaçlayan birçok ülkede STEM eğitimi ve STEM iş gücü üzerinde giderek daha fazla durmaktadır. Eğitim sistemleri de buna göre revize edilmektedir. ABD, Japonya, Kore, Almanya gibi ülkeler, STEM eğitimi için önemli bütçeler ayırmakta, STEM merkezinin yaygınlaştırılması sağlanmakta ve STEM okulları açılmaktadır [12].

Yaş Grubu: 9-14 Yaş

Konu: GEOMETRİK CİSİMLER

Süre: 2 Saat

Hazır Bulunuşluk: 2 boyutlu şekilleri ve 3 boyutlu katı cisimleri bilir.

Beceriler:

Grup Çalışması, modelleme, tahmin etme

Kazımlar: 3 boyutlu cisimlerin açılımını öğrenir. 2 boyutlu şekilleri birleştirerek 3 boyutlu hale getirebilir. Boyutlar arasındaki farkı ve ilişkiyi kavrar. 3 D kalem kullanmayı öğrenir.



Öğretmene Hazırlık Notları:

- Derste 3D kalem kullanılacaktır. Flament değiştirmek zor olacağı için cisimlerin tek renkle oluşturulması gerekir. Şekiller düz bir masanın üstünde yapılmalıdır. Plastik malzemenin üstünde yapılan şekiller malzemeye yapışabilir.
- Öğrenciler ilk kez 3D kalem kullanıyor olabilir. Bu sebeple verimli bir ders olması için dersin en fazla 10 öğrenciyle işlenmesini tavsiye ediyorum.
- Bu derste amacımız cisimleri 3D kalem kullanarak öğrencilerin oluşturmasını sağlamaktır. Bu sebeple katı cisimlerin tüm özelliklerini anlatmaya gerek yoktur. Cisimlerin isimlerini söyleyip açılımlarını öğrencilere anlatmamız yeterlidir.
- Aşağıdaki linklerden 3D kalemle ilgili bilgi alabilirsiniz [10, 11].

Atölye Hazırlık Listesi

- Materyalleri hazırlama.
- Bilgisayar ve projeksiyon vb. donanımları hazırlama.
- Gerekli program veya videoları bilgisayara indirme.
- Sunum dosyası hazırla.

Ders Materyalleri:

Tablo1. Ders Materyalleri

Malzeme	Adedi	Malzeme	Adedi
3D kalem	Her öğrenciye 1 tane	Makas	Her gruba 1 adet
3 boyutlu şekiller ve açılımları	2 set Kaynakçada belirtilen linkten ulaşabilirsiniz	10'luk bloklar	Her grup için üret kısmındaki fotoğrafta bulunan 1 set
Baloncuk yama oyuncağı	1 adet	Kalem	Her öğrenciye 1 adet
Cetvel	Her öğrenciye 1 adet		

Genel Bakış

- 1)Harekete Geç: Öğrencilerin dikkatini çekmek için baloncuk yaparak derse girilir ve dersin içeriğine ulaşmamızı sağlayan sorular sorulur.
- 2)Keşfet: Öğrencilere 3 boyutlu cisimler ve 2 boyutlu açılımları verilerek aralarındaki ilişkiyi kendilerinin anlaması sağlanır.
- 3)Üret: Boyut kavramı öğrencilere anlatılarak. Cisimler ve açılımları arasındaki ilişki pekiştirilir.
- 4)İlerlet: 3D kalemle bir cismin 2 boyutlu açılımı yapıp birleştirilerek 3 boyutlu hale getirilir.
- 5)Değerlendir: Yapılan quizle kazanımların sağlanıp sağlanmadığı anlaşılmaya çalışılır.

Uygulama

1.Adım: Harekete Geç

- Öğretmen derse baloncuk yapma oyuncağıyla baloncuk yaparak gelir.
- Öğrencilerin dikkatini çeken öğretmen öğrencilere aşağıdaki soruları sorar.
- Baloncuklar hangi geometrik şekle benziyorlar? *Küre*
- Küre kaç boyutlu bir cisim?
- Peki çember yerine kare bir şekille baloncuk yaparsam küp şeklinde mi olur? *Hayır*
- Küp ve kare arasındaki ilişki nedir?

- Küp kaç boyutludur? Kare kaç boyutludur?
- 2 boyutlu şekillere ve 3 boyutlu cisimlere örnekler verebilir misiniz?

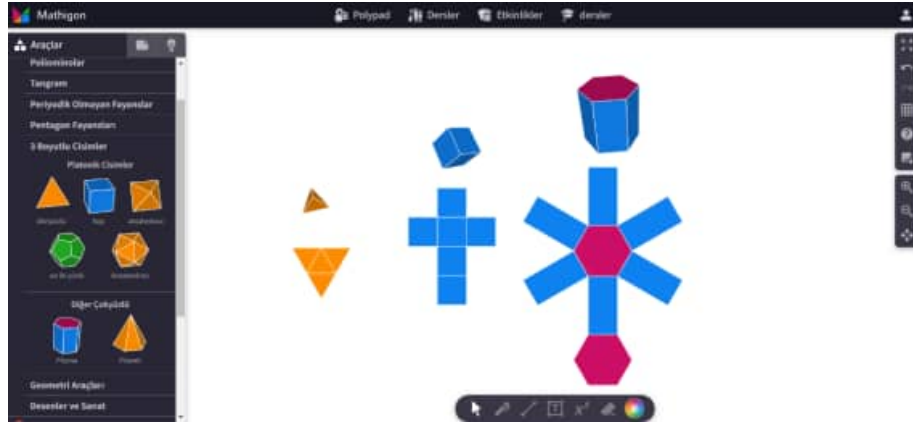
2. Adım: Keşfet

Öğrenciler soruları cevapladıktan sonra öğrencilerden 5 kişilik gruplar oluşturmalarını isteriz. Her gruba 1 set 3 boyutlu cisimler ve açılımları verilir. İncelemeleri istenir. Aşağıdaki malzeme kullanılabilir.



Resim 1. Geometrik Cisimler

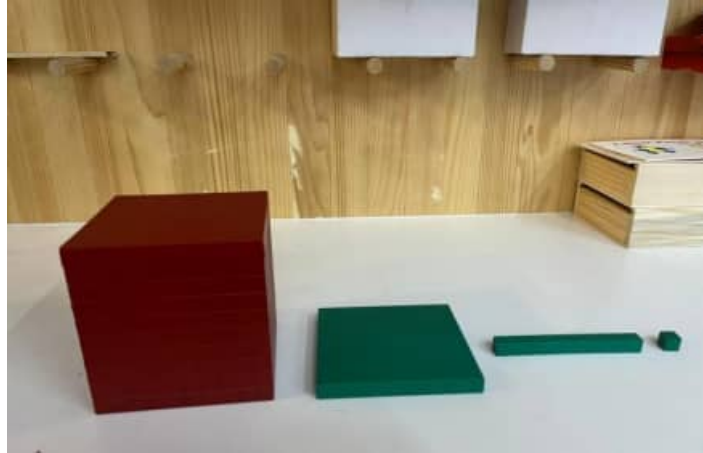
Öğrenciler serbest bırakılır ve ellerindeki materyali incelemeleri istenir. Linklerden setlerde olmayan cisimler ve açılımları incelenir [2],[4].



Resim2. Mathigo Geometrik Şekillerin Açılımı [5, 6]

3.Adım: Üret

Boyut kavramını öğrencilere daha iyi anlatmak için 10 luk küpler kullanılır.



Resim 3.Boyut Kavramı

Yukarıdaki materyal ile öğrencilere en, boy ve derinlik anlatılır.

“Katı cisimleri en genel haliyle belli bir hacme sahip olan şekiller olarak tanımlayabiliriz. Bir nesnenin, cismin bütün boyutlarıyla birlikte uzayda ya da bir kap içinde doldurduğu, kapladığı yere hacim denir. Bir şeklin hacminin olması için en, boy ve derinlik bileşenlerinin hepsinin birden var olması yani üç boyutlu olması gerekir.

Sadece boy varsa 1 boyutlu, en ve boy varsa 2 boyutlu, en boy ve derinlik varsa 3 boyutludur.”

Öğretmene Not:

- 4 materyalde aslında 3 boyutludur. Öğrencilere hepsinin aslında en boy ve derinliğe sahip olduğunu ancak bizim boyutları gözümüzde canlandırabilmek için bu materyalleri kullandığımızı belirtmemiz gerekir.

- En küçük küp noktadır ve nokta boyutsuzdur.

- Çubuk uzunluğu temsil eder ve 1 boyutludur.

- Karenin eni ve boyu vardır. 2 boyutludur.

- Küpün eni, boyu ve derinliği vardır. 3 boyutludur [1].

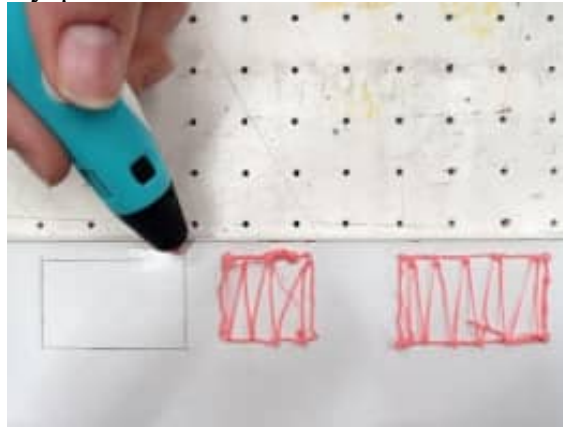
Bu bilgiler öğrencilere verildikten sonra resimdeki bloklar öğrencilere dağıtılır ve kendilerinin incelemesi istenir. Her gruba fotoğraftaki bir setin verilmesi yeterlidir.

4.Adım: İlerlet

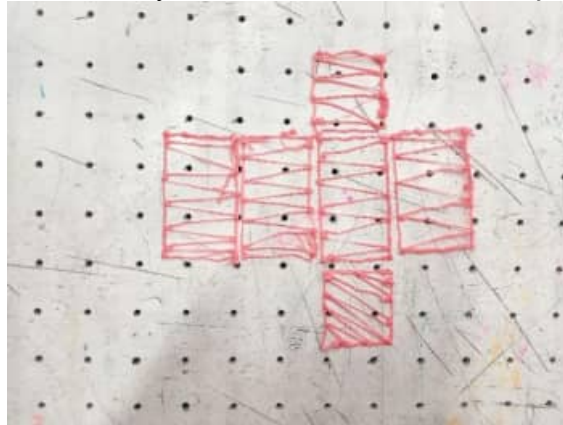
Boyut kavramı, cisimlerin kapalı ve açık halleri anlaşıldıktan sonra öğrencilere 3d kalem kullanımı anlatılır. Küp, üçgen prizma ya da kare prizma yapmaları istenir.

- Kalem kullanımı kılavuzunda mevcuttur.
- Öğrenciler kare prizma yapmak için önce 4 tane dikdörtgen ve 2 tane kare yaparlar.
- Şekilleri yapmak için masanın üstüne uygun ölçülerde kare ve dikdörtgen şekli çizilir.
- Kalemle çizilen şekiller takip edilerek kare prizmanın yan alanları oluşturulur.
- Yapılan şekiller kare prizmaya uygun şekilde kalem kullanılarak birleştirilir.

Diğer cisimlerde aynı şekilde yapılabilir.



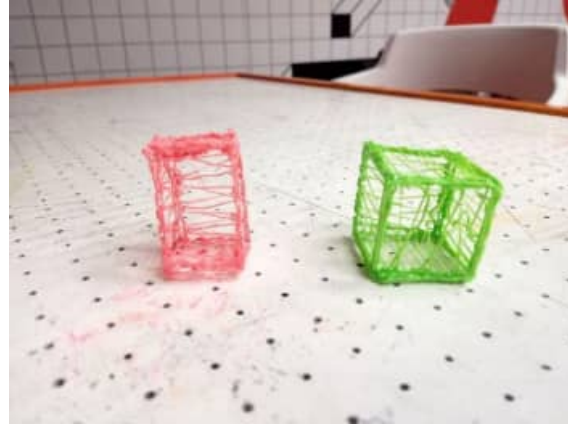
Resim 4. 3Boyutlu Kalem Kullanımı 1.Asaşama



Resim 5. 3Boyutlu Kalem Kullanımı 2.Asaşama



Resim 6. 3Boyutlu Kalem Kullanımı 3.Asaşama

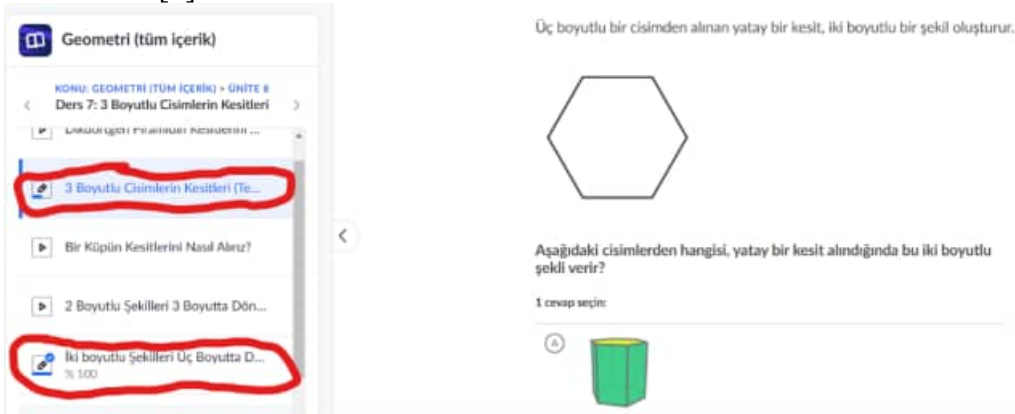


Resim 7. 3Boyutlu Kalem Kullanımı 4.Asaşama

Şekilleri yaptıktan sonra etraftaki çıkıntılar makasla temizlenir.

5.Adım: Değerlendirir

Öğrencilerin konuyu anlayıp anlamadığını öğrenmek için aşağıdaki linkte bulunan quizler yapılır.[9] Fotoğrafta işaretli olan yerler öğrencilere sorulur. Soruların çözümleri görsel olarak soru ekranında bulunmaktadır [3].



Resim 8. Değerlendirme Testi

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УДК 004.031.4

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MANAGEMENT SYSTEM OF EDUCATIONAL ACTIVITIES OF THE PROFESSIONAL DEVELOPMENT FACULTY

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Abstract. Article deals with the relevance of developing an information system of course management at the Faculty of Professional Development and Retraining. The author analyzes the main requirements to such a system, and also offers variants of its implementation.

Keywords: educational management system, information system, professional development courses.

The modern labor market dictates strict requirements to specialists. Professional development, as a type of professional training, is a necessary element in the process of education of a specialist. According to the legislation of the Republic of Belarus, a specialist should undergo advanced training at least once every five years. At the faculty of advanced training and retraining it is possible not only to improve one's professionalism, but also to acquire new theoretical knowledge and practical skills, which will further contribute to the realization of the employee's potential [1].

Learning management systems allow you to collect and analyze learning data. This helps teachers and administrators to track students' progress and make necessary changes in the learning process.

These systems can be used in various educational institutions, including schools, colleges, universities and others. They are an effective tool for improving the quality of education and ensuring that learners meet modern requirements.

The developed educational activity management system allows training participants to access materials and assignments at any time and from any place, which increases the flexibility of training. In addition, the system can be used for enrollment in online courses, which allows to attract students from different regions and countries, as well as use it to automate learning management processes, which increases the efficiency of the faculty.

There are two main roles for working in the system: administrator and user. The administrator role is available only to the faculty methodologists and gives the opportunity to add, modify and delete courses, as well as to view and edit information about users. The user role is available to

everyone working with the system and gives the opportunity to familiarize with the information about courses and faculty work, as well as to apply for a course.

Figure 1 shows a state diagram of operation of the information system in the role of the user:

- «Initial» state: this is the starting state of the system, when the system is ready for operation;
- «Main page» state: the user is taken to the main page of the system. Here the user can select the functions available to him/her, such as viewing available courses and authorization in the personal account;
- «Authorization» state: the user must authorize before applying for a course. In this state, the user enters their credentials;
- «View available courses» state: the user can view a list of available courses with description and information about the schedule and instructors;
- «View course information» state: the user can view the schedule of classes for the selected course. The system displays information about the date, time and location of classes;
- «Course registration» state: the user can select the courses he/she wants to enroll in and send a training application. In this state the system accepts the application for training, then the user who sent the application is contacted by the faculty methodologist and the question of enrollment in the course is solved. Then the methodologist marks the application processing status in the system, and the user can familiarize himself with the results of the application in his personal cabinet;
- «Logout» state: the user can log out of the system by terminating the session.

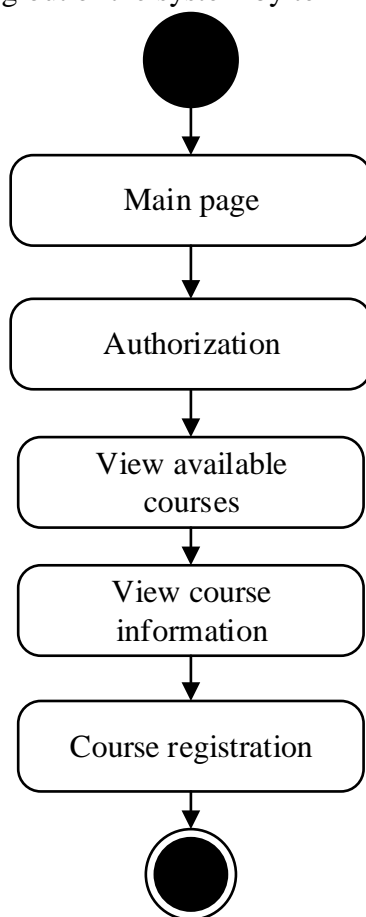


Figure 1. Diagram of information system operation states for the user

На рисунке 2 представлена диаграмма состояний работы информационной системы в роли администратора:

- «Initial» state: this is the starting state of the system, when the system is ready for operation;
- «Authorization» state: the administrator must authorize before using the system. Here the administrator enters his credentials;



– «Main Menu» state: after successful authorization, the administrator enters the main menu of the system. Here the administrator can select the functions available to him, such as managing courses, viewing student records and registering students for courses;

– «Course Management» state: the administrator can add, edit and delete course information. In this state, the administrator can view the list of available courses, add a new course, edit existing courses and delete irrelevant courses;

– «View Student Records» state: the administrator can view information about students registered for courses. Here the administrator can view the list of students, their contact details and details about their selected courses;

– Logout state: the administrator can log out of the system by terminating the session.

The educational activity management system provides the following functionalities: convenient user interface, posting information about courses, including description, duration, start and end dates, information about instructors, registration and authorization for students and instructors, viewing their courses, enrollment in courses, uploading course materials by instructors.

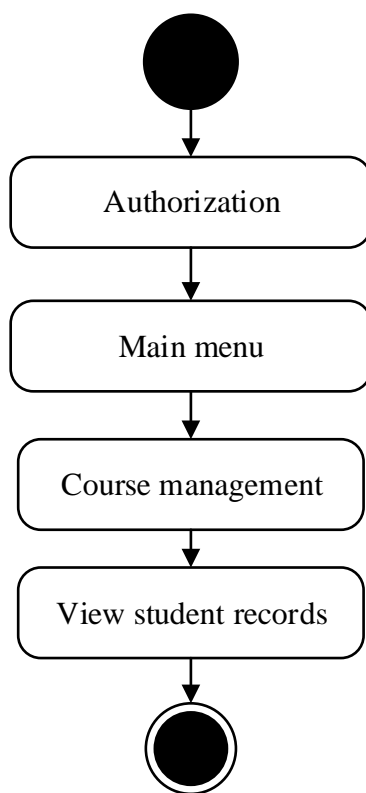


Figure 2. Diagram of information system operation states for the administrator

The first step in working with the educational activity management system is to enter the courses into the database, for this purpose the user needs to log in to the site as an administrator.

To view the added courses the user needs to go to the corresponding page where they can be sorted by one of the selected categories:

- general courses;
- telecommunication;
- postal service;
- information technology;
- Cisco courses;
- Huawei courses;
- Mikrotik courses;
- retraining of specialists.



The developed system is based on a two-level client-server architecture, according to which the system contains two parts: client and server. The client-side code is executed in the browser and primarily involves styling of user interface components. Programming the system on the server side mainly involves selecting the content that is returned to the browser in response to requests.

When a user enters data for a search, a query is sent to the server, the server queries the data in the database. The database generates a response, sends it to the server, which in turn sends it to the client in the form of an HTML page.

For the development of the server part of the information system the Python programming language (using the Django framework) was used, for the client part the hypertext markup language HTML, the language for describing the appearance of CSS, the programming language JavaScript were used [2].

The system of management of educational activities of the Faculty of Professional Development is an important tool for modern education and contributes to improving the quality of education, accessibility of education, also allows students and teachers to get instant access to courses and their schedules, provides an opportunity to view their descriptions and apply for enrollment in the course.

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АНАЛИЗ ТЕХНИЧЕСКИХ И ПРОГРАММНЫХ РЕШЕНИЙ «УМНОГО ГОРОДА» ДЛЯ СИСТЕМНОГО ПЛАНИРОВАНИЯ ИХ РАЗВИТИЯ И МАСШТАБИРОВАНИЯ

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Abstract. One of the main concepts of «smart cities» is the collection of information about the situation in the city based on measuring instruments, sensors, cameras, communications and data storage systems, including at energy and engineering facilities. The task of increasing the efficiency of resource consumption and reducing the negative impact on the environment determines the need



for operational monitoring of the situation at housing and communal services facilities, maintaining accurate records of energy resource consumption, and implementing real-time management.

Keywords «Smart cities», information technology, sensors, remote readings, wireless energy efficient technologies.

В Республике Беларусь, начиная с 2019 года, на фоне развития технологий «умных городов» и успешного решения с их помощью различных городских проблем инициирована работа по комплексному и последовательному цифровому региональному развитию [1]. В этом же году разработана и утверждена Типовая концепция развития «умных городов» в Республике Беларусь. За прошедшие годы Министерством связи и информатизации Республики Беларусь проведена масштабная работа по разработке и инициированию принятия ряда нормативных правовых актов, направленных на цифровое развитие Беларуси, включая региональное цифровое развитие.

В соответствии с принятыми нормативными правовыми актами предусмотрено выполнение мероприятий, направленных на практическое решение задачи по повышению уровня комфорта и безопасности жизнедеятельности населения, расширения равных прав населения по гендерному признаку посредством создания и развития типовых сервисов на базе региональной государственной типовой цифровой платформы «Умный город (регион)» в различных сферах (с последующим их масштабированием), включая жилищно-коммунальное хозяйство, учет и распоряжение имуществом, строительство и территориальное планирование, управление объектами городской и транспортной инфраструктуры, здравоохранение, образование, обеспечение общественной безопасности, мониторинга окружающей среды, организации участия граждан в управлении городом, развития культуры, туризма и в целом сферы услуг [1].

Предусматривается, что в результате цифрового регионального развития будет обеспечено построение современной, отвечающей технологическим вызовам системы управления регионами, оказано непосредственное влияние на повышение качества жизни граждан.

В настоящее время государственными и частными компаниями Республики Беларусь разработан ряд технических и программных решений «умного города», которые реализуются в городах Беларуси. К ним относятся платформенные решения, обеспечивающие управление разнородными распределенными объектами, сбор и учет информации о состояниях объектов управления, различные системы диспетчеризации расхода и учета ресурсов, системы управления дорожным движением, цифровые решения для управления отходами, освещением, доступа к государственным и частным организациям из одного приложения, обеспечения видеонаблюдения и др.

За прошедшие 5 – 10 лет государственными и частными компаниями реализован ряд проектов «умного города». В большинстве своём это проекты, связанные с диспетчеризацией учета и расхода энергоресурсов: электроэнергии, воды, газа, тепла, а также различные решения для управления отходами, освещением, видеонаблюдением и др.

Одним из наиболее широко используемых решений на первом этапе построения «умного города», является внедрение системы диспетчеризации расхода энергетических ресурсов. Исследование различных решений для диспетчеризации расхода энергоресурсов оптимально проводить в городах среднего размера с населением 80-150 тыс. человек, поскольку в таких населенных пунктах можно выполнить наиболее полный охват жилищного и городского фонда как единой экосистемы, в отличие от крупного города, где система диспетчеризации расхода энергоресурсов может быть составной частью более крупной сети, что не позволит точно оценить ее эффективность. В малых же населенных пунктах система диспетчеризации расхода энергоресурсов может быть реализована как частное решение для конкретных условий, что не даст возможности оценить полную картину эффективности использования такой системы.

В рамках совершенствования городской инфраструктуры, деятельности ЖКХ, реализуется ряд проектов белорусских разработчиков. К ним относятся следующие технические решения: «Система автоматического сбора, хранения, анализа и отображения данных для коммерческого и технологического учета потребления холодной и горячей воды, газа, тепловой и электрической энергии в жилых, административных или производственных зданиях» (ООО «ИОТАНС»); «Получение показаний с групповых и индивидуальных приборов учета энергоресурсов» (ЗАО «ИнделКо»); «Комплексная система автоматизированного дистанционного учета ресурсов» (ООО «Неро Электроникс») и некоторые другие. В процессе формализации технических и программных решений «умного города» определено назначение таких систем, решаемые задачи и выполняемые функции, представлена схемная реализация решения, описаны применяемые технологии, установлена степень масштабирования. Рассмотрим подробнее:

1. Компания ИОТАНС специализируется на построении эффективных систем дистанционного съема данных с приборов учета, различных датчиков с последующей их визуализацией и обработкой на облачной платформе, что позволяет вести коммерческий и технологический учет потребления холодной и горячей воды, газа, тепловой и электрической энергии в жилых, административных или производственных зданиях. Также может проводится контроль наполненности контейнеров твердых бытовых отходов, работа с климатическими датчиками, датчиками проникновения и датчиками парковки и освещения.

Оборудование подключается к системе дистанционного съема показаний, которая состоит из следующих компонентов:

- приборы учета;
- устройства, передающие данные от приборов учета на приемный шлюз (базовая станция, или БС);
- сеть мобильного оператора либо независимая сеть базовых станций;
- платформа сбора и хранения данных ИОТАНС;
- диспетчерская служба;
- Телеграм-бот Myiotansbot.

В качестве базы для функционирования всей экосистемы используются беспроводные энергоэффективные технологии дальнего радиуса действия – LoRaWAN и NB-IoT. Они имеют схожий принцип работы, при котором информация от приборов учета поступает сначала на базовую станцию, обеспечивающую канал связи между оконечными устройствами и сервером. Далее в зашифрованном виде информация передается на сервер и затем конечному пользователю – в интерфейсе личного кабинета на платформе и в бесплатном Телеграм-боте Myiotansbot (рисунок 1).

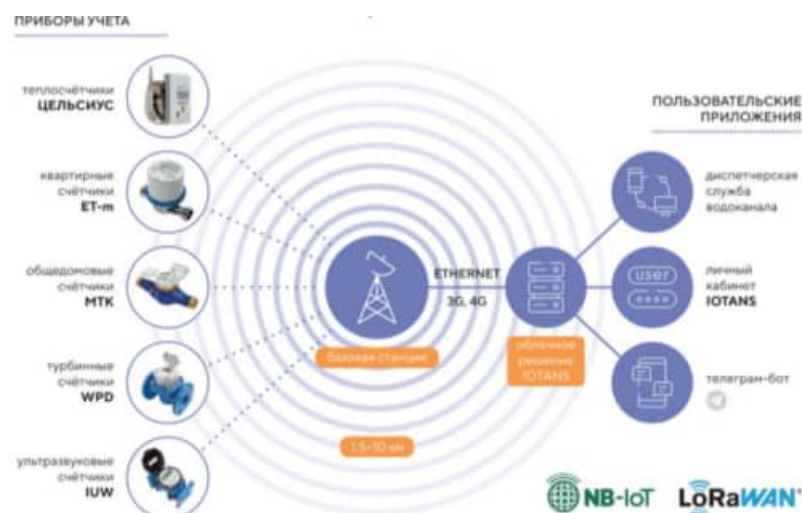


Рисунок 1. Схема работы системы дистанционного съема показаний



Составляющей системы дистанционного съема показаний является платформа для сбора и отображения данных. Платформа ИОТАНС – это IT-продукт, предназначенный для визуализации данных, полученных с различных приборов учета дистанционным способом. Данные на платформу поступают автоматически в виде отдельных пакетов с зашифрованной информацией. Периодичность отправки пакетов данных каждым прибором настраивается по запросу клиента. На платформе информация с различных типов устройств приводится в удобную форму для работы.

В системе можно просматривать показания устройств по их адресам. На платформе доступно и понятно отображаются не только сами показания, но и статус устройств, а также время, когда счетчик присылал последние данные, таким образом пользователь может увидеть состояние устройства и его частоту выхода на связь.

Данные на платформу ИОТАНС поступают автоматически с тех приборов учета, которые подключены к системе дистанционного считывания данных и относятся к определенной учетной записи. На платформе можно фильтровать устройства по их типу: вода, тепло, движение, и т.д. и в один клик получать показания по необходимым приборам учета.

Платформа построена на микросервисах с внешним API, которые предоставляют взаимодействие клиентской части (веб-интерфейса) с платформой; обеспечивают создание и управление пользователями, группами доступа, адресами, отчетами; позволяют проводить интеграцию со сторонними финансовыми сервисами, такими как ЕРИП, 1С, CRM [2].

Сервисами обработки данных являются:

- сервис баз данных – Postgres;
- сервис хранения документов – Elasticsearch;
- сервисы очередей и временного хранения данных – Kafka/Redis;
- платформа микросервисов – Kubernetes;
- сервис обработки/декодирования пакетов данных – ESH;
- интеграция и развертывание инфраструктуры – continuous integration и continuous delivery.

Система обладает достаточным уровнем безопасности и отказоустойчивости и обеспечивает:

- развертывание в нескольких дата центрах, что в случае сбоев на одном из них гарантирует продолжение работоспособности всей платформы в целом;
- резервное копирование данных и их хранение в не зоны действия используемых дата центров, чтобы иметь возможность восстановить работоспособность платформы даже в случае выхода из строя двух дата центров;
- шифрование каналов связи и самих пакетов информационных посылок от конечных устройств.

В настоящее время услугами организации пользуются 73 города в Республике Беларусь, установлено более 180 000 умных устройств, 202 базовые станции в более 410 жилых объектах. Универсальную IoT-платформу ИОТАНС используют организации сферы ЖКХ, умные жилые комплексы (Новая Боровая, Минск-Мир и т. д.), производственные предприятия, использующие систему дистанционного съема данных.

2. Компанией «ИнделКо» было разработано комплексное решение для учёта и диспетчеризации энергоресурсов населенного пункта или городского района – «Система сбора информации телеметрическая (ССИТ) ИНДЕЛ». Решение базируется на широкомасштабном внедрении и использовании автоматизированного учета энергоресурсов (в каждой квартире и в целом по дому), которое может быть интегрировано в существующую биллинговую систему города или района.

ССИТ ИНДЕЛ может взаимодействовать с оборудованием учета энергоресурсов различных производителей, которое имеет цифровой коммуникационный интерфейс с импульсным выходом. Система выполняет управление и параметризацию такого

оборудования, подключение приборов учета энергоресурсов производится с помощью модулей-регистраторов сбора данных.

ССИТ ИНДЕЛ основана на иерархической многоуровневой схеме построения, позволяющей реализовывать территориально распределенные системы для учета потребления энергоресурсов. Пример построения ССИТ ИНДЕЛ для жилого района показан на рисунке 2.

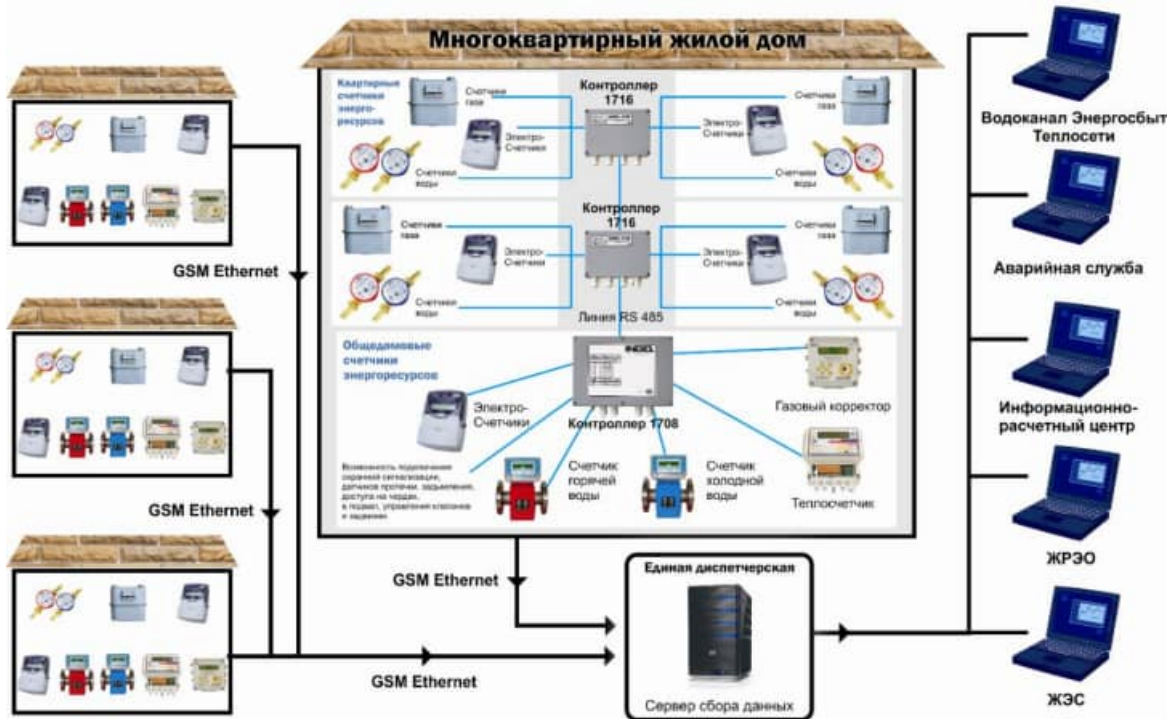


Рисунок 2. Пример построения ССИТ ИНДЕЛ для жилого района

ССИТ ИНДЕЛ может легко масштабироваться: от применения в одном квартале до использования для организации центрального диспетчерского пункта небольшого города или района. Для этого используется иерархический принцип построения системы, состоящий из устройств нескольких уровней.

Нижний уровень (уровень отдельных помещений, квартир) содержит специализированное оборудование (ОСПДК) для сбора показаний с поквартирных приборов учета и выполняет передачу этих показаний на средний уровень.

Средний уровень (уровень дома) содержит специализированное оборудование для сбора и передачи данных (ОСПДД), которое осуществляет сбор данных в автоматическом режиме с ОСПДК, круглосуточный контроль за нештатными (аварийными) ситуациями в энергосистеме здания и передачу этой информации на верхний уровень, осуществляя с ним двухсторонний обмен данными. ОСПДД также постоянно проводит контроль различных датчиков, состояния приборов учета, по командам диспетчера выполняет управление исполнительными устройствами, принимает решение о передаче диагностических или тревожных сообщений в пункт управления.

Верхний уровень (центр управления) как правило реализуется на диспетчерском пункте, где устанавливается терминал, подключенный к ПЭВМ с установленным специализированным ПО. Серверное оборудование диспетчерского пункта (сервер СУБД, сервер ресурсосбытовой организации (РСО), и др.) могут выполнять различные управляющие функции: сбор данных со всех территориально распределенных ОСПДД, обработку полученной информации (хранение, структурирование, агрегирование), анализ данных, формирование команд управления для исполнительных устройств, осуществление информационного взаимодействия с внешними сетями.

В систему ССИТ ИНДЕЛ могут быть добавлены функции телеметрии. Для этого к ОСПДД должны быть подключены специализированные модули телеуправления, которые могут работать как с цифровыми, так и с аналоговыми интерфейсами.

Взаимодействие на всех уровнях иерархической системы происходит с помощью открытых протоколов обмен данными, однако для предотвращения несанкционированного доступа к информации на всех уровнях взаимодействия осуществляется защита данных с помощью специализированного программного обеспечения.

Для взаимодействия оборудования разных уровней между собой и объединения компонентов системы в единое информационное пространство могут использоваться как проводные, так и беспроводные технологии и каналы связи.

На текущий момент оборудование ССИТ ИНДЕЛ широко применяется в большинстве тепловых узлов и газораспределительных пунктов Минска и областных центров Республики Беларусь.

3. Одна из ведущих компаний в Республики Беларусь, которая производит, устанавливает и подключает приборы учета расхода воды с дистанционным съемом показаний, является ООО «Неро Электроникс». Данная компания разработала свою технологию передачи данных от радиомодуля, установленного на приборе учета расхода воды, в базу данных водоснабжающей организации по беспроводному каналу – Nero UNB.

Nero UNB принадлежит к IoT-технологиям последнего поколения и разработана для систем автоматизированного сбора показаний приборов учета. Она обеспечивает возможность использования одной базовой станции для приема и обработки пакетов от сотен тысяч счетчиков, расположенных на значительном расстоянии: до 5 км в городской среде и до 30 км в сельской местности. Являясь узкополосной технологией, она позволяет выстраивать надежные и экономичные системы, которые не зависят от операторов сотовых сетей, полностью контролируются заказчиком и требуют меньше базовых станций, чем широкополосные варианты LPWAN, вследствие ультраузкой ширины канала радиочастотного спектра: всего 50 Гц полосы в эфире, в отличие от 100 и более кГц широкополосных технологий [4]. Схема построения системы дистанционного съема показаний с приборов учета технологией Nero UNB представлена на рисунке 3.

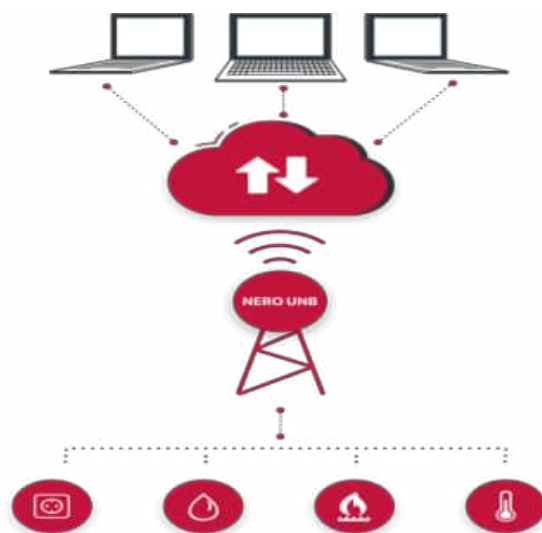


Рисунок 3. Схема построения системы дистанционного съема показаний с приборов учета технологией Nero UNB

Базовая станция является связующим звеном между приборами учета у потребителей и серверами коммунальных служб. Она принимает показания счетчиков воды других приборов учета по технологии радиосвязи LPWAN, а затем передает их на серверы PCO посредством



более традиционных каналов: Ethernet или LTE-соединения. Одна базовая станция может полностью обслуживать микрорайон большого города, обеспечивая прием показаний от сотен тысяч абонентов в радиусе нескольких километров. Это делает ее использование наиболее выгодным решением для крупных проектов.

Доступ к информации о потребленных ресурсах коммунальные службы и обычные жители могут получить онлайн или с помощью специального программного обеспечения.

Устройства NERO работают с использованием разных технологий связи – клиент может самостоятельно выбрать подходящий для себя вариант. Приборы учета могут передавать данные с использованием радиотехнологий Интернета вещей (IoT) класса LPWAN: NERO UNB, Sigfox, LoRaWAN, NB-Fi, NB-IoT, GSM, GPRS, LTE. Полученные при автоматизированном сборе данные могут обрабатываться с использованием различных платформ, а также на платформе, разработанной ООО «Неро Электроникс» – UnicBoard [4].

Проекты ООО «Неро Электроникс» внедрены в следующих городах:

- микрорайон «Черемушки» город Витебск 2350 умных приборов учета воды и система дистанционной передачи показаний в «Витебскводоканал» с помощью базовой станции;
- микрорайон Грандичи город Гродно 9000 умных приборов учета воды;
- в ЖК «Минск-Мир» город Минск 2500 умных приборов учета воды;
- в ЖК «Олимпик-Парк» и ЖК «Монтерей» город Минск 8 жилых домов более 1250 умных приборов учета воды;
- в городе Гомель 2000 умных приборов учета воды и газа.

Проведенный анализ реализованных технических решений «умного города» в административно-территориальных единицах Республики Беларусь показывает, что повышение эффективности расходования энергоресурсов сегодня является одним из приоритетных направлений «умного города», направленных на повышение комфорта населения, развитие бизнеса, повышение эффективности деятельности субъектов хозяйствования. Применение автоматических систем диспетчеризации позволяет:

- осуществлять контроль за всеми приборами, ведущими учет различных коммунальных ресурсов. Системы автоматической диспетчеризации универсальны. Используя современные цифровые технологии можно в автоматическом режиме собирать показания с приборов учета практически всех используемых коммунальных ресурсов;
- осуществлять сбор показаний со всех пунктов учета в автоматическом режиме, что позволяет существенно сократить время и трудозатраты на получение данных. Это также позволяет исключить из процесса учета пользователей коммунальных услуг. Показания со счетчиков клиентов поступают своевременно и имеют высокую степень достоверности;
- взаимодействовать с широким спектром оборудования. Современные автоматические системы диспетчеризации поддерживают большое количество выпускаемых сегодня приборов различного типа и назначения;
- формировать в электронной форме различные отчеты и журналы;
- оповещать потребителей и аварийные службы о неисправностях, поломках, авариях, возникновении нештатных ситуаций;
- планировать и проводить мероприятия по оптимизации потребления ресурсов на основе анализа собранных данных. Система автоматической диспетчеризации является мощным аналитическим инструментом, с помощью которого можно, например, определять величину и время пиковых нагрузок на инженерных сетях и причины этих нагрузок; регулировать режим потребления коммунальных ресурсов, например, изменять температуру теплоносителя в системе;

– создавать карты объектов мониторинга, обновляющиеся в интерактивном режиме. Программное обеспечение некоторых разработчиков позволяет создавать интерактивные карты, которые позволяют визуализировать: объекты, находящиеся под контролем, и их статус; возникновение нештатных ситуаций; повреждение инженерных сетей и систем; отклонение потребления коммунальных ресурсов от нормативных или статистических



значений. Использование интерактивных карт позволяет планировать оптимальные маршруты для направления специалистов и ремонтных бригад;

– выявлять несанкционированное воздействие на работающее оборудование учета и попытки хищения коммунальных ресурсов. Подключение к системе автоматической диспетчеризации позволяет выявить хищение коммунальных ресурсов за счет анализа различных данных, например, разницы показаний общего и индивидуальных приборов учета ресурсов, сравнения показаний приборов за определенные однотипные периоды времени, пропуск или скачок показаний отдельных индивидуальных счетчиков; сигнализации от специальных датчиков о попытке взлома, несанкционированной перепрошивке оборудования, применения посторонних предметов (магнитов) и пр.

На основании анализа рассмотренных проектов установлено, что многие компании разрабатывают схожие по назначению проекты, отличающиеся схемной и технологической реализацией. С одной стороны, это увеличивает конкуренцию между поставщиками систем, позволяя PCO выбрать оптимальное для себя решение. С другой стороны, «привязывает» PCO к конкретному поставщику и используемой им технологии. Решением проблемы может быть разработка универсальной платформы с поддержкой наиболее широко используемых протоколов связи (например, LoRaWAN, NB-IoT) и интерфейсов согласования с датчиками учета ресурсов.

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ЦИФРОВИЗАЦИЯ СФЕРЫ ТУРИЗМА: ПРОБЛЕМЫ И ПЕРСПЕКТИВНЫЕ НАПРАВЛЕНИЯ РАЗВИТИЯ

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Abstract. In the article the author outlines the relevance of digitalisation of tourism, proposes tools for digitalisation of tourism, analyses international experience that can be integrated and implemented in ATU Gagauzia. The author proposes approaches to digitalisation of the tourism sector, which can contribute to attracting more tourists and improving the quality of tourism services in ATU Gagauzia.

Keywords: digitalisation, tourism, augmented reality, artificial intelligence, mobile app, museum, SMART, GPS, students, city, network.



Введение

Цифровизация охватила различные сферы деятельности в мире. Развитие информационных технологий оказали влияние на трансформацию сферы туризма. Претерпели изменение способы доставки информации ввиду развития сети Интернет. Развитие социальных сетей, средств коммуникации, позволяют утверждать, что и туризм, и его продвижение требует нового подхода, который может быть обеспечен посредством информационных технологий. Анализ имеющегося международного опыта по цифровизации сферы туризма может стать основой для разработки комплексной стратегии развития туризма АТО Гагаузии в виду трансформации и информатизации данной сферы во всём мире.

Результаты исследования

В основу настоящего исследования легли:

- Результаты, которые были получены автором будучи членом рабочей группы по разработке и подготовке программных документов региона по SMART Specialization, Приказ №01-11/27-19 от 06.12.2019 г. «О создании рабочей группы по подготовке Программных документов региона по SMART Specialization», Агентство Регионального Развития Гагаузии. Одно из направлений, которое было рассмотрено членами рабочей группы – Туризм.
- Опыт участия в практическом тренинге по GIS (Геоинформационным системам). Project of the Czech Development Cooperation Programme «Regional development of Moldova: Supporting the implementation of a regional strategy using GIS data», Чешская Республика, 2019 г.
- Опыт участия в программе академической мобильности Erasmus+, Ясский университете имени А. И. Кузы, Румыния, 2022 г.

Публикация настоящей статьи будет способствовать повышению осведомлённости заинтересованных лиц в данном направлении и выработке ряд мер, которые могут быть включены в программы развития региона АТО Гагаузии. Студенты Комратского государственного университета специальности 1013.1 Servicii Hoteliere, turism și agreement смогут вдохновиться предложениями, работать в направлении повышения компетенции, по использованию инструментов по цифровизации сферы туризма.

Анализ литературы по цифровизации туризма [1, 3, 4], а также личный опыт автора настоящей статьи, отмеченный ранее, позволяет утверждать, что развитие туризма региона может быть осуществлено путём реализации видов деятельности, непосредственно направленных на цифровизацию данной сферы:

- Обеспечение доступа к информации посредством порталов, сайтов, социальных сетей.
- Внедрение в туристическую сферу современного оборудования (электронные панели и др.).
- Расширение способов оплаты туристических услуг (онлайн платежи через банковские карты, электронные кошельки, приём платежей с помощью QR кода, безопасной бесконтактной оплаты).
- Использование технологий дополненной, виртуальной реальности в туризме (например, при организации экскурсий; в информационном центре или отелях туристы сканируют карту, выбирают интересующее их место и, благодаря технологиям виртуальной реальности, попадают в мини-онлайн тур по выбранной местности).
- Внедрение искусственного интеллекта для общения с потенциальными туристами (онлайн консультанты, чат боты), для помощи в планировании поездок, выбора туров.
- Онлайн бронирование, внедрение туристических услуг для «спонтанных» туристов, которые ищут запросы «сегодня вечером» и «сегодня» и др. в этом случае могут быть мероприятия реального характера или виртуального.



- Продвижение туризма через социальные сети, репост публикаций «из прошлого» с целью привлечения туристов, так как опыт того как это было организовано ранее для другой группы туристов, может положительно сказаться на количестве новых запросов, посещений.
- Развитие возможности бронирования в режиме онлайн столика в кафе, заказ кофе, заказ билетов в кино, театр, музей и др. через мобильные приложения, что позволит улучшить сервис для туристов, повысит привлекательность местности, где такие технологии внедрены.
- Создание специальных макетов музейных экспонатов, картин для лиц с ограниченными возможностями, развитие инклюзивного туризма.

Необходимо отметить, что существуют вызовы, которые не позволяют в должной степени осуществить цифровизацию туризма на должном уровне, среди которых:

- ✓ Недостаточное количества программ Республиканского, Регионального значения, поддерживающих внедрение туризма, в котором используются информационные технологии.
- ✓ Недостаточное изучение данного направления органами власти на всех уровнях с тем, чтобы была получена поддержка на всех уровнях.
- ✓ Недостаточное количество специалистов, которые готовы предложить комплекс услуг для внедрения ИТ в туризм, куда могли бы обращаться люди, занимающиеся туристическим бизнесом, другими видами деятельности, связанными с туризмом.
- ✓ Отсутствие профильных специалистов в регионе, готовых оцифровать музеи АТО Гагаузии.
- ✓ Отсутствие необходимого аппаратного и программного обеспечения для разработки виртуальных музеев.
- ✓ Скептическое отношение к технологиям дополненной реальности, искусственному интеллекту, использованию транспортных средств с GPS навигацией (электронные самокаты) ввиду малой информированности, отсутствия опыта в данном направлении, отсутствия специалистов, предлагающих данные услуги и готовые их внедрить, не позволяют Туризму развиваться в должной степени.

Чтобы оставаться конкурентоспособной, инновационной отраслью, отвечающей социальным вызовам/задачам, в данной сфере должны внедряться актуальные информационные технологии; специалисты в области туризма должны повышать свою квалификацию посредством тренингов, осуществлять самообразование с целью приобретения или улучшения опыта оказания услуг посредством социальных сетей; следить за развитием информационных технологий в сфере туризма.

Как было отмечено ранее, есть необходимость в создании специальных макетов музейных экспонатов, картин для лиц с ограниченными возможностями. Данное видение появилось после того, как в рамках программы академической мобильности автор настоящей статьи в 2022 году посетил Ясский университет имени А. И. Кузы, Румыния (Alexandru Ioan Cuza University of Iași, România). В рамках программы мобильности была возможность познакомиться с культурным наследием города Яссы. В одном из туристических мест, Дворце культуры гостям предлагают посетить музей науки и техники имени Штефана Прокопиу, этнографический музей, музей искусств. В музее науки и техники имени Штефана Прокопиу огромное количество редких музыкальных инструментов, экспонаты радиотехники, пишущие машинки, суперкомпьютер 1989 года выпуска. Особый интерес вызвало информационное панно в музее искусств, которое информирует о проектах, которые позволили сделать специальные макеты для лиц с ограниченными возможностями (Рис 1., Рис. 2). Акцент на туристические экспонаты для лиц с ограниченными возможностями – это отдельная важная тема, которая позволит прикоснуться к искусству не только лицам, проживающим в АТО

Гагаузии, но и гостям, тем самым будет способствовать развитию инклюзивного туризма, в том числе.



Рис. 1. Экскурсия, для лиц с ограниченными возможностями (нарушение слуха), Дворец культуры, г. Яссы, Румыния
Источник: фото автора, 2022 г.



Рис. 2. Тактильный макет картины для туристов – лиц с ограниченными возможностями с нарушением зрения, Дворец культуры, г. Яссы, Румыния
Источник: фото автора, 2022 г.

Комратский государственный университет участвует в программах мобильности, ежегодно мы имеем гостей – студентов из других стран, в университете работают волонтеры из Корпуса Мира, есть и молодые люди, которые посещают АТО Гагаузию по другим программам, проектам. Для этой категории лиц было бы приемлемым рассказать о столице АТО Гагаузии, г. Комрат и о других городах, через вовлечение их в процесс познания через виртуальные путешествия, виртуальные туры. Привлечение молодежи к сфере туризма



можно осуществить через участие молодёжи в городских туристических квестах, которые позволят поднять осведомлённость молодёжи об исторических местах в г.Комрат и других населённых пунктах.

Мобильный квест предлагается разработать на платформе для создания и проведения квестов MibiQuest. Поскольку в бесплатной версии платформы есть ограничение по числу участников, можно разбить участников на группы. Платформа включает функционал непосредственно для проведения городских квестов. Перед началом реализации квеста важно дать инструкцию по прохождению квеста, после чего молодёжь может направиться в город для прохождения уличного/городского квеста.

Ещё одним интересным направлением может быть разработка лицензионных, магистерских диссертаций по тематикам, связанным с туризмом и его цифровизацию через AR и VR технологии. 25 августа 2021 г. по приглашению партнёра КГУ - Fachhochschule des Mittelstands (FHM) University of Applied Sciences в лице Olga Zubikova, автор настоящей статьи приняла участие в международном онлайн мероприятии „Experiencing and creating culture together - Augmented Reality in European educational projects on cultural heritage”. Мероприятие было организовано в рамках проекта Erasmus+ Experiencing Augmented Reality on Cultural Heritage Applications in iVET⁴ (CultApp, <https://cultapp.eu>), что переводится как Опыт использования дополненной реальности в образовательных проектах по культурному наследию в iVET. AR технологии позволяют сегодня в игровой и интуитивной форме познавать европейское культурное наследие и европейские ценности. Конечно, необходимы компетенции по работе с программными продуктами, онлайн сервисами по разработке AR – проектов, но сегодня имеется огромное количество видеоуроков, которые позволяют освоить любой инструмент, и студенты Комратского государственного университета специальности 1013.1 Servicii Hoteliere, turism și agrement могут совместно со студентами специальности 0114.2/0114.1 Информатика и математика создавать интересные проекты в сфере туризма с использованием AR и VR технологий.

В туризме актуальным является использование мобильных приложений. Имеется огромное количество онлайн конструкторов, которые позволяют осуществить разработку мобильного приложения без навыков программирования. В работе автора настоящей статьи [2] имеется отдельная глава, посвящённая разработке мобильных приложений для бизнеса на базе конструкторов, среди которых: AppsGeyser, Glide, Apps Global, Mobincube, iBuildApp, Appy Pie, AppSfera и др.

Ранее автором была опубликована работа [5], в которой автор предложил использовать сервис Sendpulse для создания чат-бота. Этот инструмент может быть использован для разработки чат-бота для сферы туризма в том числе.

Цифровизации сферы туризма АТО Гагаузии также будут способствовать следующие мероприятия:

- Подключение всех туристических мест АТО Гагаузии к сети Интернет.
- Поиск программ и финансовых доноров для реализации международных проектов по трансферу технологий, связанных с туризмом, с внедрением проектов по созданию SMART CITY (г. Комрат), где будут навигационные цифровые панели в основных точках города, в том числе в Информационном туристическом центре г. Комрат (по примеру Чешской Республики (Рис.3)), виртуальный музей, разработка мобильного приложения для путешествия по городу (аналог приложения-гида City Guide Tour).

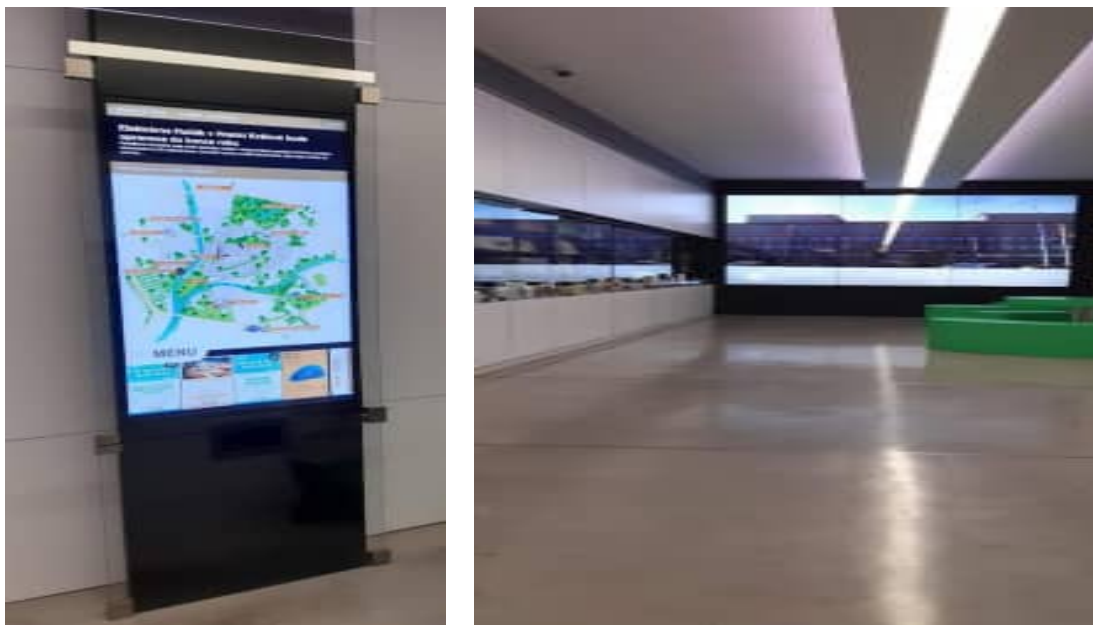


Рис. 3. Туристический Центр, г. Прага, Чешская Республика

Источник: фото автора, 2019 г.

- Анализ опыта ИТ компаний, на базе которого можно найти специалистов, которые могут осуществить разработку виртуального музея, разработку видео 360 и 3D-экскурсий, разработку мобильных приложений с технологией дополненной реальностью (AR приложения для iOS и Android).
- Разработка туристического портала, мобильного приложения по туризму в АТО Гагаузии.
- Привлечение специалистов для разработки электронных карт туристических маршрутов.
- Проведение тренингов, круглых столов по цифровизации туризма (для владельцев туризма, для специалистов, предоставляющих услуги, для студентов специальности Туризм и др.).
- Организация социологических исследований, анализ мнения жителей АТО Гагаузии, находящихся в Молдове и за рубежом относительно цифровизации сферы туризма.
- Создание специальных тактильных макетов для туристов – лиц с ограниченными возможностями с нарушением зрения.
- Использование приложений для разработки уличных квестов, которые позволят туристам, преимущественно молодёжи поучаствовать в квесте и узнать достопримечательность, исторические места, места, где турист может пообедать, купить сувенир и др.
- Подготовке специалистов для региона АТО Гагаузии, готовые внедрять инновационные и цифровые технологии в туризме.

Цифровизация сферы туризма – это комплексный процесс, в который должны быть вовлечены:

- Представители всех ветвей органов власти (Исполнительного комитета, Народного собрания, Примарий АТО Гагаузии).
- Агентство Регионального развития АТО Гагаузии.
- Специалисты сферы туризма.
- ИТ специалисты, разработчики программных продуктов и сервисов для туризма.
- Представители туристических агентств.



- Представители образовательных учреждений (Комратский государственный университет, Педагогический колледж им. М. Чакир), которые занимаются подготовкой специалистов в области туризма.
- Студенты специальности Туризм (КГУ, колледж им. М. Чакир).
- Предприниматели и представители общественных организаций.

Выводы

В статье автор попытался сделать акцент на современных решениях по цифровизации сферы Туризма, которые будут способствовать развитию данной сферы в АТО Гагаузии. Автором перечислено несколько направлений, которые важно развивать, но их можно развивать по отдельности или группируя в зависимости от возможностей. Трансформация сферы туризма неизбежна, она уже происходит, по этой причине важно всем заинтересованным лицам включиться и способствовать тому, чтобы данный процесс был максимально эффективным и устойчивым. Развитие цифровых технологий в туристической отрасли АТО Гагаузии требует согласованных усилий со стороны государственных органов, предпринимателей, образовательных учреждений и общественных организаций. Предложенные в статье подходы к цифровизации сферы туризма могут стать основой для разработки комплексной стратегии развития, способствующей привлечению большего числа туристов и улучшению качества туристических услуг в регионе.

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ПОВЫШЕНИЕ КАЧЕСТВА ЗНАНИЙ СТУДЕНТОВ ПО МАТЕМАТИЧЕСКИМ ДИСЦИПЛИНАМ ПОСРЕДСТВОМ ИСПОЛЬЗОВАНИЯ МЕТОДА ПРОЕКТОВ

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Abstract. Pedagogical peculiarities of project activity implementation in the process of students' learning mathematical disciplines are considered. Taking into account the specifics of the discipline, various projects are proposed and the methodology of their implementation is described. The main goal of the study is not only the formation of solid fundamental knowledge of the subject in students, but also the formation of project skills, elements of research work, the development of independence, the acquisition of skills of self-education, self-development, the formation of a unique experience that allows you to acquire new knowledge.

Keywords: educational project, project activity, mathematical disciplines.

Современному обществу нужны люди нравственные и предприимчивые, способные мыслить системно, принимать ответственные решения, умеющие работать в команде и стремящиеся к самообразованию. Востребованными являются специалисты, которые не просто владеют необходимым набором профессиональных знаний и умений, но и способные эти знания применять для решения конкретных жизненных задач.

Для достижения этих целей недостаточно применения в преподавании традиционных методов, необходим поиск и применение активных методов обучения, к которым можно отнести метод проектов. Внедрение в обучение проектного метода является одной из возможностей переориентации высшего образования на лично ориентированный и компетентностный подход.

Сегодня математические методы проникают в различные сферы деятельности экономику, социологию, психологию, юриспруденцию, и т.д. Математические дисциплины часто сталкиваются с вызовом поддержания высокого уровня интереса и понимания среди студентов. Негативное отношение к математике, как к «сухой» науке складывается у учащихся начиная с начальной школы, это приводит к нежеланию и дальше изучать сложный предмет. Большинство учащихся выбирают гуманитарный профиль, пытаясь избежать изучения и сдачи экзамена по математике по окончании 12 класса. Позже, поступая на специальность, требующей владения математическими знаниями, сталкиваются с большими трудностями. В этих же группах обучаются и студенты, окончившие реальный профиль. Таким образом, получаем большой разрыв в математической подготовки студентов одной группы. Возникает проблема: с одной стороны необходимо повысить уровень подготовки выпускников гуманитарного профиля, с другой стороны поддержать интерес и углубить знания по высшей математике выпускников реального профиля.

Одной из возможностью способной изменить эмоционально-чувственное отношение к математике и активизировать деятельность студентов по овладению математической культурой, является использование при изучении дисциплин высшей математики метода проектов, как метода призванного научить учиться. Это позволит повысить знания по математическим дисциплинам в университете, уменьшить разрыв в знаниях по математике у



выпускников гуманитарного и реального профиля, достичь результатов является применение метода проектов в преподавании,

Анализ научной, педагогической и методической литературы показал, что существуют различные подходы к пониманию учебного проекта, определяемого «как конечный продукт, как решение проблемы материального, социального характера, как форма образования, как эффективный способ развивающего и проблемного обучения» [3]. Предпосылки использования метода проектов в обучении, основаны на идеях американских педагогов и психологов конца XIX в. Дж. Дьюи, У. Килпатрика [1].

Метод проектов предполагает, что студенты активно участвуют в решении реальных проблем или создании конкретного продукта. В контексте математических дисциплин, такие проекты могут включать в себя решение комплексных задач, моделирование реальных ситуаций или даже создание математических приложений.

Первое преимущество этого метода заключается в том, что он делает математику более доступной и применимой к реальной жизни. Когда студенты видят, как их математические навыки могут быть использованы для решения реальных проблем, это мотивирует их учиться более основательно.

Во-вторых, метод проектов способствует развитию коммуникативных и коллаборативных навыков. Работа в группах над проектом обучает студентов обмену идеями, обсуждению различных подходов и принятию совместных решений. Эти навыки являются важными в профессиональной сфере и повышают конкурентоспособность студентов на рынке труда.

Кроме того, метод проектов поддерживает развитие творческого мышления студентов. В процессе создания проекта они вынуждены применять свои знания к новым ситуациям, что способствует глубокому пониманию материала.

Важным аспектом применения метода проектов является вовлечение в проектную деятельность всех студентов, независимо от уровня их математической подготовки. Преподавателю необходимо определить в рамках каких разделов\тем математики будет целесообразнее реализовывать данный метод. Проекты должны образовывать целостную систему, демонстрировать преемственность изучаемого материала, усложняться от проекта к проекту. Отбирая учебный материал для проектов, необходимо учитывать его связь с профессиональной деятельностью студентов. Важно расширить теоретический материал по математике, наполнив его культурологическим и аксиологическим содержанием. В соответствии с курикулами был разработан и реализован на практике комплекс проектов по различным дисциплинам.

Студентам специальности 0113.1 Педагогика начально образования при изучении дисциплины «Основы математики» предложено было разделиться на группы по 4 человека с разным уровнем математической подготовки.

- Множества и их приложения
- Математическая логика и ее использование в решении задач
- Различные системы счисления и их приложения
- Элементы теории вероятностей и математической статистики в начальной школе
- Текстовые задачи и их роль при изучении математики в начальной школе.

Каждый проект включал в себя:

- краткий анализ теории по теме;
- решение набора задач, предложенной преподавателем по теме проекта;
- анализ учебников начальных классов на наличие задач по теме;
- прикладной характер;
- представление результатов.

Активно применяется метод проектов и при изучении дисциплины Математическое моделирование в экономике и статистике студентами специальности 0114.2/0114.1 Математика и информатика. В силу достаточно большого объема материала по данной теме



студенты также были разделены на группы по два студента и им было предложено провести дополнительные исследования по следующим темам:

Тема 1: Функциях и их применении в различных областях. Построение графических образов задач окружающей реальности.

Тема 2: Приложение производной при решении экономических задач.

Тема 3: Приложения определенного и неопределенного интеграла в экономике

Тема 4.: Приложения линейной алгебры в экономических задачах.

Тема 5. Анализ данных с использованием статистических методов. Построение графиков и интерпретация результатов

Тема 6: Задачи финансовой математики

Каждой группой были представлены результаты реализации проекта: краткие теоретические исследования, анализ учебников на наличие задач по теме и перечень предлагаемых дополнительных задач в лицейском и гимназическом курсе, разработка теста на знание материала по теме проекта.

Студентам специальности 0114.1 Информатика зачастую трудно освоить дисциплины высшей математики. Поэтому для них предлагается разработать самим с использованием любых программ или разобраться в методологии применения программ для расчета производных, интегралов, построении исследований графиков, задач методов оптимизации и др.

Использование метода проектов в преподавании высшей математики не только способствует более глубокому пониманию математических концепций, но и обучает студентов применять их на практике. Этот подход содействует формированию практических навыков, необходимых для успешной карьеры в сферах, где требуется глубокое математическое понимание.

Эти конкретные примеры проектов не только обогащают математический опыт студентов, но и предоставляют практические навыки, необходимые в различных областях профессиональной деятельности.

Таким образом, применение метода проектов способствует:

- Развитию практических навыков применения теоретических знаний к решению реальных проблем. Такой практический опыт не только углубляет понимание математики, но и формирует у студентов уверенность в применении своих знаний.

- Развитию коммуникативных навыков. Работа в группах над математическим проектом требует от студентов обмена идеями, обсуждения методологии и совместного принятия решений. Этот процесс развивает коммуникативные навыки, необходимые в профессиональной сфере. Студенты учатся эффективно представлять свои идеи, анализировать точки зрения своих коллег и достигать консенсуса в решении сложных математических задач.

- Повышению мотивации и возможности индивидуального подхода. Проекты позволяют студентам выбирать темы, которые соответствуют их интересам и профессиональным целям. Это создает индивидуальный подход к обучению и мотивирует студентов к самостоятельному изучению математики. Когда они видят, как математика применяется в контексте их собственных интересов, это способствует более глубокому вовлечению и пониманию предмета.

- Подготовке к реальной профессиональной деятельности. Использование метода проектов в преподавании математических дисциплин подготавливает студентов к реальным вызовам профессиональной жизни. Они учатся решать сложные задачи, применяя математические методы, что делает их более подготовленными к карьере в науке, педагогике, экономике и других областях.

Использование метода проектов в преподавании математических дисциплин в высших учебных заведениях является неотъемлемой частью современного образования. Этот подход не только обогащает опыт студентов, но и способствует формированию глобального видения



различных проблем курса, позволяет воспринимать знания в их взаимосвязях и взаимозависимостях, формированию комплексных навыков, необходимых для успешной карьеры в различных сферах деятельности. Организация проектной деятельности на занятия достаточно сложный процесс, так как каждый проект по сути своей уникален и большая роль при разработке тем проектов и ее реализации отводится преподавателю. Очевидно, такой подход к учебному процессу должен рассматриваться только как один из компонентов систематического предметного обучения, применяемого наряду с другими методами обучения в высшем образовании.

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ЛЕНДИНГ КАК ЭЛЕМЕНТ ГРАМОТНОГО ПОЗИЦИОНИРОВАНИЯ ТОВАРНОЙ КАТЕГОРИИ / УСЛУГИ

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Abstract. The article is devoted to one of the modern elements of marketing communications using information technologies. This element is called landing, or landing page. In connection with the development of the consumer market, business representatives take measures to attract the attention of potential consumers and retain real ones. To create a competent landing page structure, it is necessary to determine the purpose and choose the type of future landing page.

Key words: landing page, landing page, one-page website, landing page, block, structure, СТА.

Лендинг пейдж (от англ. landing page – «посадочная страница») – это одностраничный сайт с краткой информацией о товаре, услуге или мероприятии; инструмент генерирования лидов и охвата нужных клиентов. Его задача – превращать посетителей в клиентов.

Обычно клиенты узнают о посадочной странице из рассылки или онлайн-рекламы, находят ее в соцсетях или в результатах поиска в «Google» или «Yandex».

Посадочная страница подталкивает пользователей к определенному действию – оформить подписку на бесплатный пробный период, забронировать услугу или совершить покупку. Для этого используют инструменты в виде кнопки с призывом к действию: например, «Начать», «Подписаться», или «Купить».

Основное различие обычной и посадочной страниц в том, что landing page создается с целью продвижения и продажи товара или услуги. Обычный сайт многофункционален. Он может включать в себя страницу «О нас», галерею, онлайн магазин и многое другое. В то же время на лендинговой странице размещается только самая важная информация, которая направляет пользователей к поставленной вами цели.

В зависимости от цели создания лендингов выделяют пять типов, каждый из которых решает конкретные задачи.

1. Продающий. Самый распространённый вид лендинга. Его цель – прорекламирровать или продать товар или услугу здесь и сейчас, прямо на странице. Например, украшения ручной работы, услуги грумера для животных, онлайн-курс или билеты на концерт. На рисунке 1 представлен пример посадочной страницы компании Навка Шоу с призывом купить билет на ледовое шоу «История любви Шахерезады».



Рис. 1. Пример продающего лендинга Навка Шоу – «История любви Шахерезады»

2. Подписной. Цель такого лендинга – заполучить контакты посетителя: e-mail или телефон – либо подписать на бот в социальных сетях или мессенджерах. В обмен на контакты предлагают какое-то преимущество или бонусы, например промокод на скидку, бесплатные уроки (рис. 2).

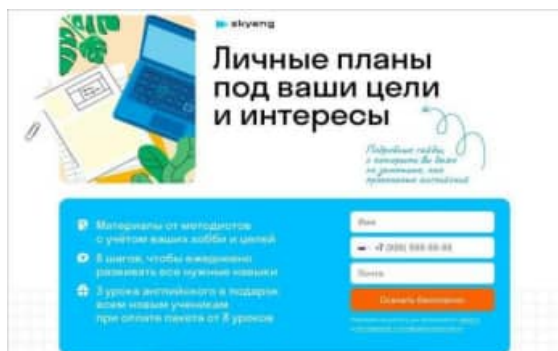


Рис. 2. Пример подписного лендинга онлайн-школы «Skyeng» (указав телефон и электронную почту, пользователь получает PDF-файл с персональным планом изучения языка)

3. Информационный. Такая страница знакомит посетителя с основной услугой или товаром или подробно рассказывает об акции. Каждый блок сайта отвечает на часто задаваемые вопросы. На рисунке 3 представлен пример информационного лендинга онлайн-сервиса «Мета» по подбору психолога: каждый блок закрывает частые возражения клиентов.

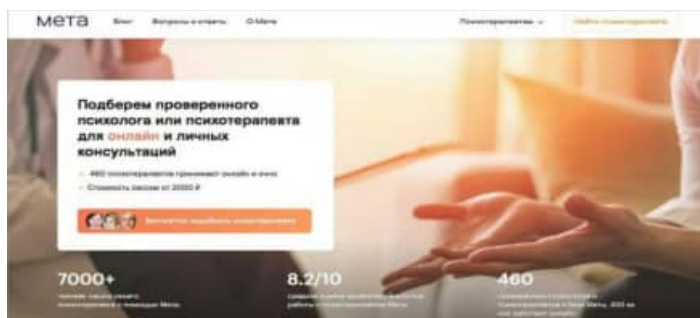


Рис. 3. Пример информационного лендинга компании «Мета»

4. Вирусный. Такой лендинг-пейдж вовлекает посетителей в игру. Часто в вирусных лендингах используют квизы (рис. 4). Это нативная реклама для продвижения бренда.

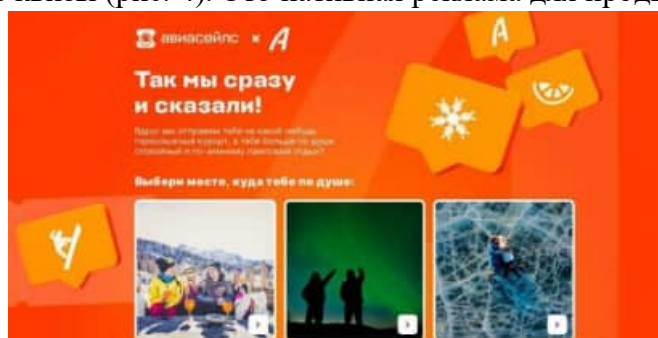


Рис. 4. Пример вирусного лендинга «Авиасейлс» (квизы подогревают интерес, их охотнее пересылают друзьям)

5. Дифференциальный. Сочетают в себе несколько предыдущих типов. Такие лендинги часто используют интернет-магазины или крупные проекты, которые одновременно рекламируют товар и собирают контакты (рис. 5).



Рис. 5. Пример дифференциального лендинга онлайн-курса (на лендинге – подробная информация о продукте и возможность получить скидку)

Структура лендинга на примере информации о специальности «Теплоэнергетика и теплотехника» УО «ВГТУ».

Структура лендинга включает в себя основные блоки с информацией, которая привлекает потенциального потребителя и удерживает интерес реального. Основные элементы посадочной страницы:

1. Обложка. Привлечь внимание пользователей помогут профессионально разработанный шаблон, качественное изображение, анимация или видео. Визуальные элементы должны вызывать эмоции у посетителей страницы.

Самый важный визуальный контент необходимо размещать в верхней части страницы, которую также называют «обложкой». Это первое, что видит зашедший на лендинг клиент (абитуриент). Для привлечения внимания пользователя и увеличения вероятности покупки (подачи документов) необходимо размещать самый важный контент на «обложке». На

рисунке 6 представлен блок «Обложка» специальности «Теплоэнергетика и теплотехника» УО «ВГТУ».

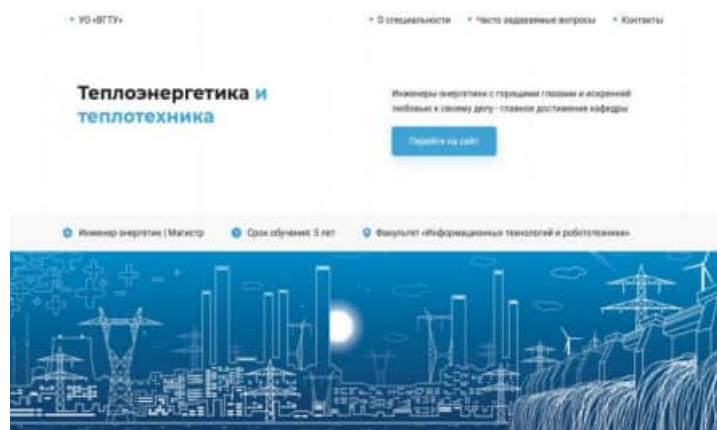


Рис. 6. Обложка посадочной страницы специальности «Теплоэнергетика и теплотехника»

Перейдя на данную посадочную страницу потенциальный клиент (абитуриент) сразу получает основную информацию: квалификацию в дипломе, срок обучения, краткую характеристику специальности и возможность перейти на сайт факультета.

При создании обложки для лендинга необходимо учитывать фирменные цвета бренда/товара, для которого создается посадочная страница. В случае со специальностью «Теплоэнергетика и теплотехника» и факультета информационных технологий и робототехники фирменным цветом является синий. Лендинг придерживается данной цветовой категории.

2. Цепляющие заголовки. От заголовка зависит, продолжат ли люди читать.

Информация должна «цеплять» пользователя и соответствовать его интересам.

Секрет хорошего заголовка в обещании решить проблему или улучшить жизнь тем, кто его читает. На рисунке 7 представлен блок «Заголовок» специальности «Теплоэнергетика и теплотехника».



Рис. 7. Заголовок посадочной страницы специальности «Теплоэнергетика и теплотехника»

Данный заголовок демонстрирует будущим абитуриентам разработанное позиционирование по преимуществу. Для каждой специальности должен быть разработан собственный заголовок (рис. 8-10).



Рис. 8. Заголовок посадочной страницы специальности «Информационные системы и технологии»



Рис. 9. Заголовок посадочной страницы специальности «Технология машиностроения, металлорежущие станки и инструменты»

Производство изделий
на основе трехмерных
технологий

То, что еще вчера казалось фантастикой, уже сегодня может
стать Вашим преимуществом на рынке труда! Будущее уже в
ВГТУ!

Перейти на сайт

Рис. 10. Заголовок посадочной страницы специальности
«Производство изделий на основе трехмерных технологий»

3. О нас. Данный блок позволяет потенциальным потребителям повысить осведомленность о бренде, что, в свою очередь, ведет к повышению уровня лояльности в глазах потребителя. В случае с посадочной страницей Витебского государственного технологического университета в блоке представлена информация о специальности (рис. 11).

О специальности

Теплоэнергетика и теплотехника – особая сфера деятельности человека, которая предполагает выполнение работ по проектированию, монтажу, наладке, эксплуатации, ремонту, техническому обслуживанию энергосиловых объектов и установок, электро- и теплоэнергетического оборудования.

Рис. 11. Блок «О нас» посадочной страницы специальности «Теплоэнергетика и теплотехника»

Данный блок не должен быть перегружен информацией. Особенность лендинга заключается в размещении основной информации на одной странице. Чтобы потребитель дочитал посадочную страницу до конца, блоки должны быть компактными.

4. Галерея. Отличительной чертой лендинга является наличие яркого визуала, который позволяет потенциальным покупателям ознакомиться с представленным материалом. Фотографии в данном блоке являются грамотным решением снять напряжение от чтения большого объема новой информации. На рисунке 12 представлен блок «Галерея» специальности «Теплоэнергетика и теплотехника».



Рис. 12. Блок «Галерея» посадочной страницы специальности «Теплоэнергетика и теплотехника»

Фотографии в данном блоке анимированы, что добавляет странице дополнительное преимущество. Фотографии должны быть живыми, не постановочными и оригинальными (во избежания проблем с авторскими правами).

5. Преимущества. Каждое слово имеет значение. У производителя есть одна страница, чтобы убедить пользователей нажать на кнопку с призывом к действию. Важно объяснить, зачем им это нужно. Не нужно тратить ограниченное пространство на детальное описание предложения. Лучше четко расписать, что пользователь получит, купив продукт или оформив подписку на услугу. В случае с посадочной страницей специальности раздел «Преимущества» разделен на два блока: миссия факультета и пути ее достижения (преимущества факультета) и профессиональные навыки (преимущества специальности) (рис. 13-14).

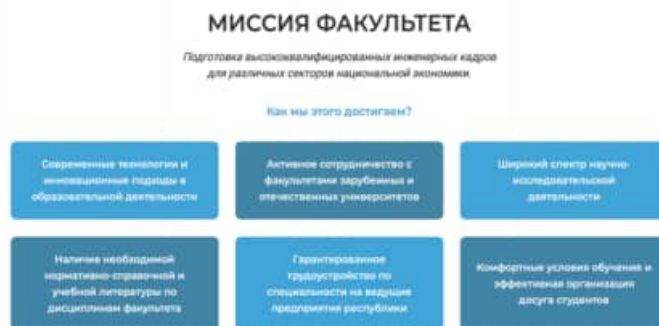


Рис. 13. Блок «Преимущества» посадочной страницы специальности «Теплоэнергетика и теплотехника» (преимущества факультета)

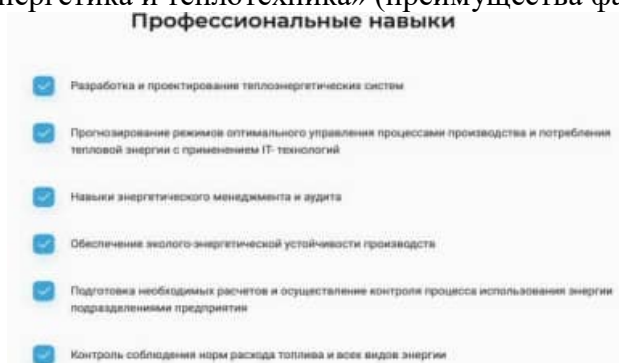


Рис. 14. Блок «Преимущества» посадочной страницы специальности «Теплоэнергетика и теплотехника» (преимущества специальности)

Данный блок имеет грамотное визуальное разграничение, позволяющее легко воспринимать текстовую информацию.

6. Часто задаваемые вопросы. Информация, которая кажется очевидной маркетологу, отвечающему за написание текста, может не восприниматься целевой аудиторией. Для детального анализа запросов потенциальных потребителей нужно создать типовых персонажей (расписать портрет целевого сегмента). Для этого необходимо определить пол, возраст, социальный статус пользователей, где они живут, какими устройствами пользуются – вся эта информация помогает сформировать ряд вопросов, которые могут возникнуть при просмотре лендинга специальности.

Во избежание перегрузки посадочной страницы текстовыми блоками часто задаваемые вопросы можно сделать выпадающим списком. На рисунке 15 представлен блок «Часто задаваемые вопросы» специальности «Теплоэнергетика и теплотехника».

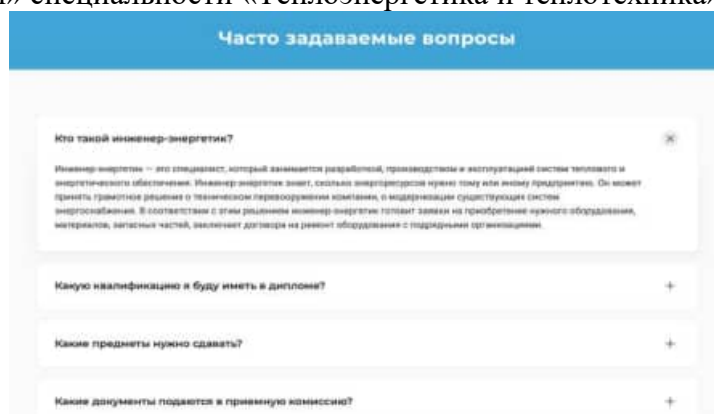


Рис. 15. Блок «Часто задаваемые вопросы» посадочной страницы специальности «Теплоэнергетика и теплотехника»

7. Отзывы клиентов. Даже самое красочное описание преимуществ продукта не сравнится по эффективности с хорошим отзывом. Отзывы – это цитаты настоящих покупателей, которые попробовали товар или услугу и остались довольны.

Клиентские отзывы на странице увеличат количество людей, нажавших на кнопку с призывом к действию. Бренду будут больше доверять.

8. Контакты. Блок с контактами не относится к разряду блоков с цепляющей информацией, но является необходимым. В данном разделе перечисляется основная информация о местоположении и возможности связаться с представителями компании (учреждения образования) (рис.16). Правило, которое необходимо соблюдать, – грамотно выстроенная архитектура (выделенные заголовки, пустые строки).

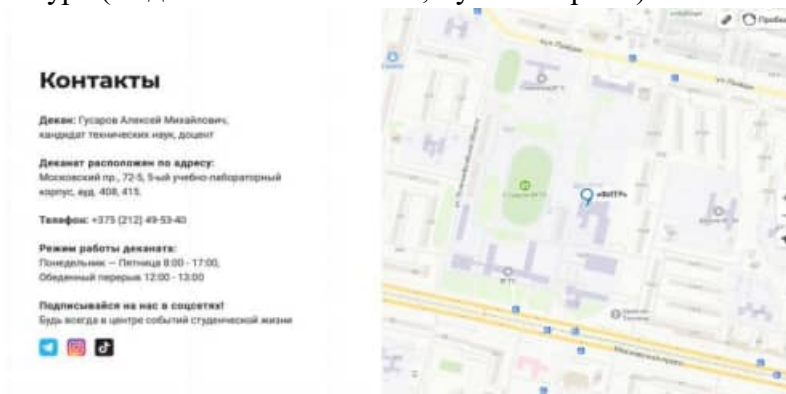


Рис. 16. Блок «Контакты» посадочной страницы специальности «Теплоэнергетика и теплотехника»

9. Сильные призывы к действию. Призыв к действию («Call to Action» или СТА) – это короткая фраза, призывающая пользователей совершить действие, ради которого создавалась посадочная страница. Это один из ключевых элементов лендинга.

Согласно статистике, 90% пользователей, прочитавших заголовков, также обратят внимание на кнопку призыва к действию. «Подписаться», «Начать пробный период», «Зарегистрироваться» – это варианты таких кнопок.

В случае с посадочной страницей Витебского государственного технологического университета лучшим вариантом для СТА является кнопка «Подать документы онлайн». Но в связи с тем, что университет не предлагает данную услугу, призывом к действию являются активные иконки с гиперссылкой на социальные сети (Telegram, Instagram, TikTok) (рис. 17).

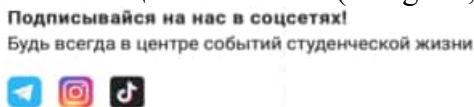


Рис. 17. Блок «СТА» посадочной страницы специальности «Теплоэнергетика и теплотехника»

Таким образом, в связи с диджитализацией современного мира лендинг стал приоритетным направлением в развитии и совершенствовании элементов маркетинговых коммуникаций. В эпоху «баннерной слепоты» потенциальные и реальные потребители не имеют возможность воспринимать информацию в полном объеме, что сподвигает представителей МСП (малого и среднего предпринимательства) и госучреждений выстраивать общение путем создания анимированного визуала, грамотного копирайтинга и призыва к обратной связи. Правильный подход – требовать от лендинга выполнения лишь одной цели, одного пользовательского действия. Лендинги с множественными целями неэффективны.



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ПЕРЕВЕРНУТЫЙ КЛАСС КАК ИНСТРУМЕНТ РАЗВИТИЯ САМОСТОЯТЕЛЬНОСТИ И ОСОЗНАННОСТИ ОБУЧЕНИЯ НА УРОКАХ МАТЕМАТИКИ В ЛИЦЕЕ

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Abstract. The article considers the inverted classroom as an effective tool for the development of independence and consciousness of learning in mathematics lessons at the lyceum. Based on the principles of the inverted classroom, the author analyses its role in the formation of independent learning skills and conscious approach to the learning process. The importance of further research and development of inverted classroom methods in the context of the development of education and teaching of mathematics at the lyceum is emphasized.

Keywords: flipped classroom, autonomy, consciousness-raising, mathematics, educational technology, mathematics lessons, pedagogical methods, educational goals.

Аннотация. В статье рассматривается перевернутый класс как эффективный инструмент развития самостоятельности и осознанности обучения на уроках математики в лицее. Основываясь на принципах перевернутого класса, автор анализирует его роль в формировании навыков самостоятельного изучения материала и осознанного подхода к учебному процессу. Подчеркивается значение дальнейшего исследования и развития методов перевернутого класса в контексте развития образования и обучения математике в лицее.

Ключевые слова: перевернутый класс, самостоятельность, осознанность обучения, математика, образовательные технологии, уроки математики, педагогические методы, образовательные цели.

Современная система образования ставит перед учителями новые вызовы. Требуется не только передать знания, но и научить учащихся самостоятельности, осознанности и критическому мышлению. Доклад, представленный Европейской комиссией по образованию, посвящен перспективам внедрения информационных технологий (ИТ) в образование. В нем подчеркивается, что планшеты, социальные сети и облачные технологии будут играть все более важную роль в учебном процессе. В связи с этим роль учителя в образовании должна измениться. Онлайн-уроки, к которым мы все прибегли во время карантина, ясно продемонстрировали это. Происходит постепенное смешение формального и неформального образования [1]. Одним из перспективных направлений использования ИТ в образовании является "перевернутое обучение", которое выбрано автором для своей работы с учащимися лицея. Эта форма работы с классом оказалась очень эффективной как при очном, так и при дистанционном обучении.

Исследование роли перевернутого класса в развитии самостоятельности и осознанности обучения на уроках математики в лицее представляет собой значимую тему, которая находит подтверждение своей значимости в различных исследованиях. В данной концепции перевернутый класс представляет собой инновационный подход к организации учебного



процесса, где основной упор делается на самостоятельном изучении материала учащимися вне аудитории, а на уроках акцент делается на практическом применении полученных знаний, обсуждении их и решении задач.

Однако перевернутый класс требует от учителя особого подхода к подготовке к учебным занятиям. Ему необходимо разработать качественный исходный материал, который стимулирует самостоятельное изучение учащихся и активно развивает их навыки. Учитель также должен уметь задавать глубокие вопросы, проводить интерактивные уроки и учить учащихся анализировать и синтезировать полученную информацию.

При внедрении технологии "перевернутое обучение" необходима тщательная подготовка, которая включает в себя следующие этапы:

1. Изучение концепции и принципов "перевернутого обучения".

Первым шагом является углубленное ознакомление с основными идеями и концепциями данной методики обучения. Важно понять, как она отличается от традиционных методов преподавания, какие задачи и цели она преследует, а также какие преимущества может принести.

2. Анализ учебной программы и материалов.

Для успешного внедрения перевернутого обучения необходимо провести анализ учебной программы. Важно выделить ключевые темы и концепции, которые лучше всего подходят для изучения на домашнем этапе, и определить те, которые требуют наличия преподавателя в классе. Также следует подготовить или найти соответствующие учебные материалы для самостоятельного изучения.

3. Создание графика обучения.

Необходимо разработать подробный график для учебных занятий, на котором будет отражено, какие части материала будут изучаться индивидуально, а какие будут обсуждаться в классе. График должен предусматривать достаточно времени для самостоятельной подготовки учащихся и дать возможность для интерактивных занятий в классе.

4. Подготовка учебных материалов.

В зависимости от предмета и уровня обучения, могут потребоваться различные учебные материалы. Это могут быть видеуроки, презентации, схемы, задания для самостоятельной работы и другие информационные документы. Важно подобрать материалы таким образом, чтобы они были доступны и понятны для всех учащихся.

5. Обучение обучающихся.

Помимо подготовки материалов для самостоятельного изучения, важно провести дополнительный инструктаж, где учащиеся ознакомятся с самой технологией "перевернутое обучение". Следует разъяснить, как правильно использовать материалы, предоставленные для самостоятельного изучения, и объяснить, какие ожидания относительно подготовки они могут иметь на уроках.

6. Постоянное сопровождение и оценка продвижения.

Важно предоставить возможность для обратной связи, чтобы учащиеся могли делиться своими впечатлениями и задавать вопросы. Кроме того, необходимо постоянно оценивать успехи студентов и анализировать результаты, чтобы вносить корректировки в учебный процесс и улучшать его эффективность.

Несмотря на то, что внедрение технологии "перевернутое обучение" требует серьезной подготовительной работы, при правильном выполнении описанных этапов, эта методика может значительно повысить эффективность обучения и активность учеников.



Перевернутый класс предлагает обратный порядок изучения материала. Вместо традиционной подачи материала на уроке, учащиеся получают исходный материал заранее и самостоятельно учатся вне школы или классной комнаты. Таким образом, на уроке учитель использует свое время для активного обсуждения и применения изученного материала.

Такой подход способствует развитию самостоятельности учащихся. Приобретая материал самостоятельно, они вынуждены организовывать свое время, ставить приоритеты и формировать умение учиться самому. Учитель выступает в роли наставника и помогает учащимся разобраться с трудностями, стимулирует самостоятельность в поиске решений.

Кроме того, перевернутый класс способствует осознанности обучения. Ученик, подготавливаясь к уроку самостоятельно, сталкивается с вопросами, которые непосредственно относятся к изучаемому материалу. Его интерес пробуждается, и он начинает задавать глубокие вопросы, исследовать дополнительные материалы и находить собственные подходы к решению задач. Такой процесс активно включает ученика в образовательный процесс и позволяет ему стать не пассивным слушателем, а активным участником.

Плюсы, которые выявлены автором в результате применения технологии "перевернутого обучения" на уроках математики следующие:

1. Учащиеся могут изучать материал в своем собственном темпе дома, что позволяет учителю предложить дополнительные материалы и задания для учеников с разным уровнем подготовки.
2. Посвящая больше времени на занятиях для обсуждения и применения материала, ученики могут получить более глубокое понимание темы и развить навыки критического мышления.
3. В перевернутом классе ученики становятся активными участниками процесса обучения, а не пассивными слушателями. Они могут обсуждать и задавать вопросы, основываясь на знаниях, полученных во время изучения материала дома. Учащиеся начинают понимать, что именно от них зависит как они смогут применять полученные знания при решении практических задач по теме.
4. Изучение нового материала дома требует от учащихся организации своего времени и самостоятельности. Этот подход помогает развить навыки самоорганизации и самодисциплины.

Как и в любой технологии, у «перевернутого обучения» есть и минусы:

1. Для успешной реализации перевернутого класса учащимся требуется доступ к компьютеру и интернету дома. Это может создать проблемы для тех, у которых нет такой возможности.
2. В перевернутом классе, учитель не может контролировать, как ученики изучают материал дома. Это может привести к недостаточной подготовке некоторых учащихся или их потерям в понимании нового материала.
3. Перевернутый класс требует от учителя предварительного планирования и подготовки контента для изучения дома, а также организации интерактивных занятий на основе этого материала в классе.
4. Если не будет уделено должное внимание обсуждению и активности на занятиях, учащиеся могут привыкнуть к пассивному потреблению информации дома, без глубокого понимания и применения ее.



Для применения технологии перевернутого обучения необходимо владение интерактивными технологиями и умение организовать работу с ними.

1. Для изучения материала дома учитель может создавать и предоставлять видеоуроки, в которых объясняют основные понятия и темы. Также можно применять видеоконтент, разработанный другими авторами. Большую помощь может оказать платформа **Educație Online**. После просмотра видеолекций, учащимся предлагаются упражнения или тесты, которые помогают им закрепить и проверить понимание материала.
2. Учитель может использовать различные веб-платформы для дистанционной коммуникации и обратной связи с учениками, например, форумы или онлайн-чаты.
3. На занятиях в классе учащиеся могут работать в группах, аргументировать свои ответы и решать задачи вместе. Это может стимулировать обмен знаниями и обсуждение темы.
4. Для закрепления новых знаний и развития навыков применения материала, учитель может предложить выполнение проектных работ или презентаций, которые ученики выполняют на занятиях или дома.

В результате, перевернутый класс на уроках математики становится не только новым подходом к обучению, но и мощным инструментом для развития самостоятельности и осознанности. Он помогает учащимся не только усвоить материал, но и развивать критическое мышление, коммуникацию и аналитические навыки. Перевернутый класс стимулирует учащихся к активной учебной деятельности и подготовке к будущим вызовам, что делает его ценным инструментом современного образования.

Выводы: применение технологии "перевернутого класса" для учащихся лица на уроках математики - это новый подход к обучению, где акцент делается на самостоятельность учащихся и использование времени в классе для обсуждения, применения и глубокого понимания материала. Эта технология может привести к более эффективному обучению, развитию навыков самостоятельной работы и расширению возможностей интерактивного обучения. Ученики, выполняя задания и изучая материалы перед уроком, активно вовлекаются в учебный процесс и становятся ответственными за свое обучение.

Однако эта технология также требует доступ к интерактивным технологиям, тщательное планирование и подготовку со стороны учителя. Более глубокое исследование роли «перевернутого класса» в развитии самостоятельности и осознанности обучения на уроках математики в лицее может помочь более полно осознать преимущества этого метода обучения и его влияние на образовательный процесс и результаты обучения учащихся.

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ИНТЕГРАЦИЯ GOOGLE SITES И CLASSROOM В УЧЕБНЫЙ ПРОЦЕСС ПО ИНФОРМАТИКЕ: ВОЗМОЖНОСТИ ДЛЯ ОБРАЗОВАНИЯ

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Abstract. This article examines the interaction between the educational platforms Google Sites and Google Classroom in the context of computer science education. Emphasis is placed on important aspects of integrating new technologies into the educational process, including teacher training, technical infrastructure accessibility for students, and the highlighted synergy between Google Sites and Classroom, creating a robust platform for effective computer science education in the modern technological

Keywords. Educational platforms, Google Sites, Google Classroom, Computer science education, Integration of technology, Teacher training.

В условиях стремительного прогресса информационных технологий образование занимает важное положение в цифровой эре, требуя эффективных методов обучения и инструментов для достижения оптимальных результатов. В этом контексте учебные технологии, предоставляемые компанией Google, играют существенную роль в современном образовании. Особое внимание уделяется платформам Google Sites и Google Classroom, которые предоставляют преподавателям и студентам уникальные возможности для организации учебного процесса в области информатики.

В процессе использования учебных технологий от Google преподаватели и студенты могут воспользоваться передовыми инструментами и функциональностью для более эффективного взаимодействия. Платформа Google Classroom обеспечивает удобную среду для создания, распределения и оценки заданий, содействуя активному обмену знаниями. Google Sites, в свою очередь, позволяет легко создавать и редактировать образовательные веб-сайты, способствуя более наглядному и интерактивному обучению в области информатики.

Эти технологии поддерживают не только эффективное обучение, но и обеспечивают взаимодействие в реальном времени, что способствует более глубокому пониманию материала. Результат использования учебных технологий от Google - это более динамичный, доступный и адаптированный к потребностям современного обучающегося учебный процесс в области информатики.

Цель данной статьи заключается в анализе потенциала учебных технологий, предоставляемых Google, с акцентом на Google Sites и Classroom, в контексте обучения информатике. Посредством рассмотрения функциональных возможностей, анализа практических примеров использования и оценки результатов внедрения этих инструментов.

Обзор возможностей Google Sites:

Google Sites представляет собой мощный инструмент, предназначенный для создания доступных и структурированных веб-страниц без необходимости в специальных навыках веб-разработки. Входящий в состав экосистемы Google Workspace for Education, этот инструмент обладает ключевыми характеристиками, которые придают ему популярность среди преподавателей и обучающихся в области информатики. Прежде всего, Google Sites предоставляет простоту и гибкость в создании веб-страниц, предлагая разнообразные шаблоны и настраиваемые элементы дизайна. Преподаватели могут удобно организовывать



учебный материал, внедряя мультимедийные элементы, визуализации и интерактивные компоненты. Это особенно важно в обучении информатике, где визуальное представление концепций и практических примеров играет важную роль.

Кроме того, Google Sites интегрирован с другими сервисами Google, что обеспечивает удобную вставку документов, таблиц и презентаций из Google Drive. Это создает единое пространство для хранения и обмена образовательным контентом, способствуя формированию централизованных ресурсов, доступных в режиме реального времени для всех участников образовательного процесса.

Одним из ключевых преимуществ Google Sites является возможность совместной работы, что позволяет студентам активно участвовать в создании контента, комментировать материалы и взаимодействовать с преподавателями. Эта коллективная динамика способствует формированию обучающего сообщества, активно вовлеченного в процесс обучения.

Таким образом, Google Sites представляет собой мощный инструмент для организации образовательного процесса по информатике, обеспечивая удобство в создании, доступе и совместной работе. Это делает его неотъемлемой частью современного образования.

Помимо вышеупомянутых функциональных характеристик, Google Sites предоставляет удобные средства для адаптации под различные потребности обучения информатики. Интеграция медиа-контента, такого как видеоуроки, визуализации и интерактивные графики, позволяет преподавателям создавать более динамичные и привлекательные учебные материалы.

Одной из ключевых особенностей Google Sites является его мобильная дружелюбность. В мире, где доступ к образовательным ресурсам часто осуществляется через мобильные устройства, это обеспечивает учащимся гибкий и удобный доступ к материалам в любое время и в любом месте.

Важно подчеркнуть, что Google Sites регулярно обновляется и дополняется новым функционалом, что свидетельствует о стремлении Google к постоянному совершенствованию образовательных инструментов. Эта динамичность и открытость к инновациям делают Google Sites актуальным и перспективным средством для обучения в целом и информатике в частности в современной образовательной среде.

Таким образом, разнообразные функциональные возможности, простота в использовании, мобильная доступность и систематические обновления делают Google Sites неотъемлемой составляющей эффективного обучения информатике, предоставляя новые возможности для преподавателей и обучающихся.

Google classroom

Google Classroom является универсальным образовательным инструментом, разработанным для эффективной организации учебного процесса. В обучении информатике эта платформа обладает рядом важных характеристик, которые придают ей статус неотъемлемого инструмента в современном образовании.

Один из важных аспектов заключается в возможности встроить веб-страницы Google Sites непосредственно в Google Classroom. Это дает преподавателям возможность централизованного хранения и предоставления доступа к учебному материалу в форме интерактивных веб-страниц. Учащимся, в свою очередь, легко обращаться к ресурсам, не выходя за пределы среды Google Classroom.

Кроме того, интеграция позволяет эффективно внедрять различные мультимедийные и интерактивные элементы, созданные с использованием Google Sites, в качестве дополнительных ресурсов в Google Classroom. Это предоставляет преподавателям возможность обогатить учебный материал, делая образовательный процесс более привлекательным и доступным для студентов.

В результате интеграции Google Sites и Classroom создается синергия между двумя платформами, упрощая и улучшая процессы создания, управления и распространения



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образовательного контента. Это дополняет функциональность каждой из них и обогащает образовательный опыт.

Практические примеры использования в учебном процессе по информатике

Для поддержки обучения основам языка программирования C++ у студентов 1 курса колледжа гуманитарного профиля был создан веб-сайт с методическим сопровождением.

На веб-сайте размещена основная теоретическая информация, структурированная по модулям и темам. Сайт размещен по адресу

<https://sites.google.com/gagauzia.edu.md/infcoll/главная-страница>



Рис.1. Главная страница сайта

Теоретическая часть состоит из текстовой информации, интерактивных презентаций и сопровождается упражнениями для самопроверки и закрепления материала



Рис.2. Пример интерактивного материала.

Специальные математические вычисления

Математическая запись	Запись на языке C++
Абсолютное значение $ x $	abs (x) или fabs (x)
Синус $\sin x$	sin (x)
Косинус $\cos x$	cos (x)
Арктангенс $\arctg x$	atan (x)
Квадрат x^2	pow (x, 2)
Степень x^n	pow (x, n)
Квадратный корень \sqrt{x}	sqrt (x)

Для работы математических функций в программу C++ должна быть включена библиотека математических вычислений

```
#include <iostream>
using namespace std;
#include <cmath>
```

Упражнения-1 (математические функции)

Рис.3. Пример внедренных на сайт упражнений

При помощи google инструментов на сайте организована обратная связь для вопросов, пожеланий и комментариев учащихся. Можно задать интересующий вопрос и получить на него комментарий или ответ. Для вопросов создана google форма, для ответов на них- google-таблица.

Также добавлена страница с расписанием

Рис.4. Обратная связь

Также внедрен google календарь со значимыми событиями

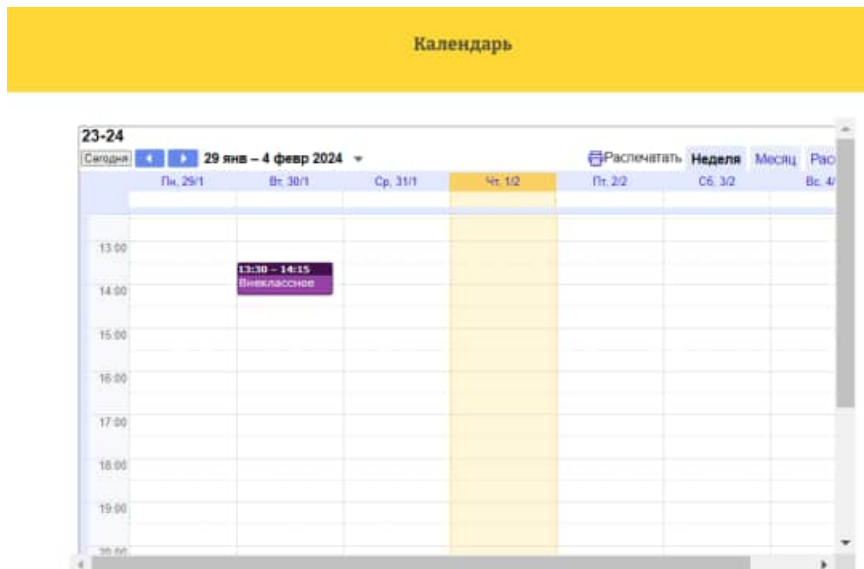


Рис.5. Интеграция google-календаря

Таким образом у учащихся имеется доступ к теоретической части и практическим заданиям. Есть возможность обратной связи и отслеживания событий по календарю.

Параллельно с сайтом для групп организовано пространство в Classroom для эффективной обратной связи. Учащиеся получают задания и отправляют готовые упражнения на проверку.

Материал также структурирован по модулям. Для удобства в classroom дублируются ссылки на информацию с сайта.

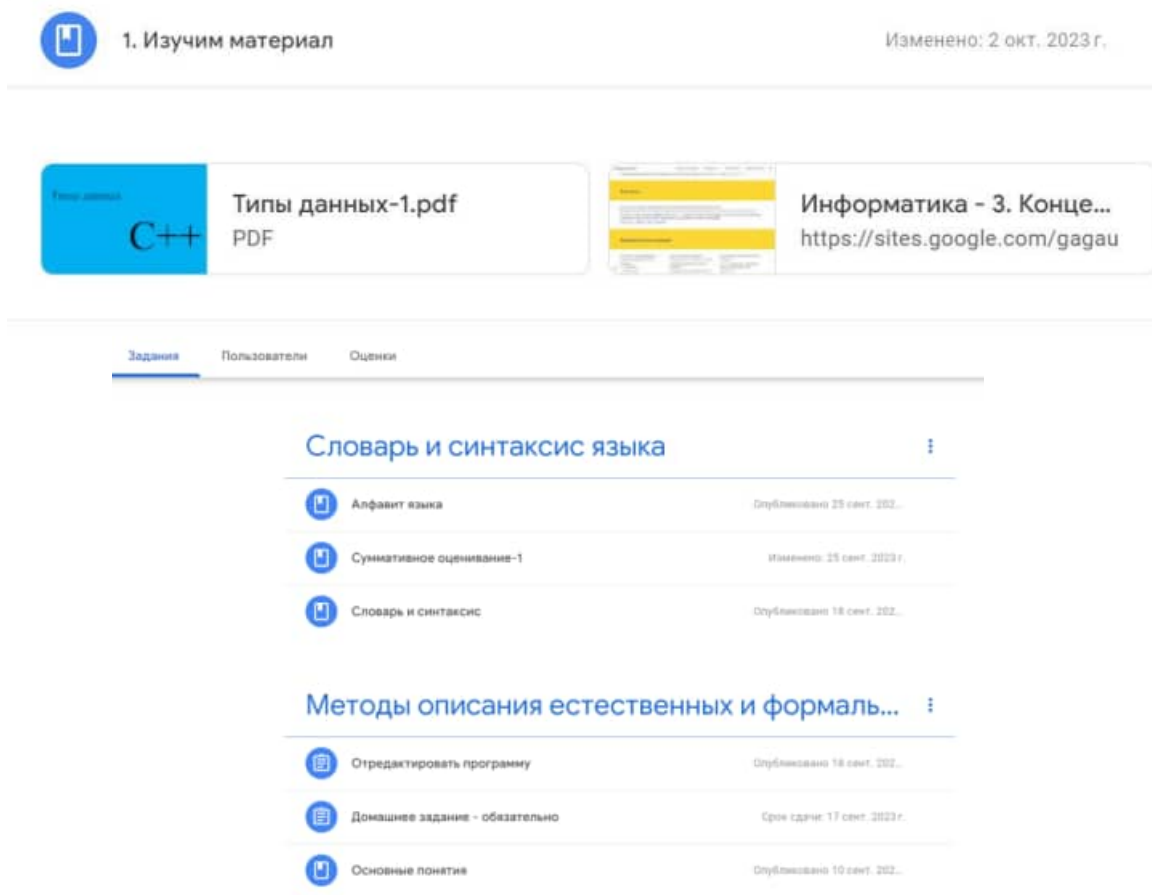


Рис.6. Взаимодействие сайта и classroom

Classroom удобная среда для обмена информацией. Учащиеся сдают свои работы на проверку в виде файлов или ссылок на выполненные работы в онлайн редакторе.

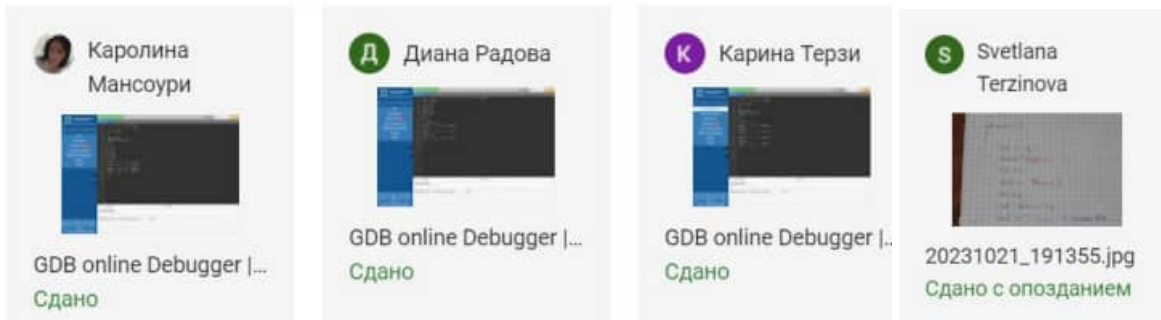


Рис.7. Пример сданных работ

Выводы:

Взаимодействие между Google Sites и Google Classroom представляет собой успешное сочетание двух мощных образовательных инструментов. Интеграция Google Sites в Google Classroom обеспечивает удобный доступ и централизованное хранение учебного материала, создавая комфортное обучающее пространство для преподавателей и учащихся.

Использование веб-страниц Google Sites в Google Classroom упрощает обучение, позволяя преподавателям интегрировать мультимедийные и интерактивные элементы, что делает учебный материал более привлекательным. Это способствует не только повышению качества образования, но и формированию более вовлеченного обучающегося сообщества.

Кроме того, совместная работа Google Sites и Classroom упрощает процессы создания, управления и распространения образовательного контента. Этот подход дополняет функциональность обеих платформ, обогащая образовательный опыт и способствуя более эффективному обучению информатике в условиях современных образовательных технологий.

Наравне с положительными аспектами заметить и вызовы, которые возникают при использовании данных ресурсов

- Использование новых технологий требует времени и подготовки со стороны преподавателей. Некоторые могут столкнуться с трудностями в освоении новых функций и интеграции платформ в свой учебный процесс.

- Эффективное использование Google Sites и Classroom предполагает наличие стабильного интернет-соединения и современных устройств. Недостаточная техническая инфраструктура может стать преградой для широкого внедрения.

- Различные технические возможности студентов могут создать разрыв в доступности к образовательным ресурсам. Необходимо учесть разнообразие технического обеспечения и обеспечить равный доступ ко всем функциональным возможностям.

- При использовании онлайн-платформ необходимо соблюдать высокие стандарты конфиденциальности данных студентов. Важно обеспечить безопасность и защиту личной информации.

- Некоторые студенты и преподаватели могут испытывать утомление от постоянного взаимодействия с технологическими средствами, что может повлиять на уровень вовлеченности и эффективность обучения.

Но несмотря на описанные вызовы данные инструменты достойны внимания и заслуживают изучения и внедрения в учебный процесс.

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ИСПОЛЬЗОВАНИЕ GOOGLECOLAB ДЛЯ АНАЛИЗА И ВИЗУАЛИЗАЦИИ ДАННЫХ

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Abstract. In the article, the author analyzes Google Colaboratory, commonly known as Google Colab, is a cloud computing platform that allows users to run Jupyter notebooks using free resources such as GPUs and TPUs. It also provides an overview of some Python libraries for data visualization.

Keywords: Google Coraboratory, Python, Pandas, Matplotlib, Seaborn, TensorFlow, PyTorch, Keras, Boken.

GoogleColaboratory, широко известная как GoogleColab, представляет собой облачную вычислительную платформу, которая позволяет пользователям запускать Jupyternotebook, используя бесплатные ресурсы, такие как графические процессоры и TPU. Сервис был запущен Google в 2017 году и с тех пор завоевал огромную популярность среди энтузиастов обработки данных и машинного обучения благодаря своему удобству, простоте использования и экономичности. GoogleColab предоставляет пользователям интерактивную среду для написания кода, его выполнения и визуализации результатов в режиме реального времени.

Он поддерживает несколько языков программирования, включая Python, R и Julia. Платформа интегрирована с несколькими популярными фреймворками, такими как TensorFlow, PyTorch, Keras, что позволяет исследователям легко экспериментировать с различными моделями, не беспокоясь о базовой инфраструктуре.

В области науки о данных и машинного обучения, где экспериментирование играет решающую роль в достижении хороших результатов, GoogleColab оказался неоценимым активом. Одним из основных преимуществ является то, что он устраняет необходимость в дорогостоящем локальном оборудовании, предоставляя доступ к бесплатным ресурсам, таким как графические процессоры или TPU, которые могут значительно ускорить время обучения модели. Более того, GoogleColab обеспечивает плавную интеграцию с другими сервисами, такими как GitHub, что делает совместную работу над проектами проще, чем когда-либо прежде. Это облегчает обмен результатами исследований и сотрудничество с членами команды из разных географических точек. Еще одним ключевым преимуществом является то, что пользователи могут экспериментировать с различными библиотеками, не беспокоясь о конфликтах версий или процедурах установки, поскольку они предустановлены на платформе. Это экономит время, затрачиваемое на настройку среды, а также обеспечивает воспроизводимость проектов. Благодаря этим функциям в сочетании с простым в

использовании интерфейсом любой человек, независимо от уровня его опыта, может легко начать работу над проектами машинного обучения с помощью GoogleColab. GoogleColab предоставляет исследователям все необходимое от платформы для экспериментов, включая бесплатный доступ к вычислительным ресурсам, простоту использования и функции совместной работы, что делает его важным инструментом в области науки о данных и машинного обучения. Далее автором настоящей статьи будут подробно рассмотрены примеры эффективного использования GoogleColab.

GoogleColab предоставляет простой в использовании интерфейс для создания блокнотов и управления ими. Чтобы создать новый блокнот, просто нажмите кнопку «Новый блокнот», расположенную в верхнем левом углу интерфейса. Отсюда можно создать новую записную книжку Python 3 или записную книжку на другом языке, например, R. Создав записную книжку, можно дать ей имя и начать писать код. Интерфейс записной книжки предоставляет несколько ячеек, в которых можно писать и запускать код. При необходимости ячейки можно легко добавлять или удалять.

Интерфейс GoogleColab интуитивно понятен и удобен для пользователя. Основная область интерфейса — это редактор блокнотов, где можно писать и запускать код. Левая боковая панель содержит инструменты для управления вашими блокнотами, доступа к справочной документации, подключения к внешним службам хранения, таким как GoogleDrive, и многому другому. Одной из наиболее полезных функций GoogleColab является его интеграция с Jupyter notebooks. Это означает, что все мощные функции Jupyter, такие как встроенные графики и интерактивные виджеты, доступны в GoogleColab. Другие примечательные функции GoogleColab включают поддержку форматирования Markdown в текстовых ячейках, автоматическое сохранение работы в учетной записи пользователя GoogleDrive и встроенную поддержку контроля версий с помощью Git.

Прежде чем запускать какой-либо код в своем блокноте, необходимо настроить среду выполнения. Среда выполнения — это, по сути, виртуальная машина, предоставляющая аппаратные ресурсы (например, ЦП или графический процессор) для выполнения кода. Чтобы настроить среду выполнения в GoogleColab, необходимо нажать «Среда выполнения» в верхней строке меню и выберите «Изменить тип среды выполнения». Отсюда можно выбирать между различными типами аппаратных ускорителей (если они доступны). Также можно выбрать версию Python, которую есть желание использовать, а также включить или отключить ускорение графического процессора. После того, как выбрана желаемая среда выполнения, нажимаем «Сохранить», и блокнот будет готов к работе. Если используете среда выполнения с поддержкой графического процессора, можно проверить ее правильность, выполнив команду `!nvidia-smi` в ячейке кода. Это отобразит информацию об использовании ресурсов графического процессора (рис. 1).

```
NVIDIA-SMI 535.104.05                Driver Version: 535.104.05    CUDA Version: 12.2
-----+-----+-----+-----+-----+-----+-----+
GPU  Name          Persistence-M  Bus-Id      Disp.A     Volatile Uncorr. ECC
Fan  Temp    Perf      Pwr:Usage/Cap     Memory-Usage | GPU-Util  Compute M.
                                           MIG M.
-----+-----+-----+-----+-----+-----+
  0   Tesla T4             Off   00000000:00:04.0 Off  |             0
N/A   34C    P8             9W / 70W           0MiB / 15360MiB |      0%      Default
                                           N/A
-----+-----+-----+-----+-----+
Processes:
GPU  GI    CI      PID  Type  Process name          GPU Memory
ID   ID    ID
-----+-----+-----+-----+-----+
No running processes found
```

Рис. 1. Информация об использовании ресурсов графического процессора



Вот несколько примеров использования GoogleColab:

1. Запуск Python-скриптов: можно использовать GoogleColab для выполнения обычных Python-скриптов, что полезно, например, для быстрого выполнения небольших задач или анализа данных.

```
# Пример Python-скрипта в GoogleColab  
print("Hello, Colab!")
```

2. Машинное обучение и глубокое обучение: Colab предоставляет доступ к графическим процессорам (GPU) и тензорным процессорам (TPU), что делает его отличным выбором для обучения моделей машинного обучения и глубокого обучения.

```
# Пример обучения модели с использованием TensorFlow и GPU  
import tensorflow as tf  
from tensorflow.keras.datasets import mnist
```

```
(x_train, y_train), (x_test, y_test) = mnist.load_data()  
x_train, x_test = x_train / 255.0, x_test / 255.0
```

```
model = tf.keras.models.Sequential([  
    tf.keras.layers.Flatten(input_shape=(28, 28)),  
    tf.keras.layers.Dense(128, activation='relu'),  
    tf.keras.layers.Dropout(0.2),  
    tf.keras.layers.Dense(10)  
])
```

```
predictions = model(x_train[:1]).numpy()  
predictions
```

3. Обработка данных и визуализация: Colab может быть использован для обработки данных и визуализации результатов. Можно использовать библиотеки такие как Pandas, Matplotlib и Seaborn.

```
# Пример использования Pandas и Matplotlib  
import pandas as pd  
import matplotlib.pyplot as plt
```

```
# Создание DataFrame  
data = {'Name': ['Ion', 'Anna', 'Vasile'],  
        'Age': [25, 28, 22],  
        'City': ['Comrat', 'Chisinau', 'Balți']}  
df = pd.DataFrame(data)
```

```
# Вывод таблицы и гистограммы  
print(df)  
df.plot(kind='bar', x='Name', y='Age', legend=False)  
plt.show()
```

4. Работа с библиотеками машинного обучения: Colab поддерживает множество библиотек машинного обучения, таких как Scikit-learn, XGBoost, LightGBM и др. Можно использовать их для решения различных задач.

```
# Пример использования Scikit-learn для классификации  
from sklearn.model_selection import train_test_split
```



```
fromsklearn.ensemble import RandomForestClassifier
fromsklearn.metrics import accuracy_score

# Загрузка данных
fromsklearn.datasets import load_iris
iris = load_iris()
X_train, X_test, y_train, y_test = train_test_split(iris.data, iris.target, test_size=0.2,
random_state=42)

# Обучение модели и предсказание
model = RandomForestClassifier()
model.fit(X_train, y_train)
predictions = model.predict(X_test)

# Оценка точности
accuracy = accuracy_score(y_test, predictions)
print(f"Accuracy: {accuracy}")
```

5. Работа с библиотекой OpenCV: Colab можно использовать для обработки изображений, например, с использованием библиотеки OpenCV.

Пример обработки изображения с использованием OpenCV

```
import cv2
fromgoogle.colab.patches import cv2_imshow

# Загрузка изображения
image_url = "https://example.com/image.jpg"
img = cv2.imread(image_url)
# Отображение изображения
cv2_imshow(img)
```

Это лишь несколько примеров того, что можно делать с помощью GoogleColab. Платформа предоставляет доступ к множеству библиотек и ресурсов, что делает ее мощным инструментом для различных задач анализа данных и машинного обучения.

GoogleColab предоставляет отличную среду для визуализации данных, так как он предустановлен с многими библиотеками для работы с данными и графикой, такими как Matplotlib, Seaborn, Plotly и др. Визуализация данных является важным аспектом анализа данных, поскольку помогает лучше понять данные. Вот несколько примеров использования GoogleColab для визуализации данных:

Matplotlib - это широко используемая библиотека для создания графиков и визуализации данных в Python. В Colab она часто используется из-за своей простоты. Matplotlib предоставляет множество видов графиков для визуализации данных. Вот несколько из:

1. График линий (plot)
2. Точечный график (scatter)
3. Столбчатая диаграмма (bar)
4. Гистограмма (hist)
5. Круговая диаграмма (pie)
6. Ящик с усами (boxplot)
7. Тепловая карта (imshow)

Это всего лишь несколько примеров доступных видов графиков в Matplotlib. Можно настраивать множество параметров для каждого из них, чтобы соответствовать потребностям и стилю визуализации данных.

```
import matplotlib.pyplot as plt
# Создание простого графика
x = [1, 2, 3, 4, 5]
y = [10, 15, 7, 12, 9]
plt.plot(x, y)
plt.title('Простой график')
plt.xlabel('Ось X')
plt.ylabel('Ось Y')
plt.show()
```

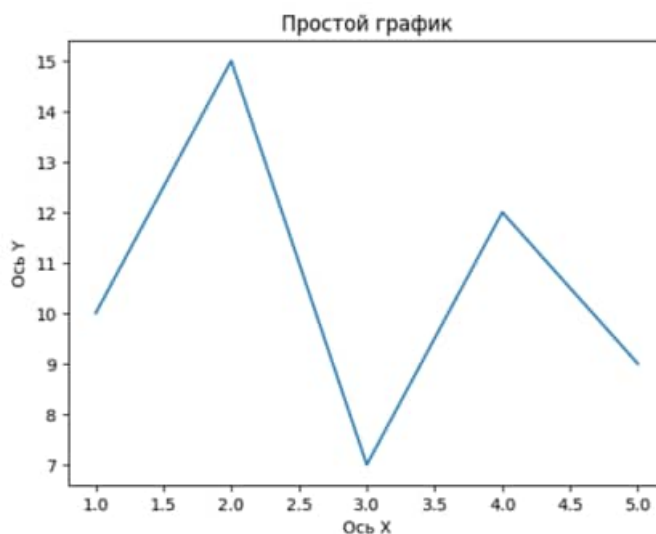


Рис.2. Пример простого графика, реализованного в Matplotlib

Seaborn - это более высокоуровневая библиотека для визуализации данных, которая строит на основе Matplotlib и предоставляет дополнительные функции.

```
import seaborn as sns
# Создание гистограммы с помощью Seaborn
tips = sns.load_dataset('tips')
sns.histplot(tips['total_bill'], bins=30, kde=True)
plt.title('Гистограмма общей суммы счета')
plt.show()
```

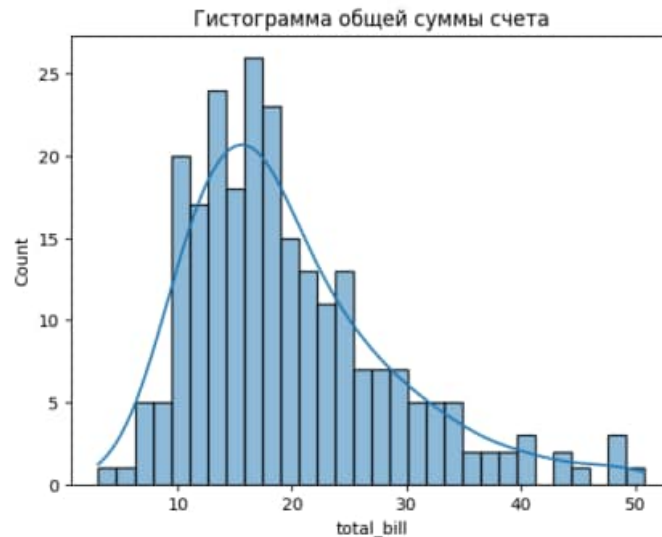



Рис.3. Пример гистограммы, реализованной в Seaborn

Plotly предоставляет возможность создания интерактивных графиков, что может быть полезно при работе с большими объемами данных.

```
import plotly.express as px
```

```
# Создание интерактивного scatter-графика
```

```
df = px.data.iris()
```

```
fig = px.scatter(df, x="sepal_width", y="sepal_length", color="species", size="petal_length")
```

```
fig.show()
```



Рис.4. Интерактивный график в Plotly

Pandas также предоставляет собственные средства для визуализации данных, что удобно при работе с DataFrame.

```
import pandas as pd
```

```
# Создание графика из DataFrame
```

```
df = pd.DataFrame({'A': [1, 2, 3, 4, 5], 'B': [5, 4, 3, 2, 1]})
```

```
df.plot(x='A', y='B', kind='bar')
```

```
plt.title('График из DataFrame')
```

```
plt.show()
```

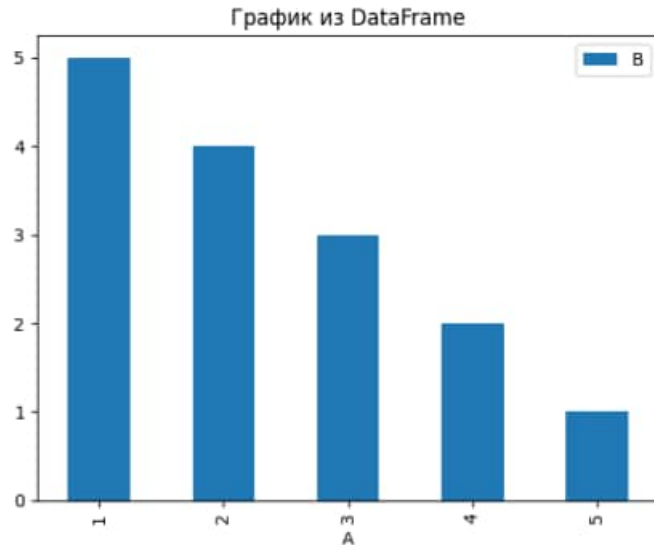


Рис.5. График в Pandas

Интерактивные библиотеки (Bokeh): позволяет создавать интерактивные графики и диаграммы.

```
from bokeh.plotting import figure, show
from bokeh.io import output_notebook
# Создание простого scatter-графика с Bokeh
output_notebook()
p = figure(plot_width=400, plot_height=400)
p.circle([1, 2, 3, 4, 5], [10, 15,
```

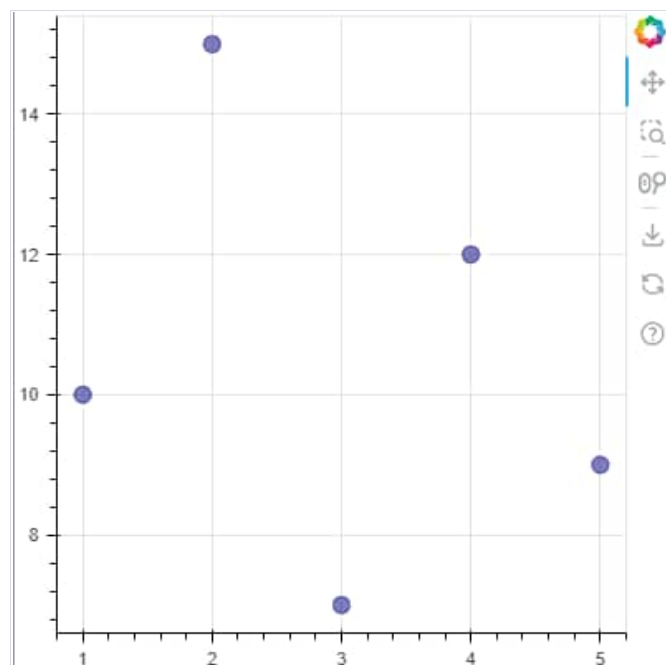


Рис.6. Построение графиков через библиотеки Bokeh

Эти примеры показывают, как использовать GoogleColab для визуализации данных с использованием различных библиотек. Можно подключиться к наборам данных, сохраненным в облаке, или использовать встроенные датасеты для демонстрации визуализации.



Выводы:

Начать работу с GoogleColab легко и интуитивно понятно. Создать новый блокнот очень просто, а интерфейс предоставляет все инструменты, необходимые для того, чтобы сразу начать писать и запускать код. Понимание интерфейса и функций GoogleColab важно для максимизации производительности и полного использования всех его возможностей.

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ИНСТРУМЕНТЫ ДЛЯ ПРОГНОЗИРОВАНИЯ В ЭКОНОМИКЕ

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Annotation. Forecasting is used in a business environment for strategic planning. The article reveals issues of forecasting methods, programs and tools used for forecasting, and types of forecasts, technology, scope of application, which will make it possible to obtain a scientifically based decision and make management decisions.

Key words: forecasting methods; forecasting tools, online tools, types of forecasts, forecast sheet.

Составление прогноза – это нахождение желаемого результата и наиболее вероятностных путей его достижения на основе имеющихся экономических закономерностей, анализа текущих данных, нахождения возможных перспектив развития и т.д. [3].

Модель прогноза строится с учетом нескольких компонентов:

– тренда - общей долгосрочной тенденции;

– сезонной вариации - краткосрочного регулярно повторяющегося колебания значений временного ряда вокруг тренда;

– циклических колебаний - цикл деловой активности;

– экономический цикл — это подъема, спада, депрессии и активности.

Прогноз продаж— это величина объема продаж, которую возможно достигнуть при



выполнении неких условий или при реализации некоторых событий.

Прогноз продаж за определенный период времени строится на основе:

–данных за прошедший период;

–тенденций рынка;

–предполагаемых усилий, направленных на увеличение будущих продаж (реклама, трейд и Sales-маркетинг, привлечения новых клиентов, удержания и роста продаж по действующим клиентам);

–расширения, сужения, диверсификации товарного предложения;

–макроэкономических тенденций: темпа инфляции, безработицы, структуры затрат потребителей и учетных ставок [5].

Сегодня в бизнесе широко используются различные инструменты и программы для анализа прогноза будущих продаж. Современные программы и инструменты для прогноза продаж позволяют прогнозировать будущие значения, строить модели, анализировать их и на основании анализа принять управленческие решения. Область применения – бизнес, финансы, инвестиции, демография и др. отрасли.

Процесс прогнозирования продаж компании на будущий период можно разделить на несколько этапов:

–оценка текущего положения, финансовых показателей, продаж, маржи и рентабельности бизнеса;

–анализ информации за прошедшие периоды;

–аппроксимация данных на будущий период, выставление неких прогнозных показателей продаж будущего периода;

–планирование мероприятий по достижению желаемых прогнозных показателей

–коррекция желаемых прогнозных показателей с учетом запланированных мероприятий [5].

Чтобы получать желаемую прибыль, необходимо прогнозировать финансовое будущее фирмы. Для этого существуют специальные программы прогнозирования продаж. В таблице 1, представлены программы и инструменты для прогнозирования.

Таблица 1. Программы и инструменты для прогнозирования

Программа	Возможности
amoCRM	Продвинутый набор инструментов, раскрывающий потенциал отдела продаж и повышающий его эффективность. Интерфейс amoCRM интуитивно понятен и не требует обучения или периода внедрения и адаптации. Минимум кнопок, лишних страниц или действий - минимум потраченного в пустую времени и максимальная скорость работы.
Analytics	Полный набор инструментов прогнозной аналитики. Он может упростить данные за счет интеллектуального анализа данных, прежде чем переходить к моделированию данных, и предлагает статистический анализ. SAS Advanced Analytics также использует инструменты прогнозирования для автоматического создания моделей будущих вероятностей.
Alteryx	Лидер магического квадранта Gartner по данным Его лучший продукт — платформа ARA, которая представляет собой автоматизацию аналитических процессов, сочетающую науку о данных с прогнозной аналитикой.



TIBCO Spotfire	Использует несколько инструментов для работы с большими наборами данных, и это простой в использовании инструмент для всех. С прогнозами в один клик он предлагает предварительно запрограммированные способы классификации и кластеризации данных. TIBCO Spotfire также показывает отношения и выполняет прогнозирование, а также создает полезные визуализации данных.
Emcien	Механизм анализа использует данные для выявления закономерностей, прежде чем передать их механизму прогнозирования. В механизме прогнозирования процесс принятия решений осуществляется дальше, а актуальная информация обновляется в режиме реального времени. Он включает в себя визуализацию данных и анализ графиков, а также предоставляет взвешенные прогнозы и оценки сходства. может обрабатывать неструктурированные данные без предварительной подготовки

Источник: разработана автором

Программа MS Excel является одним из эффективных инструментов прогнозирования, которая дает возможность использовать такие встроенные функции - ПРЕДСКАЗ.ETS - вычисляет будущие спрогнозированные значения на основе исторических данных, ПРЕДСКАЗ.ETS.ДОВИНТЕРВАЛ - вычисляет размах доверительного интервала - коридора погрешности, в пределах которого с заданной вероятностью наш прогноз должен сбыться, линейного тренда, надстройки Пакет Анализа, Лист прогноза и др.

Лист прогноза – один из важнейших инструментов программы Excel, который дает возможность прогнозировать будущие значения, анализировать данные и строить разнообразные модели. Этот инструмент широко используется в бизнесе, финансах, экономике и других сферах деятельности, где важно предсказать развитие событий и принять основанные на этом решения [2].

Графическое изображение данных, таблицы и диаграммы результатов прогноза в Excel делает анализ данных наиболее наглядным, что позволяет руководителю быстро и эффективно принимать решения на основе прогнозных данных.

Рассмотрим этапы решения задач прогнозирования будущих продаж с помощью MS Excel, используя модель линейного тренда.

Данные по продажам фирмы X за 2022 и 2023 года, по месяцам приведены в таблице 2.

Таблица 2. Прогнозирование продаж

1	Продажи фирмы за 2022-2023 год											
2	Период	Продажи (лев)	ЛИНЕЙН	Свободный член	Тренд	Сезонность	Новый период	Тренд	Итог:			
3	январь.22	1	1245089	6022,82	1445482,95	1451506	0,89	январь.24	25	1596053	1415760	
4	февраль.22	2	1355902			1457529	0,84	февраль.24	26	1602076	1347615	
5	март.22	3	1425636			1463551	0,98	март.24	27	1608099	1581359	
6	апрель.22	4	1365269			1469574	1,03	апрель.24	28	1614122	1666409	
7	май.22	5	1532560			1475597	1,10	май.24	29	1620145	1775163	
8	июнь.22	6	1674582			1481620	1,13	июнь.24	30	1626168	1838050	
9	июль.22	7	1733832			1487643	1,13	июль.24	31	1632190	1851909	
10	август.22	8	1652486			1493666	1,11	август.24	32	1638213	1810403	
11	сентябрь.22	9	1432185			1499688	0,89	сентябрь.24	33	1644236	1455378	
12	октябрь.22	10	1632448			1505711	0,98	октябрь.24	34	1650259	1621142	
13	ноябрь.22	11	1546987			1511734	0,51	ноябрь.24	35	1656282	842418,4	
14	декабрь.22	12	1403256			1517757	0,46	декабрь.24	36	1662304	766927,8	
15	январь.23	13	1466885			1523780						
16	февраль.23	14	1431236			1529802						
17	март.23	15	1452869			1535825						
18	апрель.23	16	1202540			1541848						
19	май.23	17	1565324			1547871						
20	июнь.23	18	1774794			1553894						
21	июль.23	19	1799995			1559917						
22	август.23	20	1763254			1565939						
23	сентябрь.23	21	1717143			1571962						
24	октябрь.23	22	1708741			1577985						
25	ноябрь.23	23	1259999			1584008						
26	декабрь.23	24	1355425			1590031						

Источник: разработано автором



Так как в расчете данных используется модель линейного тренда, необходимо найти коэффициент уравнения $y = ax + b$, используя формулу массива и функцию ЛИНЕЙН, где:

y – продажи

x – номер периода

a – коэффициент наклона прямой тренда

b – свободный член тренда

1. Рассчитать коэффициенты уравнения $y = ax + b$.

Алгоритм действий:

Для ввода формулы выделяем две смежные ячейки (E3:F3);

В строке формулы вводим формулу =ЛИНЕЙН(C3:C26;B3:B26);

Для активизации формулы массива нажимаем Ctrl+Shift+Enter и получаем формулу массива {=ЛИНЕЙН(C3:C26;B3:B26)}; В ячейке E3 получаем коэффициент $a=6022,82$, в ячейке F3 свободный член $b=1445482.95$.

2. Далее необходимо рассчитать для каждого периода значение линейного тренда, для этого, в полученное уравнение подставляем известные номера периодов, $G3=B3*\$E\$3+\$F\3 , т.к. ячейки E3 и F3 являются абсолютными, записываем их со значком доллара и копируем формулу до конца периода.

3 Рассчитываем коэффициент сезонности для каждого периода, в нашем примере это 2022 и 2023 год, используя формулу

$H3=(C3+C15)/CP3НАЧ((\$C\$3:\$C\$26)/2)$ и копируем формулу на 12 месяцев. Этот показатель показывает, сколько суммарно продавалось товара каждый месяц, и разделили это на среднее значение продаж за все два периода, и выяснили, как продажи двух январей и других двух одинаковых месяцев, отклонялись от средних продаж за два года. Т.к в расчете мы используем два года, делим на 2.

4. Рассчитываем тренд для будущих периодов с учетом коэффициент сезонности, и построим прогноз на 2024 год. Для этого прописываем будущий период начиная с 25 месяца - январь 2024 года. Используя формулу расчета значений тренда, вычисляем тренд на 2024 год. $K3=J3*\$E\$3+\$F\3 и указываем прогнозируемый период 12 месяцев.

5. Итоговые данные, прогноза продаж на 2024 год $L3=K3*H3$ последний этап — умножаем полученное значение тренда на коэффициент сезонности.

Таким образом, можно сделать вывод, что в век информационных технологий, методы прогнозирования очень актуальны и использование современных сервисов и приложений для прогнозирования дает возможность рассчитать и принять правильные управленческие решения.

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ПРИМЕНЕНИЕ ИНТЕЛЛЕКТ КАРТ НА ЗАНЯТИЯХ ИНФОРМАТИКИ ДЛЯ СИСТЕМАТИЗАЦИИ ЗНАНИЙ

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Abstract. The article discusses the possibilities of using mindmaps in teaching computer science. Options for the effective use of mindmaps in computer science lessons are presented, and examples of the implementation of ready-made maps are given. Several online services have been analyzed that allow you to create high-quality mindmaps.

Keywords: intelligence/mental maps, computer science, visualization, online service.

Резюме. В статье рассмотрены возможности применения интеллектуальных карт в обучении информатике. Представлены варианты эффективного использования интеллектуальных карт на уроках информатики, приведены примеры реализации готовых карт. Проанализировано несколько онлайн-сервисов, позволяющих создать качественные интеллектуальные карты.

Ключевые слова: интеллект/ментальные карты, информатика, визуализация, онлайн-сервис.

Введение

В настоящее время возникает необходимость обращать внимание на эффективный способ фиксации информации. Такой способ должен быть прост и понятен, при этом структурировать большие объемы информации в наглядной форме для лучшего запоминания. Таким способом является создание интеллектуальных карт.

Британский психолог Тони Бьюзен (1942-2019) известен как изобретатель интеллектуальных карт (карт разума, ментальных карт, mindmaps) – популярной техники визуального мышления. В основу интеллектуальных карт, автор определяет развитие радиального мышления [1]. Интеллектуальная карта – это не просто выделение центрального понятия и связанных с ним процессов, это еще определение творческой, когнитивной деятельности каждого человека.

К преимуществам использования интеллектуальных карт можно отнести: процесс обучения становится осмысленным, информация лучше усваивается, а также сложные понятия становятся проще. Применять же интеллектуальные карты можно на разных этапах занятия: для сбора информации, изучения новой информации, проектной работы, для подведения итогов по усвоенной теме.

Вопросами изучения интеллектуальных карт занимались такие авторы, как Бьюзен Тони [1], Кириллин С. и Кирииллина Р. [2], Иванов П. и Иванова Р. [3] и др.

Интеллектуальная карта, ментальная карта, диаграмма связей, карта мыслей (по-английски — mindmap) — метод может называться по-разному, но это всегда визуальное представление информации, отражающее системные связи между целым и его частями. Такая диаграмма строится вокруг центральной идеи, концепции, темы или проблемы, от которой отходят «ветви» со связанными идеями. С помощью ментальных карт можно структурировать любой материал - от простого списка литературы до учебного плана [3].

С. Кириллин, Р. Кирииллина отмечают, что интеллектуальная карта — это большая и простая система ведения конспектов, при которой нужно записать слово, фразу или основную идею в любом месте на странице. По принципу лучиков солнышка вокруг идеи рисовать лучики,

заполняя и разворачивая карту. Конспект выглядит словно карта, так как многие идеи связаны друг с другом. И когда педагог будет рассматривать свои записи, то легко увидит, как основная идея приводит к подтемам, а затем к деталям, которые поддерживают подтемы.

Методологическая основа исследования

Результаты статьи были получены научными методами исследования: анализа; синтеза; обобщения, которые позволили проанализировать и структурировать имеющийся ранее опыт в данном направлении, выявить способы внедрения интеллект карт в образовательный процесс через онлайн сервисы, систематизации, который способствовал логичному построению настоящей статьи.

Результаты

В статье отражены результаты преподавания в колледже на 1, 2 и 3 курсах.

Использование интеллект карт для систематизации информации по пройденным темам, особенно на первых этапах изучения данного способа фиксации информации, по мнению автора настоящей статьи, важно выполнять без использования сервисов (Рис.1).



Рис. 1. Пример интеллект карты

В интеллект-картах, нарисованных вручную, очень важны рисунки. Это существенно упрощает запоминание и восприятие информации, так как рисунки запоминаются надолго.

Интеллект карты выполненные в онлайн сервисах

Проще и эффективнее создавать интеллект карты в специальных сервисах. Там можно быстро вносить исправления, прикреплять ссылки и изображения, добавлять комментарии. А ещё можно поделиться такой виртуальной картой и работать над ней вместе, особенно такой способ актуален при проектной работе.

Популярные сервисы для создания интеллект карт:

1. MindMeister.
2. Miro.
3. Coggle.

MindMeister. У сервиса много функций для работы с картами (рис. 2). Можно менять их дизайн, добавлять картинки, видео, иконки. Есть командная работа с возможностью оставлять комментарии и смотреть историю редактирования. Бесплатно можно создать три интеллект-карты.

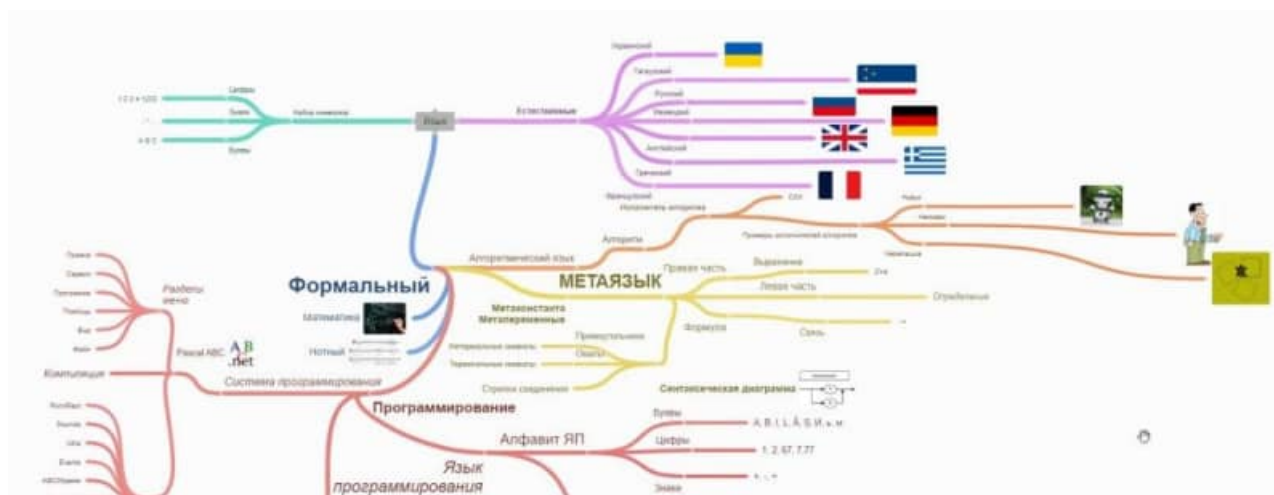


Рис. 4. Интеллект карта, выполненная в сервисе Coggle

Данные ресурсы существенно помогут сделать изучение трудной темы увлекательной и эффективной, а также помогут в организации совместной работы и в проведении контроля усвоения материала.

Выводы:

Резюмируя изложенное, интеллект карты – полезный инструмент для преподавателя, а их создание с помощью современных технологий сделает урок интересным, современным, продуктивным.

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ИСПОЛЬЗОВАНИЕ ИНТЕРАКТИВНЫХ УПРАЖНЕНИЙ НА УРОКАХ МАТЕМАТИКИ, КАК ИНСТРУМЕНТ ФОРМИРОВАНИЯ И РАЗВИТИЯ СПЕЦИФИЧЕСКИХ КОМПЕТЕНЦИЙ ШКОЛЬНИКОВ

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Abstract. The article discusses the possibilities of using interactive exercises to increase the effectiveness of the educational process in mathematics. In particular, examples of interactive exercises for the module “Integers. Actions with integers” for 6th grade students and analysis of



academic results. The positive dynamics of student performance and quality of knowledge indicate the importance and effectiveness of using interactive exercises in the educational process.

Keywords: Activation of the educational process, interactive exercises, electronic resources, tools, student motivation, performance assessment.

Современная школьная педагогика стремится к активизации учебного процесса и формированию компетентного подхода к обучению. В контексте преподавания математики это особенно важно, учитывая его ключевую роль в когнитивном развитии учащихся. С целью повышения эффективности образовательного процесса по математике рекомендуется использовать различные электронные ресурсы и инструменты [2, III раздел], которые позволят создать комфортные условия обучения, и помогут развить у учащихся умений анализировать свои действия.

Интерактивные упражнения представляют собой методы обучения, благодаря которым каждый педагог имеет возможность создать динамичную, увлекательную среду, ориентированную на ученика, привлекая его внимание, ранжируя ценности учебного содержания, преподаваемого в современной форме, учитывая интересы современного учащегося в цифровую эпоху [1].

С когнитивной точки зрения, интерактивные упражнения соответствуют принципу конструктивизма, предусматривающий систематическое повторение изученного материала и основных понятий [3, с. 7], которые улучшают способность учащихся применять математические знания к новым ситуациям.

Интерактивные упражнения играют также ключевую роль в развитии аффективных и социальных компетенций учащихся, которые соответствуют формирующему принципу, предусматривающий непосредственное формирование личности учащегося в образовательном процессе по математике [3, с. 7].

Для повышения мотивации учащихся 6 классов, к изучению математики, были составлены и апробированы интерактивные упражнения по модулю «Целые числа. Действия с целыми числами», в конструкторе `educatieinteractiva.md` [5]. Поскольку дисциплинарный куррикулум акцентирует внимание на компетенциях и образовательных продуктах, все интерактивные упражнения разработаны в четком соответствии с требованиями Куррикулума 2019 года и Гида по его внедрению [3].

Учитывая особенности и трудности при изучении целых чисел [4], по каждой теме Единицы содержания «Целые числа. Действия над целыми числами», разработано минимум 3 упражнения (Рис. 1), от простого к сложному, которые могут быть использованы на этапе Вызова, Осмысления и Размышления. Это позволяет современному творческому педагогу дополнить уроки различным интерактивным контентом, предназначенным для того, чтобы привлечь и удержать внимание ученика, в процессе проведения мозгового штурма, фронтальной работы, командных игр или проверки домашних заданий. В процессе выполнения интерактивных упражнений, ученики активно общаются друг с другом, обсуждают алгоритм решения задач, объясняют свои рассуждения. Это способствует развитию навыков коммуникации и сотрудничества.

Для каждого ученика интерактивные упражнения позволяют проверить, протестировать свои знания, попрактиковаться в своем собственном темпе и изучить материал в интерактивной и увлекательной форме [1], также предоставляется возможности применять теоретические знания к реальным и/или смоделированным ситуациям.

Безусловно, внедрение интерактивных упражнений в образовательный процесс по математике требует тщательного планирования и педагогической компетентности для оптимизации учебных результатов и максимального включения учащегося в процесс обучения.



Рис. 1. Интерактивные упражнения по теме «Целые числа. Действия над целыми числами»

После изучения Единицы содержания «Целые числа. Действия над целыми числами», активно применяя интерактивные упражнения, в качестве образовательных продуктов, рекомендованных куррикулумом, учащиеся подготовили: Понятийную карту к главе «Целые числа» в приложении Mindmeister [6], видеоролик в приложении Animoto по проекту «Целые числа в моей жизни», проекты по теме «Ось исторических событий» в приложении Genially, постеры по теме «Целые числа вокруг нас», электронную книгу, в приложении Storyjumper по теме «История возникновения отрицательных и положительных чисел» [7].

Ещё одним аргументом в пользу применения интерактивных упражнений – положительная динамика показателей успеваемости и качества знаний учащихся, средний балл повысился на 8,24%, а качество знаний на 17% (Рис. 2).

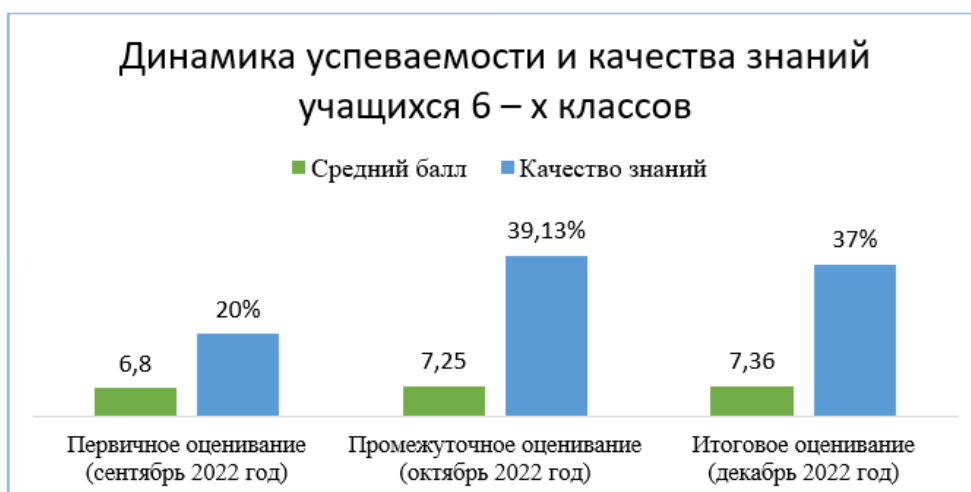


Рис. 2. Успеваемость и качество знаний учащихся

В качестве заключения хотелось бы отметить, что в процессе преподавания – учения – оценивания учитель обязан реализовать требования Школы дружественного отношения к ребенку в контексте эффективности образовательного процесса. А использование интерактивных упражнений на уроках математики позволяют рационально организовать учебный процесс, направляя учеников на формирование компетенций, учитывать



мотивационную составляющую изучаемой темы и связь с повседневной жизнью, реализовать учебный процесс при активном участии учеников.

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ИСПОЛЬЗОВАНИЕ ИНТЕГРАТИВНЫХ ЗАДАЧ НА УРОКАХ МАТЕМАТИКИ ДЛЯ ФОРМИРОВАНИЯ ЛОГИЧЕСКОГО МЫШЛЕНИЯ

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Abstract. The article presents material that can be used for work in mathematics lessons in high school in order to develop the logical thinking of students. The relevance of the problem is due to the fact that this topic is proposed in Methodological letters on the organization of the educational process in the lyceum, and is associated with the new educational policy of the Republic of Moldova, disclosed in the curriculum documents: mathematics curriculum, guide to the implementation of the curriculum.

Keywords: interdisciplinary integration, use of integrative problems, study of mathematics.

Цель современной школы – воспитание человека, не только обладающего определённым объёмом фундаментальных знаний, но и способного самостоятельно, критически мыслить, аргументировано отстаивать свою точку зрения, применять теоретические знания для решения конкретных практических проблем.

Основными целями математического образования является как формирование и развитие логического мышления учащихся, так и формирование и развитие компетенций, способствующие максимальной реализации творческого потенциала выпускника и необходимые для продолжения им учения на следующей ступени образования, для оптимальной социальной или профессиональной интеграции.

Повышение интеллектуальной нагрузки на занятиях по математике заставляет задуматься о том, как поддержать интерес учащихся к изучаемому материалу и стимулировать их активность на протяжении всего урока.



После изучения и анализа куррикулума по математике 2019 г., гйда по внедрению куррикулума по математике были отобраны некоторые эффективные методы обучения и педагогические подходы, которые способствуют активизации мыслительного процесса школьников и стимулируют их к самостоятельному усвоению знаний. Эти методы также помогают выявить индивидуальные особенности каждого школьника и на их основе развивать у них стремление к познанию и творчеству.

В настоящее время наблюдается явное стремление к интеграции научных знаний и получению более полного и точного представления о мире.

Все разделы современной науки тесно переплетены между собой, что делает невозможным изолированное преподавание школьных предметов. Межпредметная интеграция выступает как важное дидактическое условие и средство для глубокого и всестороннего усвоения основных научных знаний в школе. Межпредметная интеграция представляет собой комплексное взаимодействие между различными структурными компонентами образования. Такими компонентами могут быть различные виды знаний одного учебного предмета, обобщенные компоненты знаний межпредметного характера, обобщенные умения, сформированные на основе усвоения связей между способами учебно-познавательной, учебно-производственной и практической деятельности. Использование интегративных заданий позволяет показать взаимосвязь между различными процессами, происходящими в нашем мире, и обнаружить взаимозависимость различных научных областей.

необходимо ориентироваться прежде всего на учебные программы и объем рассматриваемых тем в соответствующих учебниках.

При осуществлении межпредметной интеграции в обучении математике важно правильно подбирать материал из других учебных дисциплин и разрабатывать методику его использования. При выборе информации из других учебных предметов для занятий по математике, необходимо ориентироваться, прежде всего, на программу и на то, как, в каком объеме эти вопросы рассмотрены в соответствующих школьных учебниках. Кроме того, из бесед с преподавателями других предметов выяснить, как они объясняли материал, какую применяли наглядность и т.п.

Следующие задания, направленные на развитие межпредметной интеграции, успешно были использованы на уроках математики при изучении темы «Производная и ее применение».

Задача 1. Скорость школьного автобуса массой 5 т. возрастает по закону: $V = 0,1t^3 + 0,2t$. Определить равнодействующую всех сил, действующих на него в момент времени 2 с. Решая данную задачу, ученики применяют производную для нахождения ускорения. Затем применив формулу из физики $F=ma$, находят искомое решение. Практически учащиеся решают физическую задачу, используя инструменты математики.

Задача 2 Пусть количество вещества, вступившего в химическую реакцию, задается зависимостью: $p(t) = 1,5t^2 + 3t - 3$ (моль). Найти скорость химической реакции через 3 секунды.

В контексте химических реакций, скорость реакции определяется как изменение концентрации реагентов или продуктов в единицу времени. Математически это выражается через производную концентрации по времени. Если обозначить концентрацию как функцию времени $C=C(t)$, то скорость химической реакции будет представлена производной этой функции по времени $v(t) = C'(t)$. Этот факт показывает на сколько важно для химиков, разрабатывающих препараты для медицины и сельского хозяйства, а также для врачей, применяющих эти препараты в лечении пациентов, умение находить производные различных функций, а умение решать математические задачи имеет ключевое значение в этих областях наук.

Задача 3. Строители решили пристроить к стене школы физкультурный зал прямоугольной формы. Оказалось, что кирпича у них хватит только на 100 м стены (по



периметру трёх новых стен). Зал должен быть как можно больше по площади. Что бы вы посоветовали строителям? Какие размеры пристройки целесообразнее выбрать?

При решении на первый взгляд абсолютно только геометрической задачи, учащиеся снова применяют производную для нахождения максимального значения функции.

Решая данные и многие другие задачи, учащиеся убедились, что производные играют важную роль не только в математике, умение работать с производными позволяет эффективно решать задачи практического характера в различных областях науки и техники, что делает их ключевым инструментом для исследователей и специалистов.

Использование на уроке задачи Л. Н. Толстого «Много ли человеку земли надо?» и задачи Дидоны ярко демонстрирует связь математики не только с точными науками, но и с историей и литературой.

Задача Л. Н. Толстого «Много ли человеку земли надо?»

Крестьянин Пахом очень мечтал о собственной земле и он, собрав, наконец, желанную сумму, предстал перед требованием старшины: «Сколько за день земли обойдешь, вся твоя будет за 1000 р. Но если к заходу солнца не возвратишься на место, с которого вышел, пропали твои деньги». Выбежал утром Пахом, прибежал на место и упал без чувств, обежав прямоугольник периметром 40 км.

Задача Дидоны - древнейшая экстремальная задача (825 г. до н. э)

Одна сторона прямоугольного участка земли примыкает к берегу моря, а три другие огораживаются ремнем, длина которого 600 м. Каковы должны быть стороны участка, чтобы его площадь была наибольшей?

Работа учителя в условиях межпредметной интеграции направлена на обеспечение взаимодействия различных школьных дисциплин с целью разностороннего развития мышления учащихся. Применение различных методов, таких как самоконтроль, самостоятельная работа, домашние исследовательские задания, математические соревнования и игровые технологии, позволяет добиться положительных результатов в проведении интегрированных уроков. Задания носят познавательный характер и представлены в разнообразных форматах, от игровых заданий и конкурсов до более сложных расчетов. Разработанные примеры не только способствуют освоению нового материала и развитию умений быстрого решения задач, но и позволяют применять полученные знания в реальных жизненных ситуациях.

Изучение математики требует от учащихся не только усвоения конкретных математических знаний, но и развития различных умений и качеств мышления, которые имеют важное значение не только в области математики, но и в их дальнейшей жизни. В процессе обучения математике ученики учатся анализировать рассматриваемый вопрос, обобщать, специализировать, выделять необходимые и достаточные условия, определять понятия, составлять суждения, находить пути решения поставленной задачи. Эти навыки способствуют развитию их мышления и улучшают качество и ясность их речи. Изучение математики также требует от учеников значительных усилий и времени, что помогает им развивать навыки трудолюбия и ответственности, которые необходимы для успешной работы в любой области жизни. Правильно организованное обучение математике способствует развитию у учащихся наблюдательности, внимания, инициативы и настойчивости, что имеет большое значение для их нравственного воспитания и формирования характера.

Использование интегративных задач на уроках математики позволяет достичь следующие концептуальные основы Куррикулума 2019 года:

- принцип личностно-ориентированного обучения, учитывающего личные особенности ученика;
- принцип реализации межпредметной и внутрипредметной корреляции;
- формирование у учащихся положительного отношения к науке и познанию в целом.



Проанализировав результаты учащихся за три года обучения в лицее, можно сделать вывод, что использование межпредметной интеграции при изучении математики оказывает позитивное влияние, а также дает возможность обучающимся

- уметь работать с информацией, делать выводы, анализировать;
- уметь применять полученные знания в практической деятельности;
- развить способности, которые позволяют найти выход из любой ситуации.

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ARBITRABILITY OF CORPORATE DISPUTES

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Abstract. One of the controversial and legally unresolved issues in arbitration theory is the possibility of arbitration disputes. The problem lies not only in the legislative definition of the term "arbitrability", but also in the absence of clear standards regarding arbitration/non-arbitrability of disputes. Necessity of studying arbitration is also caused by the formation of a conflicting position in the theory of dispute arbitration, including the issues of company relations. Thus, it can be concluded that the principle of arbitration does not allow sufficient answers to the question of arbitration of disputes with corporate elements. Thus, the need for scientific understanding of theoretical foundations and the formation, both in theory and in practice, of a strong institute of arbitration and a theoretically grounded concept of arbitrability have determined the relevance of the topic of this scientific article.

Keywords: arbitrability, arbitration, corporate dispute, arbitration agreement, non-arbitrability.

In general, **arbitrability** is the admissibility of submitting a dispute to international commercial arbitration. On the one hand, admissibility is an opportunity, on the other hand, it is a limitation. It is generally accepted that arbitrability limits the powers of the panel of arbitrators and the rights of the parties as to what matter may be resolved in arbitration. In this sense, restrictions can only arise from the norms of national law aimed at protecting the general social and economic interests of the state [8, p.122-123].

Many researchers, when describing arbitrability in their reasoning, start from the opposite - from indicating which cases cannot be referred to arbitration, i.e. are non-arbitrable. Arbitrability is determined as follows: from the general range of cases admissible for referral to arbitration (usually economic disputes of a civil nature), for reasons of public order, disputes in which there is an element "sensitive" to society are excluded. In common law countries, courts usually recognize certain disputes as non-arbitrable. In civil law countries, exceptions from the scope of arbitrable cases are enshrined in law.

The range of cases permissible for referral to arbitration is the result of the coordination of private and public interests. Regardless of the specific country, arbitrable disputes always concern only those rights that the parties can freely dispose of, and cases of protection of inalienable rights cannot become the subject of arbitration.

European and American approaches to arbitrability differ somewhat. In the European tradition, the rules of arbitrability are a set of national legislation based on public policy considerations that determine the admissibility of submitting disputes to international commercial



arbitration. American experts traditionally rely on the doctrine of “non-arbitrability”, which is an analogue of the legal construct of objective arbitrability. The doctrine of “unarbitrability” addresses a special and limited type of unenforceability of a valid arbitration agreement. When an arbitration agreement is void due to defect of will, formality, duress or error, it does not become binding and cannot be enforced against the will of the parties under any circumstances. In contrast, the doctrine of “non-arbitrability” states that a valid arbitration agreement cannot be enforced as applied to a particular dispute or merits of the case. The emphasis in the analysis is on a specific dispute or claim, and not on the terms of the parties' agreement to arbitrate.[2, p .769] In this sense, arbitrability is usually viewed as an external factor limiting the effectiveness of the arbitration agreement. Note that some authors even consider arbitrability as an element of the validity of the arbitration agreement.

Arbitrability, based on the characteristics of a legal case, is a legal permission that determines the possibility of its transfer for consideration and resolution to arbitration, as well as a general condition for recognizing the competence of the arbitration tribunal to consider a dispute of a certain category. Arbitrability reflects the state's consent to recognize the results of arbitration activities, which is formalized either by the legislator or the courts. In this sense, arbitrability is a product of national law. Modern researchers pose the question more broadly. According to some estimates, arbitrability is a multi-faceted and multi-purpose concept, the dynamics of which, despite its national origin, are determined by international law. Arbitrability establishes categories of disputes that can be moved from the area related to arbitration to the area of the exclusive jurisdiction of national courts [6, p.7].

The literature rightly notes that arbitrability is essentially a matter of national public policy. Just as the content of public policy may vary from country to country, the arbitrability of a particular dispute may vary significantly depending on the jurisdiction [1, p.27]. In France, Belgium, Spain, Indonesia, many countries of the Middle East, Africa and Latin America, states that have adopted the UNCITRAL Model Law, disputes by the legislator, as a rule, are clearly divided into *arbitrable and non-arbitrable* . The key becomes the distinction between which rights are allowed and which are not for the free disposal of the parties, in other words, between cases in which the public (state) interest in achieving a certain result is such that the rules aimed at achieving this goal cannot be changed agreement of the parties (relations regulated by super-imperative norms), and cases in which relations regulated by super-imperative norms are not affected [13, p .220]. In Italy, Switzerland, and the Netherlands, parties may submit disputes concerning rights that they can freely dispose of to arbitration, with the exception of cases whose submission to arbitration is expressly prohibited by law. Let us note that the general wording of the law, which allows for the consideration in arbitration of disputes on which the parties can enter into an agreement (as, for example, in Belgium) or use other conciliation procedures, is not always convenient for practical application.

In the USA and Great Britain, the definition of the range of cases admissible for consideration in arbitration is carried out by case law through the establishment of exceptions (exceptions) from the general arbitrability of disputes. So, in the USA in the second half of the 20th century . courts have established restrictions on the freedom of parties to refer certain categories of cases to arbitration, in particular in those areas that have traditionally been considered to be under the exclusive jurisdiction of federal and state courts. As a result, certain types of disputes, primarily those involving significant public interest, have been found to be non-arbitrable.

The doctrine distinguishes between *arbitrability in the broad and narrow senses*. *Arbitrability in the narrow sense* is the categories of disputes that can be submitted to arbitration. A dispute is considered arbitrable when its object can be the subject of arbitration in accordance with the applicable law. It is in this sense that the arbitrability of a dispute becomes a condition for the recognition and enforcement of arbitration decisions or the preservation of legal force by such decisions within the framework of the procedure for challenging them. *In a broad sense, the concept of “arbitrability”* has been used by overseas scientists to refer to issues related to the existence and validity of an arbitration agreement, as well as issues of the competence of the arbitrators based on it. The reason for this was the 1995 decision of the US Supreme Court in the case of First Options of



Chicago, Inc. v. Kaplan, during the consideration of which American courts were faced with the problem of whether arbitrators could decide the issue of the arbitrability of a dispute derived from the existence of an arbitration agreement between the parties. The concept of the broad meaning of the concept of arbitrability currently does not find many supporters among legal scholars and is subject to criticism.

It is also common to distinguish between *objective and subjective arbitrability*, which will be discussed in detail below. *Objective arbitrability* is related to the nature of the case and determines the admissibility of certain categories of cases being considered in arbitration. *Subjective arbitrability* is the possibility of concluding an arbitration agreement by some subjects of civil legal relations. In the doctrine, *objective arbitrability* also means the possibility of concluding an arbitration agreement in relation to the subject of the dispute, subjective arbitrability is the ability of a party to conclude an arbitration agreement (which is generally considered as an analogue of the corresponding procedural capacity) [4, p.42].

The criteria for arbitrability are not identical to the previously discussed criteria (features) of the subject competence of international commercial arbitration. *Arbitrability criteria* are signs that determine the admissibility of resolving a dispute by international commercial arbitration. If they exist, cases can be resolved by bodies of non-state civil jurisdiction - arbitration, subject to a number of other requirements. It is no coincidence that the legislator formulates the rules on arbitrability as a permission. The courts noted that these rules establish general criteria for the arbitrability of disputes that can be submitted to arbitration operating in the form of international commercial arbitration.

Arbitrability criteria should be understood as certain key features that a dispute, an arbitration agreement, or a party to a legal relationship participating in a dispute must meet in order for the dispute to be qualified as arbitrable [3, p .741].

Galperin M.L. believes that “as a general rule, any civil dispute that can be considered by a state court is arbitrable.”[10, p.13]

Rozhkova M.A. believes that in order to determine the arbitrability of a dispute, it is necessary to analyze two factors, which include: 1) the admissibility of submitting such a dispute to arbitration; 2) inclusion of this dispute in the scope of the arbitration agreement [11, p .33].

I. Minina offers two criteria: private law (the relations of the parties and the dispute arising from the contract, even if the state is a party to the dispute, must be civil, private law) and public law (recognition and enforcement of the decision should not contradict the norms of public law of the state) [5, p.25-26].

In particular, G.V. disagrees with this position. Sevastyanov also proposes the following as his own criteria for arbitrability: “the nature of the disputed legal relationship (objective criterion); subjective composition of the participants in the dispute (subjective criterion); the presence of a dispute about the law (criterion for the contestability of a legal relationship) ”[12, p .112].

At present, as can be seen from the analysis of the above positions, there is no consensus in the doctrine regarding which arbitrability criterion is prevailing and whether such criteria exist at all. In the current legislation, the criteria for arbitrability are not directly regulated; there are no clear, understandable “instructions for use” for courts when determining the arbitrability of a dispute. In our opinion, this is a significant drawback of the current regulation.

The rules on arbitrability are characterized by a high level of generalization. The criteria established by them make it possible to answer the question of whether it is permissible to transfer cases of a certain category to consideration and resolution of international commercial arbitration. The approach of T.N. seems promising for practical application. Neshataeva to determine the arbitrability of a conflict. She identifies two most common **methods**: permissive, when the law lists the types of disputed legal relations that are allowed to be settled by an arbitrator, and restrictive (or exclusionary), when the law directly lists the types of disputes that the legislator does not allow to be considered in arbitration. As a rule, both methods - permissive and restrictive - are combined in one law, or their combination is derived based on the analysis of several legislative acts. We can agree with T.N. Neshataeva is that the more clearly the legislator allows or prohibits participants in



economic relations (or arbitrators) to resort to the arbitration procedure, the more efficiently the entire system of resolving economic conflicts works [7, p.265].

Summarizing the above, we note that arbitrability, formed by the characteristics of a legal case, is a legal permission that determines the possibility of its transfer for consideration and resolution to arbitration, as well as a general condition for recognizing the competence of international commercial arbitration to consider a dispute of a certain category. Arbitrability rules are a set of legal rules based on public policy considerations that determine the admissibility of submitting a dispute to international commercial arbitration.

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LEGAL REGIME AND BANK RESOLUTION PROCEDURE

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Summary. The 2008 financial crisis highlighted the fragility of the banking system, which led to the implementation of legal rules to protect the stability of the banking system at EU Member State level through Directive 2014/59/EU establishing a legal framework for the recovery and resolution of credit institutions and investment firms. Taking into account the economic and financial situation, as well as the pressure to which the Moldovan authorities are subject, Law 232/2016 on the recovery and resolution of banks was promoted and adopted. Thus, *bank resolution* is a procedure designed to save, in whole or in part, the business of some banking entities. Bank resolution avoids and bypasses judicial insolvency proceedings. Thus, from a legal point of view, bank resolution is a procedure that allows systemic banks and the resolution authority to avoid normal judicial insolvency proceedings. The aim of bank resolution is therefore not to save the bank itself, but to ensure the continuity of critical bank functions, such as access to bank deposits and making payments. Thus, significant disruptions in the banking sphere could have negative economic, financial and social effects within a state entity. There is a certain difference between bank resolution and normal insolvency proceedings, namely: the overall objective of the resolution regime is to ensure the rapid resolution of a bank with minimal risk to financial stability. The objectives of resolution are much broader than the objectives of normal insolvency proceedings, which usually focus on the interests of creditors. The resolution regime aims to ensure overall financial stability. In this context, the resolution authority would also seek to ensure that no creditor would be disadvantaged in the resolution process, which is not the case in insolvency proceedings.

Keywords: bank, creditor, banking system, bank resolution, insolvency, credit institution, financial stability.

Резюме. Финансовый кризис 2008 года продемонстрировал хрупкость банковской системы, что привело к внедрению правовых норм по защите стабильности банковской системы на уровне государств-членов ЕС посредством Директивы 2014/59/EU, устанавливающей правовые рамки для восстановления и урегулирования деятельности кредитных учреждений и инвестиционных компаний. Учитывая экономическую и финансовую ситуацию, а также давление, которому подвергаются молдавские власти, был продвинут и принят Закон 232/2016 о восстановлении и резолюции по отношению к банкам. Таким образом, *резолюция банка* - это процедура, направленная на полное или частичное спасение бизнеса некоторых банковских организаций. Резолюция банка позволяет избежать судебной процедуры банкротства и обойти ее. Таким образом, с юридической точки зрения резолюция банка - это процедура, позволяющая системным банкам и органу, принимающему резолюцию, избежать обычной судебной процедуры несостоятельности. Поэтому целью резолюции банка является не спасение самого банка, а обеспечение непрерывности важнейших функций банка, таких как доступ к банковским вкладам и проведение платежей. Таким образом, значительные сбои в банковской сфере могут иметь негативные



экономические, финансовые и социальные последствия в рамках государственного образования. Существует определенное различие между резолюцией банка и обычными процедурами несостоятельности, а именно: общая цель режима урегулирования заключается в обеспечении быстрого урегулирования банка с минимальным риском для финансовой стабильности. Цели урегулирования гораздо шире, чем цели обычного производства по делу о несостоятельности, которое обычно сосредоточено на интересах кредиторов. Режим урегулирования направлен на обеспечение общей финансовой стабильности. В этом контексте орган по урегулированию также стремится обеспечить, чтобы ни один кредитор не оказался в невыгодном положении в процессе урегулирования, чего не происходит при производстве по делу о несостоятельности.

Ключевые слова: банк, кредитор, банковская система, резолюция банка, неплатежеспособность, кредитная организация, финансовая стабильность.

The 2008 financial crisis highlighted the fragility of the banking system, which led to the implementation of legal rules to protect the stability of the banking system at national and international level. The development of the legal, institutional and regulatory framework on financial stability was one of the main actions to strengthen and reform the financial and banking sector in Moldova. The experience of the European Union Member States and the provisions of Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms were taken into account when drafting the new regulation. As a result, taking into account the political and economic environment and the pressure on the authorities to unblock international financial support, the process of drafting the Law 232/2016 on Bank Recovery and Resolution was launched in spring 2016.

Thus, *bank resolution* is a procedure designed to save, in whole or in part, the businesses of banking entities, entities which, by the scale of the effects of their activities on the economy, by the contagion effect that their eventual bankruptcy would entail and by the destructive fears that such an outbreak of economic and legal infection would trigger, are considered too big to be allowed to fail. Bank resolution avoid and circumvent judicial insolvency proceedings, they are extra-judicial, non-transparent procedures that ignore, almost without exception, the rights of creditors.

Thus, from a legal point of view, bank resolution is a procedure that allows systemic banks and the resolution authority to avoid (or, rather, bypass) normal insolvency proceedings, knowing that such a judicial insolvency procedure.

The aim of bank resolution is therefore not to save the bank itself, but to ensure the continuity of its critical functions, such as access to bank deposits and making payments. Maintaining these functions is essential in the case of major banks, as any collapse of these institutions, with the cessation of these functions, could seriously damage the financial system and the real economy. As is well known, the social costs of closing a bank are much higher than the private costs. Banks manage an important part of the public's savings, lend to other firms, manage the flow of payments in an economy and serve as a conduit for monetary policy. Significant disruptions in access to bank deposits or in the operation of settlement systems could therefore have a high negative impact on economic activity.

There is a certain difference between bank resolution and normal insolvency proceedings, namely: the overall objective of the resolution regime is to ensure the rapid resolution of a bank with minimal risk to financial stability.

The objectives of resolution are much broader than the objectives of normal insolvency proceedings, which usually focus on the interests of creditors and increase the value of the insolvency asset. The resolution regime aims to ensure overall financial stability. In this context, the resolution authority would also seek to ensure that no creditor would be disadvantaged in the resolution process, which is not the case in insolvency proceedings.

The *Single Resolution Committee* (EU-wide resolution authority) defines resolution [1] as the restructuring of a bank by a resolution authority, using resolution tools, in order to ensure the public



interest, including the continuity of critical bank functions, financial stability and minimum costs for taxpayers.

Because of this vital role that banks play and in the absence of effective resolution regimes, authorities have in the past often found it necessary to use taxpayers' money (public money) to restore confidence in the banking system and avoid wider systemic damage.

A resolution measure should only be taken when it is deemed necessary in the public interest and only when the liquidation of the bank through normal insolvency proceedings would not meet the resolution objectives set out in Law 232/2016 on bank recovery and resolution to the same extent. In such cases, resolution tools are used to intervene in the situation of a bank in the process of going into difficulty, with the aim of ensuring the continuity of its critical financial and economic functions, the impact of the bank's going into difficulty on the economy and the financial system. The resolution regime ensures that the losses of a failing bank will be borne by its shareholders and creditors, not by taxpayers.

In this context, the National Bank of Moldova is the resolution authority in the banking sector in the Republic of Moldova, according to Law 548/1995 on the National Bank of Moldova. The same institution, which is also the regulatory, control and supervisory authority in the field, is, in this particular matter, the administrative authority, which replaces the judicial court, appoints and controls the crisis manager (equivalent to the receiver and liquidator), decides how the resolution is carried out, which creditors, including depositors, will be affected by the measure of reduction or conversion of their claim into shares, in what amount, in what order of priority, how the assets are segregated, how the bridge institution is set up and what its activity is, all of which is carried out confidentially and from the position of a resolution, supervisory and control authority which, in addition to its monetary policy and currency-issuing powers, also has delegated legislative powers and can issue regulations, circulars and other binding rules for operators in the system. The NBM is also the conclave that draws up the resolution plan of the banking entity in difficulty, as it results from Law 232/2016 on the recovery and resolution of banks.

According to Law 232/2016, *resolution* involves the application of a resolution tool for the purpose of achieving one or more of the resolution objectives.

The term "bank resolution" [2] in the context of Law 232/2016 on bank recovery and resolution, describes the process of restructuring a banking institution by a resolution authority, using resolution tools and powers, to ensure the continuity of the essential functions of that institution (e.g. deposits, payment operations), restoring its viability, in whole or in part, and winding up its residual part.

Among the main innovative elements of Law 232/2016 on bank recovery and resolution we can mention:

1. The text of the law transposes the provisions of Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms [3];

2. A number of actions are foreseen that fall under the heading "Preparedness". These are: recovery and resolution planning and resolvability;

3. Early intervention includes: early intervention measures; replacement of the management body; appointment of the temporary administrator;

4. Resolution established by Law 232/2016 includes: setting the objectives of resolution; conditions for triggering the resolution procedure; special administrator; valuation; resolution tools, including: *sale of business tool, bridge bank tool, ring-fencing tool, internal recapitalization tool*; public financial stabilization tools; write-down of capital instruments; resolution powers; backstop mechanisms; procedural obligations; right to challenge and exclusion of other measures; resolution funding mechanisms.

As regards Directive 2014/59/EU, it aims to introduce harmonized rules in all EU Member States and to encourage cooperation between national resolution authorities in resolving cross-border banking and financial groups. The implementation of the Directive's provisions gives national authorities the possibility to intervene quickly in problem banks to ensure the continuity of their



critical services, while reducing the potential impact of bank distress on the economy and the financial system. At the same time, the protection of covered depositors, who are covered by deposit guarantee legislation, is ensured and the integrity of public finances is protected.

The main elements of Directive 2014/59/EU are:

- prevention (plans and standards; resolution fund);
- early intervention (in order to ensure the continuation of the bank's core business and its rapid recovery, national resolution authorities have the power to intervene before a bank's situation deteriorates beyond repair by taking actions such as: requiring urgent reforms to be implemented; requiring the bank to develop a plan for debt restructuring with its creditors; making changes to the bank's management and appointing special or temporary administrators);
- resolution (national resolution authorities have the power: to sell part of the institution; to create a bridge bank to continue the most important activities (temporary transfer of good bank assets to a state-run entity); to ring-fence assets (the latter would be transferred to an asset management entity); to apply internal valuation measures: e.g. debt-to-equity conversion or write-down, so that losses are imposed on the bank's shareholders and creditors in a set order and not on taxpayers).

So in 2014, the European Union adopted a legal framework to be used for banks in distress in the form of the Single Resolution Mechanism, the second pillar of the European Banking Union. It applies to banks in euro area Member States. The Single Resolution Mechanism brings together the Single Resolution Committee - the resolution authority responsible for significant banks and cross-border banks of any size - and national resolution authorities, which are responsible for less significant banks in their jurisdictions. The Single Resolution Mechanism provides a framework for the orderly winding up of banks. Its aim is to avoid adverse effects on financial stability, to ensure the protection of covered depositors and to safeguard public funds by minimizing reliance on extraordinary public financial support.

In recent years, the European Union has developed a set of harmonized rules for bank supervision and resolution. These are known conceptually as the 'single rulebook'. With regard to resolution, the single regulatory framework mainly comprises the Directive, the Single Resolution Mechanism Regulation, a number of delegated or implementing Commission regulations and standards, and guidelines of the European Banking Authority. In addition, for the preparation of resolutions, resolution authorities produce manuals and guidance notes, which set out the policies to be applied.

Thus, the Republic of Moldova needed a major banking crisis to finally have legislation in the field of bank resolution and recovery. From a formal point of view, it is fully aligned with international best practices and European mechanisms. From a substantive point of view, it responds in particular to the challenges posed by the fraud of several domestic banks, but also to the risks that have arisen since the last international financial crisis.

If an institution fails to submit an adequate recovery plan, the supervisory authority must have the power to require it to take the necessary measures to remedy the plan's major shortcomings. In the process of transposing the Directive into national law, several European countries have been confronted with the fact that the requirement could affect the freedom to conduct a business as guaranteed by Article 16 of the Charter of Fundamental Rights of the European Union. However, limiting this fundamental right is necessary to achieve financial stability objectives. More specifically, this limitation is imperative in order to strengthen the activity of the institutions and to avoid an excessive increase in the activities of the institutions or in the risks taken by them without their being able to overcome difficulties, cover losses and restore their capital base.

Resolution planning is carried out by the National Bank of Moldova and appears as a resolution prevention measure, as it does not mean that the resolution will actually be triggered, it does not lead to the automatic initiation of the resolution procedure. But at the same time, resolution planning could



be, in itself, the start of the road to a state of major difficulty, which may lead the bank to resolution or, if necessary, bankruptcy. In view of the above, the NBM:

- (a) develop a resolution plan for each bank;
- (b) ensure that the structure exercising the resolution function develops the resolution plan after consultation with the structure exercising the supervisory function;
- (c) identify in the resolution plan the major obstacles to possible resolution and, if necessary, also identify relevant measures to remove the obstacles;
- (d) reassess and, if necessary, update the resolution plans, at least annually and after any significant change in the bank's organizational or legal structure, business or financial position which, in the opinion of the National Bank of Moldova, could have a significant impact on the effectiveness of the resolution plans or which would require a change to the resolution plans.

In applying the legal provisions, banks shall promptly inform the National Bank of any change that may require a reassessment or update of the plans. Therefore, the central bank shall ensure that the structure exercising the supervisory function informs the structure exercising the resolution function in a timely manner of any changes that may require a reassessment or update of the plans, in order to take into account relevant scenarios, including the possibility that the bank's situation of major difficulty is due to individual circumstances or arises from widespread financial instability or systemic events.

According to Law 232/2016 on bank recovery and resolution, the NBM is empowered to apply the following resolution tools:

- *Sale of business*. This tool allows the full or partial sale of a bank's business to market participants in a determined and structured process;
- *bridge bank*. Part or all of a bank is transferred to a temporary entity, which is wholly or partly owned by the state;
- *separation of assets*. Assets, rights or liabilities may be transferred to an asset management vehicle, which is wholly or partly owned by the state;
- *internal recapitalizations*. Equity or debt may be subject to write-down or conversion so that the burden is borne by shareholders and creditors rather than taxpayers.

If a commercial bank meets all the conditions for resolution, the National Bank of Moldova may apply the resolution tools individually or in any other combination, with the exception of the asset stripping tool, which shall only be applied in conjunction with another resolution tool.

It should be noted that Law 232/2016 does not expressly provide for the circumstances of the use of one instrument or another, however, when applying resolution tools, the National Bank of Moldova takes into account the objectives of resolution and chooses those tools that allow the highest degree of achievement of the objectives considered by it as relevant to each particular situation. If only the resolution tools: sale of business and bridge bank are used and they are used to transfer only part of the assets, rights or obligations of the bank under resolution, the residual bank from which the assets, rights or obligations have been transferred shall be liquidated, according to the procedure of compulsory liquidation of the bank.

If a bank violates or, due to a rapidly deteriorating financial situation, is likely to violate, in the near future, the requirements of the Law No 202/2017 on the activity of banks and/or the regulations issued by the National Bank of Moldova in application thereof, or if at least 50% of the bank's capital is held by persons who do not have the permission of the National Bank, if required by law, the National Bank may take, as appropriate, at least the following early intervention measures:

- (a) request the bank's management body to implement one or more of the arrangements or measures set out in the recovery plan or to update such recovery plan where the circumstances leading to the early intervention differ from the assumptions set out in the original recovery plan and to implement one or more of the arrangements or measures set out in the updated plan within a specified period of time to ensure that the conditions referred to in the introductory part of this Article no longer exist;



(b) request the Bank's management body to review the situation, identify measures to address any problems identified and develop an action programmer to address those problems and a timetable for its implementation;

c) request the Bank's management body to convene a general meeting of the Bank's shareholders or, if the management body fails to comply with this requirement, to convene such a meeting directly and, in both cases, to set the agenda and request that certain decisions be considered for adoption by the shareholders;

d) request the replacement of one or more members of the bank's governing body, if these persons prove to be unsuitable for the performance of their duties within the meaning of the Law No 202/2017 [4] on the activity of banks and the regulations issued by the National Bank of Moldova in application thereof;

e) request the bank's management body to draw up a plan for negotiating debt restructuring with some or all of the bank's creditors, in accordance with the recovery plan, as appropriate;

(f) request changes in the bank's business strategy;

(g) request changes in the legal or operational structure of the Bank;

(h) obtain, including through on-site inspections, and provide to the National Bank of Moldova all information necessary for updating the resolution plan and for the preparation of a possible resolution of the bank, as well as for carrying out a valuation of the bank's assets and liabilities.

Rapid deterioration of a bank's financial situation is assessed on the basis of a set of indicators established by regulations of the National Bank of Moldova and includes, among others, a deterioration of the liquidity situation, an increase in leverage, non-performing loans or concentration of exposures.

In the event of significant deterioration of the financial situation of a bank or when there are serious violations of laws, regulations or the bank's constitutive acts, or serious administrative irregularities and if the above-mentioned early intervention measures are not sufficient to put an end to this deterioration, or if the bank's capital is at least 50% owned by persons who do not have the permission of the National Bank of Moldova, if such permission is required by law, the *replacement of the bank's management body* as a whole or of some of its members shall be requested.

The appointment of members shall be carried out in accordance with the provisions of the Law no. 1134-XIII of 2 April 1997 on joint-stock companies and the Law no. 202/2017 on the activity of banks and shall be subject to the approval of the National Bank of Moldova as the competent authority.

If it is considered that the replacement of the management body is an insufficient method to remedy the situation or if the bank's capital is at least 50% owned by persons who do not have the permission of the National Bank of Moldova, if this is required by law, the National Bank *may appoint one or more temporary administrators of the bank, which may include the Deposit Guarantee Fund in the banking system*. The National Bank of Moldova may appoint any temporary administrator, proportionate to the given circumstances, either to temporarily replace the bank's governing body or to temporarily work with the bank's governing body and shall specify this in its decision at the time of appointment [5].

Where a temporary administrator is appointed to work with the bank's management body, the role, duties and powers of the temporary administrator shall also be specified at the time of appointment, as well as the requirements for the bank's management body: to consult with the temporary administrator, to obtain his/her agreement before taking certain decisions or actions.

The National Bank of Moldova shall make public on its official website the appointment of any temporary administrator, unless the temporary administrator does not have the power to represent the bank. When appointing the temporary administrator, it shall be taken into account that the temporary administrator has the necessary qualifications, knowledge and skills to perform the functions and is not involved in any conflict of interest.

When the temporary administrator is appointed, he/she shall be assigned the powers that are appropriate to the circumstances. The powers may include some or all of the functions of the Bank's



management body in accordance with the Bank's Articles of Incorporation and applicable national law, including the power to exercise some or all of the administrative functions of the Bank's management body. The powers of the temporary administrator shall, in relation to the Bank, comply with the provisions of the legislation in force.

The remuneration of the temporary administrator, where applicable, of the temporary administrators shall be borne by the bank and shall be determined by the National Bank of Moldova, taking into account the remuneration policy of the bank, drawn up in compliance with the applicable legal provisions, and the total level of such remuneration shall not exceed the aggregate level of remuneration granted to the members of the bank's management body over an equivalent period of time.

The role and functions of the temporary administrator shall be established at the time of his/her appointment and may include assessing the financial position of the bank, managing the business or part of the business of the bank with a view to maintaining or restoring the financial position of the bank and taking measures to restore the sound and prudent management of the business of the bank, specifying any limits to his/her role and functions [6].

The National Bank of Moldova shall have the exclusive power to appoint, replace and, if necessary, dismiss any temporary administrator. At the same time, a temporary administrator may be replaced at any time and for any reason, and the terms of the temporary administrator's mandate may be amended at any time.

The National Bank of Moldova may require that certain acts of a temporary administrator be subject to its prior approval by setting such requirements at the time of appointment of a temporary administrator or at the time of any change in the terms of reference of a temporary administrator. The temporary administrator may, in any case, exercise the power to convene a general meeting of the shareholders of the bank and to determine the agenda of such meeting, but only with the prior approval of the National Bank of Moldova. At the same time, the National Bank may request the temporary administrator to prepare reports on the financial position of the bank and the acts undertaken during his mandate, at intervals established by the National Bank, as well as at the end of the temporary administrator's mandate [7].

The period of appointment of a temporary administrator should not exceed one year. The period of appointment may exceptionally be extended whenever necessary if the conditions for the appointment of the temporary administrator continue to be met. The National Bank of Moldova shall be responsible for determining the extent to which the conditions for maintaining a temporary administrator are met and for a possible justification of the decision to the shareholders.

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SALE OF THE BUSINESS IN CASE OF BANK RESOLUTION

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Summary. By means of the instrument of sale of the business, the National Bank of Moldova exercises its power to transfer shares and other instruments of ownership issued by an institution under resolution, or any of its assets, rights, or obligations, without the consent of the shareholders or any third party other than the purchaser. This instrument is not subject to a procedural requirement under applicable company or capital market law. The transfer is carried out on commercial terms, based on its guarantee through the issuance by the Ministry of Finance of state guarantees and state securities, adopted by Government decision. At the same time, the National Bank of Moldova shall be entitled to transfer, on a repeated basis, in order to effect additional transfers of shares or other ownership instruments issued by a bank under resolution or, as the case may be, of assets, rights or obligations of the bank under resolution. Therefore, a transfer of shares or other instruments of ownership, which take place by virtue of the application of the sale of business tool, would result in the acquisition or increase of a stake in the share capital of the bank. In this context, the National Bank of Moldova shall carry out the necessary assessment so as to enable the prompt application of the sale of business tool and facilitate the resolution action to achieve the objectives relevant to the process. On this basis, the purchaser shall be considered the successor in title of the bank under resolution and may continue to exercise any such rights exercised by the bank under resolution in relation to the assets, rights or obligations transferred, including intellectual property rights. Shareholders or creditors of the resolved bank and other third parties whose assets, rights or obligations are not transferred shall have no rights in or to the assets, rights or obligations transferred.

Keywords: bank, creditor, banking system, bank resolution, insolvency, credit institution, financial stability.

Резюме. С помощью документа о продаже бизнеса Национальный банк Молдовы осуществляет свои полномочия по передаче акций и других инструментов собственности, выпущенных учреждением, в отношении которого принято решение, или любых его активов, прав или обязательств, без согласия акционеров или любой третьей стороны, кроме



покупателя. На данный инструмент не распространяются процедурные требования в соответствии с действующим законодательством о компаниях или рынках капитала. Передача осуществляется на коммерческих условиях под гарантию путем выдачи Министерством финансов государственных гарантий и государственных ценных бумаг, принятых решением Правительства. В то же время Национальный банк Молдовы имеет право на неоднократную передачу в целях осуществления дополнительной передачи акций или других инструментов собственности, выпущенных банком, в отношении которого принято решение, или, в зависимости от обстоятельств, активов, прав или обязательств банка, в отношении которого принято решение. Таким образом, передача акций или других инструментов собственности, которая происходит в результате применения инструмента продажи бизнеса, приведет к приобретению или увеличению доли в уставном капитале банка. В этом контексте Национальный банк Молдовы проводит необходимую оценку, чтобы обеспечить оперативное применение инструмента продажи бизнеса и облегчить действия по урегулированию для достижения целей, относящихся к данному процессу. На этом основании покупатель считается правопреемником банка, в отношении которого принято решение, и может продолжать осуществлять любые права, осуществляемые банком, в отношении которого принято решение, в отношении переданных активов, прав или обязательств, включая права интеллектуальной собственности. Акционеры или кредиторы ликвидируемого банка и другие третьи лица, чьи активы, права или обязательства не передаются, не имеют никаких прав в отношении передаваемых активов, прав или обязательств.

Ключевые слова: банк, кредитор, банковская система, резолюция банка, неплатежеспособность, кредитная организация, финансовая стабильность.

By means of *the sale of business instrument*, the National Bank of Moldova exercises its power to transfer shares/other ownership instruments issued by a resolution institution, or any of its assets, rights, or obligations, without the consent of the shareholders or any third party other than the purchaser. This instrument is not subject to a procedural requirement under applicable company or capital market law. The transfer is carried out on commercial terms, based on its guarantee through the issuance by the Ministry of Finance of state guarantees and state securities, adopted by Government Decision [1].

It is noted that any consideration is paid by the purchaser to the owners of the shares or other instruments of ownership in two situations: if the sale of the business was carried out by transferring to the purchaser the shares or instruments of ownership, issued by the bank under resolution from the holders of those shares or instruments and to the bank under resolution; if the sale to the purchaser was carried out by transferring some or all of the assets, rights or obligations of the bank under resolution.

In addition, the National Bank of Moldova shall have the right to transfer, on a repeated basis, in order to effect additional transfers of shares or other instruments of ownership issued by a bank under resolution or, as the case may be, of assets, rights or obligations of the bank under resolution.

Subsequently, after the application of the instrument of sale of the business, the National Bank of Moldova may, with the approval of the purchaser, exercise transfer powers in respect of the assets, rights or obligations transferred to the purchaser to transfer the assets, rights or obligations back to the resolution bank, or the shares or other instruments of title back to their original owners, and the resolution bank or the original owners shall be obliged to repurchase any such assets, rights or obligations, shares or other instruments of title.

If a transfer of shares or other instruments of ownership, which take place by virtue of the application of the sale of business tool, would result in the acquisition or increase of a stake in the share capital of the bank, the National Bank of Moldova shall carry out the necessary assessment so as to enable the prompt application of the sale of business tool and facilitate the resolution action to achieve the objectives relevant to the process.



At the same time, if the structure exercising the supervisory function has not completed the valuation of the acquisition, from the date of the transfer of shares or other ownership instruments, related to the application of the sale of business tool by the structure exercising the resolution function, the following provisions shall apply [2]:

- that transfer of shares or other instruments of ownership to the buyer has immediate legal effect;
- during the assessment period of the acquisition and during any period in which the transfer of shares or other instruments of ownership is requested, the voting rights of the purchaser shall be suspended and shall be vested solely in the National Bank of Moldova, which shall have no obligation to exercise such voting rights and shall bear no liability for the exercise or non-exercise thereof;
- during the period of assessment of the acquisition and during any period in which the transfer of shares or other ownership instruments has been requested, the legal effects, including the sanctions provided for in the Law No 202/2017 on the Activity of Banks for violation of the requirements for requesting prior permission from the National Bank of Moldova for the acquisition of shares in the share capital of the bank, respectively notification of the disposal and reduction of shares in the share capital of the bank, shall not apply to the respective transfer of shares or other ownership instruments;
- The National Bank of Moldova shall ensure that, as soon as the assessment of the acquisition is completed, the structure exercising the supervisory function shall provide the acquirer with the prior permission or the decision on the refusal to issue the permission, and shall inform the structure exercising the resolution function thereof;
- if the National Bank of Moldova approves the acquisition, the voting rights attached to the shares or other ownership instruments transferred to the acquirer shall be deemed to be fully granted to the acquirer immediately after the acquirer has received the prior permission;
- if the National Bank of Moldova, as the competent authority, refuses to issue the prior permission, the following provisions shall apply: the voting rights attached to such shares or other instruments of ownership shall be fully valid; the National Bank of Moldova may require the purchaser to dispose of such shares or other instruments of ownership within a time limit set by the National Bank of Moldova, after having taken into account the prevailing market conditions; if the purchaser does not complete such disposal within the time limit set in the previous point, the provisions relating to non-compliance with the shareholding requirements laid down in the applicable banking legislation at the time of cancellation shall apply.

The purchaser shall be deemed to be the successor in title of the resolution bank and may continue to exercise any such rights exercised by the resolution bank in respect of the assets, rights or obligations transferred, including in respect of intellectual property rights. Shareholders or creditors of the resolved bank and other third parties whose assets, rights or obligations are not transferred shall have no rights in or to the assets, rights or obligations transferred.

The National Bank of Moldova's disposal of the assets, rights, obligations, shares or other instruments of ownership that it intends to transfer shall be carried out in accordance with the following principles [3]:

- shall be as transparent as possible and shall not materially misrepresent the assets, rights, obligations, shares or other property instruments that the National Bank intends to transfer, having regard to the circumstances and, in particular, the need to maintain financial stability;
- must not unduly favor or discriminate against any potential purchaser;
- it must be free from any conflict of interest;
- it must not confer any unfair advantage on any potential purchaser;



- it must take into account that the resolution action must be carried out expeditiously;
- maximize the sale price of the shares or other instruments of ownership, assets, rights or obligations concerned.

At the same time, the National Bank of Moldova may apply the sale of business instrument without compliance with the requirement of going public, if it determines that compliance with the above-mentioned requirements could undermine one or more of the resolution objectives and, in particular, if the following conditions are checked [4]:

- the National Bank of Moldova considers that the state of major difficulty in which the bank under resolution is or is likely to find itself would create or worsen an already serious threat to financial stability;
- the National Bank of Moldova considers that compliance with the above requirements could undermine the effectiveness of the sale of business tool in removing the threat to financial stability or achieving the resolution objective.

Through the *bridge bank facility*, the National Bank of Moldova shall exercise its power to transfer shares/other ownership instruments issued by one or more institutions subject to resolution or any of their assets, rights or obligations, without the consent of the shareholders or any third party other than the bridge institution, to a bridge institution established for this purpose, which is wholly or partly owned by one or more public authorities and controlled by the National Bank of Moldova.

A bridge bank is a legal person which fulfills all of the following requirements: the share capital is owned by the Ministry of Finance and the bridge bank is controlled by the National Bank of Moldova;

- B. it is created for the purpose of receiving and holding some or all of the shares or other instruments of ownership issued by a bank under resolution, or some or all of the assets, rights and obligations of one or more banks under resolution, with a view to maintaining access to critical functions and selling the bank.

In applying this instrument, the National Bank of Moldova shall ensure that the total value of the liabilities transferred to the bridge bank does not exceed the total value of the rights and assets transferred from the resolution bank or provided from other sources. In order to ensure the condition provided for in this Article, the Government shall have the right to decide on the issuance by the Ministry of Finance of state guarantees, state securities and the conversion of the bridge bank's debts to the state into capital, with the aim of ensuring the balance between the bridge bank's assets and liabilities.

Following the application of the bridge bank facility, the National Bank of Moldova may transfer back the rights, assets or obligations of the bridge bank to the resolved bank, or the shares, or other instruments of ownership back to their original owners, and the resolved bank or the original owners shall be obliged to repurchase any such assets, rights, obligations, shares or other instruments of ownership and may transfer shares or other instruments of ownership, or assets, rights, or obligations of the bridge bank to a third party.

The National Bank of Moldova has the power to determine that a bridge bank shall be considered as a successor to the bank under resolution and may continue to exercise all the rights exercised by the bank under resolution relating to the assets, rights or obligations transferred, including in relation to intellectual property rights [5].

The objectives of the bridge bank shall not entail any obligation or liability of the bridge bank to the shareholders and creditors of the resolved bank, and the management body shall not be liable to those shareholders or creditors or to any other person for any act or omission in the performance of their duties, unless the act or omission in question involves intent or gross negligence, as defined by law, directly affecting the rights of shareholders, creditors or other persons.

The effective operation of a bridge bank requires compliance with the following requirements:

- The content of the documents on the establishment of the bridge bank is approved by the National Bank of Moldova;



- The bridge bank's supervisory board consists of 2 members appointed by the National Bank of Moldova and one member appointed by the Ministry of Finance;
- The bridge bank's Supervisory Board appoints its executive body;
- The National Bank of Moldova approves the management body of the bridge bank, approves the remuneration of the members of the management body and determines their responsibilities;
- the National Bank of Moldova approves the strategy and risk profile of the bridge bank;
- the bridge bank is licensed in accordance with the provisions of the Law No 202/2017 on the activity of banks, the regulations issued by the National Bank of Moldova in application thereof or the capital market legislation, if applicable, and holds the necessary licences and permits to conduct activities or provide services related to the items taken over following a transfer.
- The bridge bank complies with the provisions of the Law No 202/2017 on the activity of banks, the regulations issued by the National Bank of Moldova in application thereof and shall be subject to supervision in accordance with the same provisions;
- The National Bank of Moldova may provide, as appropriate, for restrictions on its activity;
- The decision of the bridge bank on the acceptance of the transfer shall be taken by its governing body [6].

A bridge bank is no longer a bridge bank in the following cases:

- (a) the bridge bank has merged with another entity;
- (b) the bridge bank no longer complies with the above mandatory requirements;
- (c) all or substantially all of the assets, rights or obligations of the bridge bank are sold to a third party;
- d) the expiry of the 2-year period from the date of the last transfer from a bank under resolution;
- (e) the bridge bank's assets are fully liquidated and its obligations are fully discharged.

If the sale of the bridge bank, licensed in accordance with the Law No. 202/2017 on the activity of banks, is carried out through the sale of shares, from the moment of their sale, the bank that operated as a bridge bank must meet all the conditions set out in the same law for the operation of a bank. At the same time, the validity of the license of the bank that has operated as a bridge bank does not cease to be valid by law, and the license continues to be effective for an indefinite period [7].

Through the *asset segregation tool*, the National Bank of Moldova exercises its power to transfer assets, rights or obligations belonging to a resolution institution or a bridge institution to one or more legal entities (asset management vehicles), which are partly or wholly owned by one or more public authorities and controlled by the National Bank of Moldova in its capacity as resolution authority. In general, in application of this tool, the toxic assets of the bank under resolution are transferred to the asset management vehicle ("bad bank", "banking hospital"), the bank under resolution becoming a "good bank". However, this tool should only be used in conjunction with other resolution tools (e.g. bridge-banking, internal recapitalizations) to prevent the creation of competitive advantages for the institution under resolution. So, even in the case of this resolution tool, we cannot say that there are no restrictions and sacrifices for the banks to which it applies [8].

The asset management vehicle manages the assets that are transferred to it, with the aim of maximizing their value through a possible sale or orderly liquidation. An asset management vehicle is a legal person which meets all of the following requirements:

- ❖ the share capital is wholly or partly owned by one or more public authorities and the asset management vehicle is controlled by the National Bank of Moldova. The Deposit Guarantee Fund in the banking system, as administrator of the *"Single Resolution Fund"*, may be a shareholder of the asset management vehicle;
- ❖ was created for the purpose of receiving, in part or in full, the assets, rights and obligations of one or more banks subject to resolution, or of a bridge bank.

The operation of an asset management vehicle shall comply with the following provisions:

- the content of the documents relating to the establishment of the asset management vehicle shall be approved by the National Bank of Moldova;



- depending on the ownership structure of the asset management vehicle, the National Bank of Moldova shall appoint or approve the management body of the asset management vehicle;
- the National Bank of Moldova approves the remuneration of the members of the management body and determines their responsibilities;
- the National Bank of Moldova approves the strategy and risk profile of the asset management vehicle [9].

In applying this instrument, the National Bank of Moldova shall determine the consideration in exchange for which assets, rights and obligations are transferred to the asset management vehicle, and any consideration relating to assets, rights or obligations acquired directly from the bank under resolution shall be paid by the asset management vehicle to the bank under resolution. The consideration may be paid through debt instruments issued by the asset management vehicle.

The National Bank of Moldova may transfer assets, rights or obligations from the bank under resolution to one or more asset management vehicles in several steps and may transfer back assets, rights or obligations from one or more asset management vehicles to the bank under resolution only if the following conditions are met:

(a) where the possibility of those rights, assets or obligations being transferred back is expressly specified in the decision applying the asset segregation tool under which the transfer was made;

(b) where those rights, assets or obligations do not fulfil the conditions for transfer or do not fall within the category of rights, assets or obligations specified in the decision referred to in point (a).

The objectives of the asset management vehicle shall not entail any obligation or liability of the asset management vehicle to the shareholders or creditors of the bank under resolution, and the management body shall not be liable to those shareholders or creditors for acts and omissions in the performance of their duties, unless the act or omission in question involves intent or gross negligence, as defined by law, directly affecting the rights of shareholders or creditors.

In a conceptual sense, *recapitalization* involves the conversion of value back into capital. *Internal recapitalization* is the tool by which the resolution authority exercises its resolution power through [10]:

- Recapitalizing a bank when the conditions for triggering resolution proceedings are met to an extent sufficient to restore the bank's ability to comply with its licensing conditions and to continue to carry on the activities for which it is licensed, and to maintain a sufficient level of market confidence in the bank;

- the conversion into equity securities or reduction in the principal amount of receivables or debt instruments that are transferred to a bridge bank in order to make a capital contribution to that bridge bank or under the sale of business or asset separation vehicle.

The application of an internal recapitalization measure will always be preceded by the absorption of losses by shareholders and holders of other equity instruments. Internal recapitalization is applicable in all European Union countries and is the main element of the reform of the banking crisis management system at European level. Internal recapitalization only takes place in relation to an institution that is entering or is likely to enter a state of major difficulty, and its operating mechanism is based on two important principles:

- no creditor incurs losses greater than those it would have incurred had the institution been wound up through insolvency proceedings;
- a strict hierarchy of claims must be respected. In exceptional circumstances, the National Bank of Moldova may exclude, in whole or in part, certain debts from the application of write-down or conversion powers, under the conditions stipulated by the legislation in force.

The National Bank of Moldova shall apply this instrument only if, in its opinion, there is a reasonable prospect that the application of this instrument, together with other relevant measures, including measures implemented under the business reorganization plan, will result in the



achievement of the relevant resolution objectives and the restoration of the long-term viability and financial soundness of the bank concerned.

If the National Bank of Moldova decides to exclude, in whole or in part, an eligible debt or a category of eligible debts, and the losses that would have been borne by those debts have not been fully transferred to other creditors, the bank resolution fund may contribute to the benefit of the bank under resolution to achieve one or both of the following purposes: to cover any losses that have not been absorbed by eligible liabilities and to restore the net asset value of the bank under resolution to zero; to acquire shares or other instruments of ownership, or equity in the bank under resolution, in order to recapitalize that bank [11].

If the losses that would have been incurred by the excluded liabilities have not been fully transferred to other creditors, the resources of the bank resolution fund may be used only if:

- shareholders and holders of other proprietary instruments, as well as holders of relevant equity instruments and other eligible debt instruments, have contributed, by reducing the value of those instruments, by conversion or otherwise, to absorbing losses and recapitalizing the bank under resolution by at least 8% of the total liabilities and equity of that bank, as assessed at the time the resolution action is undertaken;
- the contribution of the bank resolution fund shall not exceed 5% of the total liabilities and equity of the bank under resolution, quantified at the time of the commencement of the resolution action.

Where a debt is governed by the law of another state, the National Bank of Moldova may require the bank to demonstrate that any decision by it or another resolution authority to reduce or convert the amount of that debt will be enforceable under the law of that state, taking into account the contractual terms governing the debt, international agreements on the recognition of resolution procedures and other relevant aspects. If the National Bank of Moldova is not satisfied that any decision taken will be enforceable under the law of the State concerned, the debt shall not be included in the calculation of the minimum own funds and eligible debt requirement.

In order to ensure the effective application of resolution tools and powers by the National Bank of Moldova, a bank resolution fund shall be established. The resources of the bank resolution fund shall be administered by the Deposit Guarantee Fund in the banking system.

The Bank Resolution Fund shall be funded, in order to ensure adequate resources, from the following financial sources:

- a. annual contributions to reach the target level;
- b. extraordinary contributions, if the annual contributions are not insufficient in the opinion of the National Bank of Moldova;
- c. loans and other forms of support.

The level of annual and extraordinary contributions of banks to the bank resolution fund shall be determined by the National Bank of Moldova. At the same time, it may be established that a maximum of 30% of the total annual contributions collected by banks may be in the form of irrevocable payment commitments, fully secured by low-risk, unencumbered assets in favor of third parties, issued in favor of the Deposit Guarantee Fund in the banking system. Banks' annual and extraordinary contributions to the bank resolution fund are recognized as tax-deductible expenses.

The use of the resources of the bank resolution fund shall be decided by the National Bank of Moldova, with the aim of covering the needs related to the effective implementation of resolution tools [12].

Subsequently, after reaching the target level, the National Bank of Moldova may decide to suspend the payment of annual contributions, and then resume it when the level of available financial resources falls below the target level, at least until the target level is restored. The National Bank of Moldova may decide to resume the payment of contributions even before that time. Once the target level is reached for the first time, if the available financial resources fall to less than two-thirds of the target level, the annual contributions shall be set at a level that allows the target level to be reached within six years.



The National Bank of Moldova shall determine the annual contribution of each bank according to the weight of the value of the bank's liabilities, excluding its own funds and deducting its guaranteed deposits in the aggregate value of the liabilities of all licensed banks in the territory of the Republic of Moldova, excluding their aggregate own funds and deducting their aggregate guaranteed deposits. Contributions shall be adjusted by the National Bank of Moldova, according to the risk profile of each bank and communicated to the Deposit Guarantee Fund in the banking system, as administrator of the resolution fund, for the purpose of their collection. If a bank fails to pay the contributions, the Deposit Guarantee Fund will immediately notify the National Bank of Moldova in order to take the necessary measures [13].

If the available financial resources are not sufficient to cover the losses, costs or other expenses incurred by the use of the bank resolution fund, each bank shall pay an extraordinary contribution, determined by the National Bank of Moldova.

The National Bank of Moldova may postpone, in whole or in part, a bank's obligation to pay the extraordinary contribution to the bank resolution fund if payment of the contribution would jeopardize the bank's liquidity or solvency. Such a deferral may not be granted for a period longer than six months, but may be renewed at the bank's request. Extraordinary contributions whose payment is deferred shall be paid when it no longer jeopardizes the liquidity or solvency of the bank.

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STRUCTURE OF THE CIVIL LEGAL MECHANISM OF SUBORDINATION OF CREDITORS' CLAIMS IN CORPORATE BANKRUPTCY CASES

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Abstract. Currently, in law enforcement practice, problems arise when considering the validity of creditors' claims in corporate bankruptcy cases, associated with the lack of comprehensive scientific research and the fact that legal norms do not always correspond to rapidly developing socio-economic realities. As a result, the lack of uniformity in judicial practice negatively affects the implementation of the principle of legal certainty that underlies the legal system, the stability of civil transactions and the predictability that their participants reasonably expect. The effectiveness of law enforcement activities to determine the status of creditors' claims in corporate bankruptcy largely depends on the level of theoretical development of issues related to the operation of legal mechanisms for the subordination of creditors' claims.

Keywords: insolvency, subordination, claims, court, administrator, creditor, debtor.

Legal issues relating to the internal structure of legal mechanisms are controversial in the scientific field. An analysis of research materials conducted by scientists in this area of legal knowledge shows that regardless of what aspects of the legal mechanism are considered (industry affiliation, positioning of an object, static and dynamic nature, the nature of regulated social relations), their interest is primarily aimed at understanding legal instruments and their functioning.

Like any instrument, the action and interaction of legal means leads to certain results. However, the compliance of the actually achieved results with the legal goals of the mechanism depends on the correct choice of its components, their effectiveness and joint action.

Analyzing the views of scientists on this issue, we can distinguish two main approaches to understanding “legal instruments” in science. Proponents of the first approach consider legal instruments as “substantive and institutional phenomena of legal reality, reflecting the normative force of law and its energy.” [1, p.32] Legal means are means opposed to acts of a legal nature, various processes in the legal sphere. A.V. takes a different approach. Marco, who considers legal means as “legal phenomena expressed in means (norms) and actions (techniques), with the help of which the interests of the subject of law can be satisfied and the achievement of socially useful goals can be ensured.” [7, p .722].

As a methodological basis for studying the elements of the mechanism for the subordination of creditors' claims in bankruptcy of corporations, it is necessary to identify its elements taking into account the above methodology, based on the essence and activity of the special mechanism, and at the same time determine its form, purpose and operating features, manifestation in the subordination of creditors' claims in bankruptcy and the ability to interact taking into account constant changes, which will ensure the achievement of the goal of the mechanism for subordinating the claims of creditors in the event of corporate bankruptcy.

This starting point, based on an instrumental approach, helps to identify the most specific problems associated with the subordination of creditors' claims and to select the most appropriate legal instrument, taking into account the characteristics of the mechanism under study. For example, if it is necessary to distinguish between independent creditors and legal instruments to identify and subordinate the claims of creditors under the debtor's umbrella, and the behavior of these creditors



indicates that they are abusing the rights of the debtor, then in the absence of special legal provisions in this regard, the problems arising may be resolved by the use of special tools, for example, higher standards of proving the validity of a claim. A higher standard may be adopted in order to ensure the fairest resolution of disputes and the protection of the rights and legitimate interests of the debtor. [6, p .232-235]

In some cases, a legal instrument can be both substantive and behavioral. For example, a subordination agreement as a document is a substantive legal instrument that is the result of the legal process of its conclusion. At the same time, the process of concluding, amending and supplementing a subordination agreement also indicates its existence as a behavioral legal instrument. In addition, such legal acts as court decisions traditionally have two meanings: a substantive document containing the result of resolving a dispute, on the merits, and the action of the court upon completion of the trial.

It seems possible to classify legal relations, including the possibility of implementing the desired model inherent in legal relations, as complex legal instruments that combine material and positive principles. Legal relations include both material relations, i.e. relations between persons, their rights and obligations established by objective law, and the activities carried out by participants to achieve the goal. Legal relations exist in a dynamic form and go through various stages of development.

Elements of the civil law regime for the subordination of creditors' claims in corporate bankruptcy should also include legal proceedings, understood as a system of "legally significant actions consistently performed by the relevant entities, enshrined in the current legal norms." [3, p. 10-14]

The procedure is necessary to exercise the protected rights of creditors and ensure further satisfaction of claims. The procedure combines the actions of creditors, the actions of administrators and the enforcement activities of the courts. This type of procedure is of a service nature, "giving a procedural impetus, establishing and organizing algorithms for the mechanism of enforcement of rights and creating the necessary intermediate organizational legal relations." [10, p.32-35] .

In a broader sense, current legislation expressly provides for rehabilitation and liquidation procedures applied in corporate bankruptcy, which can also be considered as legal instruments. On the one hand, these procedures are an integral part of the legal mechanism under study, since they determine and collect claims based on priority during the court's consideration of a bankruptcy case, and at the same time, each procedure determines the specifics of the functioning of this mechanism.

This complex element of the legal system plays an important role in the functioning of the civil law mechanism for subordinating the claims of creditors in corporate bankruptcy.

In the framework of the ongoing research, this legal system is a complex legal instrument that provides for special procedures for the implementation of protected rights, taking into account the different legal status of creditors who have claims against the debtor.

In particular, civil law mechanisms for the priority of satisfying creditors' claims in corporate bankruptcy include the legal regime for the claims of creditors in bankruptcy (claims of the debtor's employees, claims of creditors for material debts, claims of creditors for intangible debts) and the legal regime for establishing the claims of creditors in bankruptcy (claims of creditors, not related to the debtor (independent creditors), claims of creditors in a relationship with the debtor (friendly creditors), claims of creditors not related to the debtor, claims of creditors not related to the debtor (independent creditors) , claims of creditors not related to the debtor (friendly creditors), claims of creditors not related to the debtor There is no direct reference to these legal regimes in the legislation. However, their identification is due to the need to increase the efficiency of the legal mechanism for the subordination of creditors' claims and becomes possible on the basis of a systematic interpretation of legal norms, materials of judicial practice and the realities of the situation of creditors who filed claims in bankruptcy cases.



In general, it should be noted that in addition to the substantive criteria that are essential for understanding the structure of the civil law regime of subordination of creditors in corporate bankruptcy, there are other criteria for the classification of legal instruments.

Thus, based on the dialectic between legal means and methods of legal regulation, we can distinguish legal means related to centralized methods of legal regulation (subordination methods) and legal means related to decentralized methods of regulation (coordination methods). [11, p .64].

On a functional basis, one can distinguish between regulatory legal acts that define legal personality, the rights and obligations of participants in legal relations arising when determining the status of a creditor's claim in a bankruptcy case, as well as procedures for their execution and instruments of legal defense (claims, objections).

Scientific legal instruments are also usually distinguished by stages of legal mechanism. In particular, the stages of the legal regulation mechanism traditionally include the stage of formation of the regulatory framework, the stage of the emergence of legal relations, the stage of implementation of subjective rights and legal obligations, the stage of implementation of rights and the stage of legal protection. [9, p.195-197]. At the same time, it should be noted that the list of steps may vary from mechanism to mechanism, taking into account their specifics. In particular, the development of civil law mechanisms for the subordination of creditors' claims in corporate bankruptcy includes the following stages: the formation of a regulatory framework for the legal mechanism; the emergence of an actual situation on the basis of which the subordination of creditors' claims is carried out; presentation of claims by creditors in a bankruptcy case; presentation of claims by creditors to the debtor as part of a bankruptcy case.

Each of the identified stages corresponds to a system of legal instruments. Thus, the normative basis of the legal mechanism consists of legal principles, legal norms, legal doctrines and the legal position of the highest court. The legal mechanism functions as a legal instrument at the stage of the emergence of an actual situation, which is the basis for ranking the claims of creditors. The stage of presenting creditors' claims in a bankruptcy case consists of the creditor applying to the court or sending an application to the arbitration manager to include the creditor's claim in the register of creditors, a ruling by the arbitration court to accept the application for consideration and the legal regime for filing claims. In the context of a bankruptcy case, the legal instruments involved at the stage of consideration of the creditor's claim against the debtor include protective relative subordination legal relations, the legal regime for the presentation and withdrawal of creditors' claims.

Considering that the consideration of creditors' claims and their subsequent subordination occur within the framework of a separate dispute in an insolvency case, the components of the stages of enforcement proceedings are the determination of the factual and legal basis of the case, the adoption of a decision on the case and the specific legal act inherent in it, i.e. writ of execution - must be determined separately.

In addition to the general idea that a legal mechanism is a legal phenomenon and can contain only legal elements, in legal literature the structure of a legal mechanism is understood more broadly and can include elements that are not initially the subject of law. In this regard, the specificity of the category of insolvency as an economic content "denotes the nature of the use of means of legal regulation as an element of the mechanism, as a result of which the elements of the mechanism, together with the corresponding legal means, initially not related in their form and content to the category of law, in the process of implementing legal norms become elements rights". Statement by S.A. Karelina's statement that "they become means of acquiring form" is correct. [4, p .410].

Full awareness of people about their rights and the possibilities for their implementation is a necessary condition for the functioning of any legal mechanism. In this regard, the elements of the legal mechanisms under study include information, including information to be published in official publications on insolvency, which are an integral part of the factual information about a given legal entity. Such information includes the declaration of insolvency of the debtor and the opening of liquidation proceedings, claims of creditors received by the manager, convening of meetings of creditors, reports on the valuation of the debtor's property and the results of the inventory of the



debtor's property. At the same time, the structure of the auxiliary mechanism for working with creditors' claims includes only messages concerning the procedure and conditions for presenting and challenging creditors' claims.

Initially, economic instruments, such as financial and economic expertise, appeared in the form of laws in the process of implementing legal norms. These tools are used to solve specific economic problems when considering individual disputes, to identify the causes and moment of the onset of a crisis in the property of an enterprise, as well as to “identify signs of malicious behavior on the eve of bankruptcy.” [5, p. 125-140].

Accordingly, the elements of the mechanism for subordination of creditors' claims must include not only legal elements, but also means that are not initially legal elements, but acquire legal form in the process of their functioning. The condition for such a conclusion is the rapid development of communication and payment technologies, which can acquire, among other things, legal form.

In order to define the concept of elements of a civil law mechanism for the subordination of creditors' claims in a corporate bankruptcy case (legal instruments), it is necessary to highlight their inherent features:

Subject consistency. The rationale for using this legal instrument in the civil mechanism for the subordination of creditors' claims in corporate bankruptcy is that it participates in the creation and implementation of an ideal model for the subordination of creditors' claims in bankruptcy and is aimed at resolving conflicts of interest and protecting the rights and legitimate interests of the debtor and creditors.

Legal nature Legal instruments are inseparable from law, have its properties and characteristics and give rise to legal consequences.

Legal instruments are distinguished by a “special legal nature.” [12, p.87], have a legal form and are filled with legal content. Initially, its content is informational, organizational and economic in nature, but from the point of view of achieving the goals of law, participation in the mechanisms of civil law and compliance with creditors' claims in the event of corporate insolvency.

Functionality. In particular, the specific functionality that characterizes the elements of the mechanism of legal regulation “covers those legal phenomena that actually work,” as noted by S.S. Alekseev, legal means differ from other legal phenomena. This feature also implies the interdependence of legal means, i.e. their ability to participate in cause-and-effect relationships that develop to achieve a common goal. When legal means are considered as independent legal phenomena, their functional significance is lost, and only a specially selected system of legal means is effective [2, p.11].

Publicity. This feature is reflected both in the publication of regulations and in the placement of information related to bankruptcy procedures in open sources and information portals. A.V. Marco identifies common features of legal acts and draws attention to their ability to reflect “information and energy qualities and legal resources” [8, p.223].

For example, publishing information about the opening of insolvency or liquidation proceedings against a debtor allows creditors to be informed about the timing and procedure for filing claims. The publication of court decisions on a single information portal also allows creditors to make decisions on objections to the claims of other creditors or applications for interim measures.

It is possible to form two functionally interrelated systems of subordination, based, on the one hand, on priority and subordination, and on the other, on the unanimous expression of the will of legally equal participants in the legal relationship. In contrast to the characteristic features of the category “legal instruments” discussed above, this feature is unique to the legal instruments of the civil law mechanism for subordinating the claims of creditors of an insolvent company. The system of forced subordination of creditors' claims and the system of voluntary subordination are inextricably linked. In this case, the need for a model of priority and subordination provided for by law determines the need to regulate the legal means of this system on the basis of a voluntary statement of the intentions of participants in legal relations and regulation of the compliance of the creditor's claim with the legal means of forced subordination.



The structure of the civil law mechanism for ranking creditors' claims in corporate bankruptcy consists of legal instruments and connections between them, which in a systemic and functional state make it possible to form the fairest model for ranking creditors' claims in bankruptcy and ensure its implementation in order to resolve conflicts of interests and protect the rights and legal interests of the debtor and creditors.

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LEGAL STATUS OF CURRENT AND RETIRED PARTICIPANTS OF THE BUSINESS COMPANY

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Abstract. In recent years, significant reforms have been carried out in the field of legal regulation of the activities of business companies, including provisions on the procedure for the disposal of participants in business companies. Despite the fact that a significant part of the legal reforms carried out is aimed at eliminating the shortcomings of legal norms, in this area there are still some problems associated with the implementation of certain methods of disposal of participants in business companies. The current law on the disposal of participants in organizations contains a large number of evaluative concepts, which makes their application in practice difficult. As a result, judicial



practice is not uniform in resolving disputes that arise when using methods for participants to exit organizations. In this regard, it is necessary to conduct an analysis to identify the features and problems of the method of exit of individual participants from existing companies.

Keywords: business companies, former participant, shareholder, exit, exclusion.

The basis of legal regulation of the status of existing and retired participants in business companies is regulated by the general norms of the Civil Code of the Republic of Moldova (hereinafter referred to as the Civil Code of the Republic of Moldova) [2], the Law of the Republic of Moldova “On Joint Stock Companies” No. 1134 of 04/02/1997. (hereinafter referred to as the Law of the Republic of Moldova No. 1134 of April 2, 1997) [8] and the Law of the Republic of Moldova “On Limited Liability Companies” No. 135 of June 14, 2007. (hereinafter Law of the Republic of Moldova No. 135 of June 14, 2007) [9].

Determining the rights and obligations of company participants is an important element of the legal characteristics of the status of company participants. This is the first issue that society participants and members of the governing body should become familiar with. Unfortunately, in recent years, while working with a number of joint stock companies and limited liability companies, we have encountered the fact that company participants rarely fully understand the scope of rights and obligations provided for by current legislation.

At the same time, the rights and obligations enshrined in the Civil Code of the Republic of Macedonia are the result of almost ten years of trial-and-error experience, which filled the history of the creation of limited liability companies and the totality of which today can be called the established system of rights and obligations.

An analysis of the provisions of national civil legislation shows that the structure of the system of rights of company participants is quite complex. This is due to the fact that only one article in the Civil Code of the Republic of Moldova directly regulates the rights of participants, and articles that directly or indirectly regulate the rights of participants are specified in other regulations.

All rights of company participants can be divided into basic and additional. The basic rights of company participants are determined by the Civil Code of the Republic of Moldova.

These rights are divided into *unconditional and conditional rights*. Additional rights are provided for by the participants of the company in its charter in addition to the basic rights. Participants of the company have the following *unconditional rights* established by the Civil Code of the Republic of Moldova and the constituent documents of the company: 1) participate in the management of the partnership or company and in the implementation of its activities; 2) receive information about the activities of the partnership or company and get acquainted with its accounting books and other documents; 3) participate in the distribution of profits; 4) receive part of the property remaining after satisfying the claims of creditors in the event of liquidation of the partnership or company; 5) receive 5) receive; 6) represent the partnership or company in the sale or 6) sell or otherwise transfer to one or more participants of the company on behalf of the partnership or company their shares or part of the shares in the authorized capital of the company; 7) participate in the liquidation of a partnership or company. Participation in the liquidation of a partnership or company [16, p.213-215].

The listed unconditional rights in most cases are general rights, which are characterized by the implementation of a number of rights that characterize these general rights in more detail. The emergence of rules recognizing the existence of additional rights that establish the possibility of exercising a different range of rights for company participants (even if their shares are the same in size) is a new institution in the law of commercial organizations. Its essence can be explained on the basis of several provisions. Additional rights of company participants are either enshrined in the company’s charter upon its creation, or are provided to participants in the course of the company’s activities. In both the first and second cases, additional rights are determined by a unanimous decision of all participants. Additional rights can be granted both to all members of the company and to



individual participants, but in both cases, they are of a personal nature. This provision requires that the company's organizational documents clearly state to which participants these additional rights are granted. If the additional right relates to an individual participant, this task is easily accomplished since the participant's name is already specified. However, even if the right applies to all members of the company, the company's organizational documents must identify all group members on a case-by-case basis. Termination or limitation of additional rights granted to all members of the company is carried out by decision of the general meeting of shareholders, unanimously adopted by all participants of the company. Termination or limitation of additional rights granted to a specific company participant can be carried out by a decision of the general meeting of company participants, adopted by a majority (two-thirds) of votes, provided that the company participants who own the additional right voted for such a decision or gave written consent for its acceptance. However, this does not apply if the shareholders of the company that owns the additional right voted in favor of the decision or gave written consent. If all shareholders of a company have received additional rights, but as a result of the acquisition of shares (or part thereof) one of the shareholders has a new shareholder, additional rights will not automatically apply to that shareholder. To acquire these rights, a unanimous decision of all shareholders of the company is required [12, p.189-192].

Two points are important. Firstly, if the articles of association do not impose a general obligation on the participants to make contributions to the company's property, then the question of the possibility of making a specific contribution does not arise. Secondly, if the creation of a general obligation requires the unanimity of all participants, then a two-thirds majority of the total number of votes of the participants is sufficient to make a decision on making a specific contribution. With this approach, one cannot ignore the possibility that the inclusion of a participant's obligation to contribute property at the stage of company formation could be used in the future to create an artificial situation for the "poorer" participants of the company. Participants who are unable to compete with wealthier ones may be unable to meet this obligation and may be subject to liability. It should be noted that legislators have established a clear line between the obligation to contribute property and the previously mentioned obligation to contribute the authorized capital of the company. The first difference is that the obligation to make a contribution to the company's property is regulated by the company's charter, while the obligation to make a contribution to the authorized capital is regulated by law. The second difference is that the contribution to the company's property can be made in the form of cash, securities, other goods or property rights. In addition, contributions to the company's authorized capital can only be made in lei. Finally, there is a third difference. Contributions to the company's property, unlike contributions to the authorized capital, do not change the size and nominal value of the shares of the company's participants in the authorized capital.

A feature of the mechanism for fulfilling the obligation of participants to make contributions to the company's property is that these contributions can be made in three forms: contributions of all participants of the company in accordance with their shares in the authorized capital of the company; contributions of all participants of the company are not in accordance with their shares in the authorized capital; contributions of all society participants. Contributions from shareholders not owned by the company. If everything is clear with the first option, then the last two require additional clarification [14, p.25].

The obligation to make contributions in accordance with the second option applies to all persons, but does not correspond to their share in the authorized capital. The obligation to make capital contributions under the third option does not apply to all members of the company, but only to those who are not obliged to make capital contributions. In accordance with the law, the company's charter may establish the maximum amount of contribution to the company's property by all or some of the company's participants.

The procedure for determining the disproportion between the size of contributions to the property of the company and the number of shares of the company's participants, as well as the corresponding restrictions on contributions to the property of the company of all participants, as well as the amendment and exclusion of these provisions is carried out by decision of the general meeting



of shareholders, unanimously adopted by all participants of the company, established by the charter of the company. Done. Changes and exceptions to the company's charter, which provide for certain restrictions for individual company participants, are carried out by decision of the general meeting of shareholders, adopted by a majority of at least two-thirds of the votes of all shareholders, provided that the company participants for whom these restrictions are provided have voted or given written consent to make such a decision. The withdrawal of a shareholder from the company does not relieve him of the obligation to contribute to the property of the company before filing an application for withdrawal [4, p.16-18]. A participant in the company who transferred his share (part) in the authorized capital of the company bears joint and several liability with its acquirer to company for property contribution obligations that arose before the transfer of the share [5, p.128].

Additional responsibilities.

All obligations of shareholders provided for by the charter are additional obligations, with the exception of those provided by law. Additional obligations are characterized by the following most important provisions on additional obligations. Additional obligations may be provided for by the charter when establishing a company and can be imposed on all participants of the company by decision of the general meeting of all participants of the company, which is unanimously accepted by all participants of the company [15, p.105].

Responsibility of a company participant. At first glance, such a phrase may seem strange - "liability of a company participant", since both the Civil Code of the Republic of Moldova and the Law of the Republic of Moldova "On Entrepreneurship and Enterprises" [10] stipulate that participants in a limited liability company are not liable for the debts of the company and bear the risk losses associated with the activities of the company, within the amount of capital contributed by them. At the same time, the legislator introduced two exceptions to this rule. This is joint liability of participants (participants can be liable for the debts of the company independently) and subsidiary liability in the event of insolvency (bankruptcy) of the company. Joint and several liability applies to members of the company who have not fully paid up the authorized capital of the company. In this case, each participant bears joint liability for the debts of the company to the extent of his unpaid contribution to the capital.

In addition to the already listed types of responsibility of the company itself, the law establishes the property liability of members of the company's management body to the company itself and its participants. In the event of insolvency, if the management body uses the debtor's property or claims for personal purposes, if the management body carries out business activities for personal purposes behind the debtor's back, if the management body fictitiously increases the debtor's obligations, if the management body raises funds for the debtor at an inflated price, or if the management body management fictitiously keeps accounting records Orders the debtor to continue its activities, which clearly leads to the insolvency of the debtor; or the order was made within three months before the commencement of proceedings; or the management of the debtor has been directed to continue activities of the debtor that will clearly lead to its insolvency. This is expressed in the attribution of part of the debtor's debts to members of the debtor's management body. In such cases, the management body is jointly and severally liable to the company's creditors. The law also provides for the imposition of administrative fines or bringing the debtor to criminal liability for committing actions that constitute criminal offenses [1, p.190-193].

In addition, the question of the legal status of participants leaving a business company is of great interest and relevance.

The will of a member is not limited to leaving the company, and he has the right to do so with or without the consent of all members of the company, as permitted by the company's articles of association [16, p.187].

In principle, members wishing to withdraw from the society must submit a notarized declaration of withdrawal [6, p.171].



Issue of the company's property in kind, payment in proportion to the value of the assets of the company's shareholders, purchase of shares by the company itself - all these options are available to shareholders of the company who wish to leave the company [13, p .35-48].

When a shareholder leaves the company, his share passes to the company. In this regard, the company is obliged to pay the exiting shareholder the actual value of the shareholder's share in the authorized capital of the company, determined on the basis of the company's financial statements for the reporting period preceding the date of transfer of the shareholder's share to the company, or, with the consent of the shareholder, property in kind at the same value for a shareholder, or, in case of insufficient payment for a share in the authorized capital of the company, an obligation to pay part of the share, which is paid at its actual value [7, p .181].

The company does not have the right to pay the actual value of a share or part of a share in the authorized capital of the company, as well as to issue an equivalent amount of property in money in case of insolvency (bankruptcy) in accordance with the Law of the Republic of Moldova "On Insolvency" No. 149 of June 29, 2012[11] or as a result of these payments or the issuance of property in kind, the specified signs will appear in the company.

The company does not have the right to pay the actual value of shares in the authorized capital of the company, nor to issue property in kind in exchange for these shares, but within three months after the expiration of the period for payment of the actual value of the shares, the company is obliged to reinstate the person to whom the shares were transferred as a shareholder of the company and transfer to him the corresponding shares in the authorized capital of the company upon his written application submitted to the company [3, p.147].

A withdrawing participant cannot convene a general meeting of participants or influence the adoption of any decision by the company, since he is no longer a participant in the company. The responsibilities of a participant can also be assumed by an individual who does not participate in the activities of the company and does not enjoy the corresponding rights.

Thus, having analyzed the current legislative norms on the issues of legal regulation of the activities of participants in commercial companies, the following conclusions can be drawn

Modern legal and market relations make it possible to carry out legal business activities and create partnerships between participants in business activities.

In our country, an effective form of entrepreneurial legal relations is a type of entrepreneurship similar to the economy and society.

In many cases, especially limited liability companies, they are "one-man companies." This is not bad, but simply indicates that citizens have a number of opportunities if they are ready to develop their entrepreneurial potential (income tax payer status, individual entrepreneur status, limited liability company participant status).

The legal status of business participants is truly diverse. The interaction of rights and obligations can be effective and bring significant benefits if the specifics of the legal status of the company's participants are responsibly reflected in the company's charter when it is created and when the company's organizational documents are drawn up.

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Annotation. This article reviews the main doctrinal approaches from different legal cultures related to the concept of legal system. The authors draw a guideline for the study of this concept, as well as of related phenomena, carrying out a review of the legal literature. The joining of doctrinal opinions from different legal cultures and academic environments allows the highlighting of specific theoretical differences and consonances, as well as highlights the scientific-legal gaps to be filled.

Key words: legal system, mixed legal system, legal system.

Dreptul, ca fenomen social, este prezent în toate statele (având după unii autori chiar și o dimensiune extra-statală) și reglementează realitățile juridice a întregului glob, fiind astfel un fenomen de ordin planetar. Din perspectivă monist-suveranistă, dreptul influențează în interiorul unor frontiere statale și conturează astfel harta juridică a lumii, care se află în continuă evoluție. Anume



dinamicitatea dreptului (sau sistemelor juridice, raportat la obiectul nostru de studiu) face importantă analiza periodică a problematicii clasificării sistemelor juridice.

Diferiți factori influențează formarea și dezvoltarea unui anumit sistem juridic. În primul rând, aceasta este dezvoltarea socio-economică, sfera politică, precum și viața spirituală a societății, care include știința, religia și morala.

Sistemul juridic, sistemul dreptului, sistemul legislației, pe care le abordăm separat pentru a evidenția punctele de congruență și divergență, precum și pentru a reliefa esența conceptului de sistem juridic, beneficiază de o largă tratare în literatura juridică aferentă teoriei generale a dreptului.

Conceptul de sistem juridic trebuie înțeles nu numai în sens filozofic sau sub aspectul unei teorii pure a sistemelor, ci și în sens socio-politic. Conceptul de „sistem juridic” este mult mai larg decât doar un fenomen care se încadrează în mod formal sub trăsăturile oricărui sistem. Un sistem juridic integral, considerat în unitatea tuturor componentelor sale, nu este o sumă mecanică a părților sale constitutive, ci o nouă calitate social-politică, ideologică, juridică care nu este caracteristică constituenților săi [1].

În afară de lucrările fundamentale teoretice, care tratează în mod obișnuit acest subiect, merită a fi menționate următoarele contribuții ale unor autori consacrați ce invită la reflecții și reconsiderări: „*Evoluții și tendințe privind sistemul, sistematizarea și izvoarele dreptului român contemporan*” de prof. Ioan-Iosif Santai, [2] „*«Sistemul dreptului», un concept perimat?*” de prof. Nicolae Popa [3], „*Funcționalitatea sistemului juridic și încercări de valorificare ale comunicării*” de Elena Aramă și Valentina Coptileț [4], dar și câteva intervenții ale tinerilor cercetători: „*Componentele sistemului de drept*” de Corina-Cristina Buzdugan [5] și „*Aspecte teoretice privind trăsăturile definitorii ale sistemului dreptului*” de Parascovia Poalelungi [6].

În doctrina rusă, deși există o diferență mult mai clară între sistemul juridic, sistemul dreptului și alte concepte adiacente, persistă încercări de reliefare a diferențelor terminologice [7].

Având în vedere predispoziția doctrinarilor ruși pentru tratarea subiectelor teoretice, nu vom enumera aici o listă lungă de creații dedicate sistemului juridic sau de drept, mai ales că majoritatea acestora au fost analizate în cadrul paragrafelor respective.

Pentru o mai bună înțelegere a contextului sistemului juridic în cadrul clasificărilor juridice, am considerat oportună conturarea acestui concept printre altele conexe, folosite și ele în cadrul tipologiei dreptului.

Sistemicitatea, ca atribut necesar, o proprietate a materiei juridice, constând în unitatea și organizarea sa internă, care face posibilă rezistența la eventualele schimbări haotice ale acesteia a fost analizată în cercetarea doctorală a Tatianeii Kuharuk [8]. Această lucrare, profund teoretică, care abordează inclusiv relația dintre sistematicitate și sistemul legislației, a servit pentru identificarea unității interne și sistemice a dreptului, precum și pentru stabilirea factorilor care o determină.

Pentru înțelegerea dreptului ca sistem este relevantă lucrarea unică a dr. hab. în filosofie Efim Mohorea [9] și coautorii, intitulată „*Dreptul ca sistem și sistemul Dreptului: Studiu teoretic*” apărută la Bałți în 2009, precum și un articol complementar [10]. Această operă, sub patronajul prof. Mohorea, cunoscut pentru lucrări din domeniul logicii și filosofiei, abordează dreptul din punct de vedere al teoriei generale a sistemelor și încearcă să descopere ce reprezintă din perspectivă filosofico-juridică, dreptul, apelând la o metodologie sistemică. Autorii concluzionează că sistemul dreptului reprezintă acea compoziție sau unitate, constituită (alcătuită, organizată) în baza relațiilor (de coordonare, autonomie relativă, interdependență, supraordonare, subordonare, ierarhie etc.) dintre mulțimea ramurilor, instituțiilor, normelor dreptului - elemente prime ale sistemului dreptului - și legilor compoziției (axiome, principii, reguli logice etc.) ce limitează, organizează, integrează aceste relații.



O lucrare similară cu un titlu similar, însă conținut complet diferit este „*Dreptul - ca sistem*” [11], de Alexandrina Șerban, apărută la editura Hamangiu în 2012. Această monografie se axează pe teoria conceptului de sistem, analizează completitudinea dreptului, descrie convergențele sistemelor juridice, internormativitatea și pluralismul juridic, însă de un real folos ne-au fost conceptele dezbătute de „sistem juridic normativ”, „sistematică” și „cibernetică”.

O contribuție consonantă în doctrina rusă este articolul „*Право как система и его закономерности*” de S. Drobeazko [12], în care acesta tratează sistemul juridic din punct de vedere social, considerându-l un supersistem social, un sistem al tuturor celorlalte sisteme reglementate de acesta, dar și privind sistemul de drept și sistemul juridic ca categorii de același ordin, ce cuprind dreptul în sensul larg și restrâns al termenului, la nivel macro și micro, evidențiind forma externă și organizarea sa internă, opinie cu care nu am fost de acord în lucrare.

Printre lucrările din spațiul românesc, putem menționa contribuțiile prof. Nicolae Popa [13] , care descrie tipologiile ca instrumente de cunoaștere; dr. Monica-Florentina Popa [14], care reflectă asupra locului acestora într-o lume globalizată; dr. Laura-Cristiana Spătaru-Negură [15] , care în monografia intitulată „*Dreptul Uniunii Europene - o nouă tipologie juridică*” oferă circa o treime de volum cercetării conceptului de tipologie în științele sociale și, implicit, drept. Această ultimă lucrare, care reprezintă de fapt o variantă îmbunătățită a tezei de doctorat susținută de autoare sub conducerea prof. Nicolae Popa, reprezintă un studiu inter-disciplinar, cu elemente de teoria generală a dreptului, drept comunitar și drept comparat, ce readuce în prim-plan tipologia sistemelor juridice.

Doctrina rusă este la fel de bogată și în privința clasificării sistemelor juridice, ca elemente ale familiilor juridice. Astfel, cercetătoarea Guzeli Aznagulova a dedicat o serie de lucrări [16] identificării criteriilor tipologice ale sistemelor juridice naționale. Pe lângă descrierile generale ale diverselor criterii utilizate în literatură juridică, aceasta ne arată că conceptul „sistem juridic” a fost folosit în trei accepțiuni: în sens socio-economic, în sens legislativ, în sens de „comunitate juridică” a dreptului diferitelor țări.

Printre lucrările esențiale dedicate sistemului juridic sunt cele ce aparțin savantului V. Kartașov [17], care ne-au folosit pentru definirea sistemului juridic, precum și pentru identificarea componentelor sale. Un alt reputat doctrinar rus citat în teza noastră este și Ghenadii Nebratenko [18], îndeosebi în privința aspectelor sociale și antropologice ale dreptului și sistemelor juridice.

La fel și Veniamin Cirkin [19], a dedicat câteva studii interacțiunii sistemelor juridice contemporane, promovând conceptul unor sisteme globale și supranaționale. A fost interesantă abordarea dânsului și în privința dreptului socialist, fiind printre autorii care acceptă cu greu dispariția acestui mare sistem.

Un alt autor interesat de esența comparatistă a sistemelor juridice este și V. Oxamâtnai [20]. În afară de contribuțiile sale la structura sistemelor juridice, putem evidenția în mod principal și contribuția acestuia la identificarea scopului sistemului juridic.

Conceptul sistemului juridic mixt sau hibrid capătă o atenție sporită în literatura juridică occidentală, unul din artizanii revigorării acestui concept fiind indiscutabil Vernon Palmer [21], care analizând numărul mare de sisteme hibride din întreaga lume, propune crearea unei noi familii juridice care să se alăture celorlalte tradiționale - numită „a treia familie”, fiind formată din 16 entități. Lucrările lui Palmer au resuscitat interesul pentru sistemele mixte, însă abordarea sa de a contura o nouă familie juridică nu a întâlnit o susținere masivă.



Un alt aderent al acestui concept, profesorul canadian Seán Patrick Donlan [22] dedică câteva studii tradițiilor juridice hibride și sistemelor mixte, fiind chiar printre editorii unei culegeri dedicate tradițiilor hibride.

O contribuție substanțială în acest domeniu aparține profesoarei Esin Örucü [23], care vine cu o abordare distinctă a sistemelor mixte, afirmând că nu există sisteme pure, toate fiind, într-o măsură mai mare sau mai mică alterate. Doctrinarul israelian Nir Kedar [24] abordează problematica sistemelor mixte din perspectiva dreptului israelian, iar Charles Fombad [25] tratează bijuridismul din Camerun. Pentru o perspectivă largă asupra școlii de la Ottawa referitoare la sistemele mixte, este relevantă și lucrarea contribuția juristului canadian Jacques Du Plessis [26], iar pentru a reliefa abordarea clasică privind sistemele mixte - articolul altui canadian, prof. William Tetley [27].

Tematica sistemelor mixte a fost abordat recent și în câteva lucrări ale autoarei ruse Irina Azarova [28] Conform dânssei termenul „jurisdicție mixtă” este folosit pentru a indica doar teritoriul în care există un sistem juridic mixt și regulile acestuia funcționează, și nu însuși conținutul unui sistem juridic mixt. Caracteristica sistemelor juridice mixte este capacitatea lor de a crea norme unice prin manipularea și fuzionarea elementelor de drept comun și civil. Amestecarea lor dă uneori naștere la noi combinații, care la început se mută și abia apoi încep să dea semne de viață, reglând eficient relațiile sociale. În procesul de îmbinare, la prima vedere, a normelor ireconciliabile de drept comun și civil, se pot distinge mai multe etape ale formării sistemelor juridice mixte.

Domeniul respectiv este abordat și de o altă autoare rusă - Elena Trikoz [29], care ne permite să ne edificăm atât în privința interpretărilor extensive și restrânse în privința conținutului sistemelor mixte, cât și face și o delimitare între sisteme mixte și hibride, care la majoritatea autorilor sunt privite ca și sinonime. Autoarea P. Lucinina [30] abordează în acest context fenomenul convergenței dreptului, iar Armen Danielean [31] - aspectul colonialismului european în apariția și perpetuarea sistemelor mixte.

Conceptul pluralismului juridic, care conturează existența sistemelor mixte, a fost descris în lucrările cercetătorilor occidentali Sally Engle Merry [32] și John Griffiths [33], care acreditează ideea unui nou pluralism juridic, legată de eterogenitatea normativă, nesubsumabilă dreptului statal.

În urma celor descrise, putem **concluziona** următoarele. Există studii teoretice suficiente referitoare la sistemul juridic sau sistemul dreptului, chiar dacă acestea sunt tratate neunivoc în sursele doctrinare naționale, existând în această privință o posibilă confuzie terminologică. Conceptul sistemelor juridice mixte sau hibride, pe care l-am tratat pe larg într-un alt articol științific [34], nu se regăsește nicidecum în publicațiile de limbă română și este astfel, absent din dezbaterile științifice naționale. Sperăm că analiza noastră va servi drept punct de plecare și de îndrumare în cercetarea fenomenului sistemelor juridice și va suplini deficiențele existente.

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APLICAREA NORMELOR DE COMPETENȚĂ GENERALĂ A INSTANȚELOR JUDECĂTOREȘTI ALE REPUBLICII MOLDOVA ÎN PROCESELE CU ELEMENT DE EXTRANEITATE

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Abstract. In this article, the regulations regarding the general jurisdiction of the courts in trials with an element of foreignness were analyzed. Also, the notions of general jurisdiction in international civil procedural law are conceptualized. In particular, the notions of national general jurisdiction and international general jurisdiction of courts are defined.

Proposals were submitted to amend and supplement the law in order to improve the legislation of the Republic of Moldova in this field.

Keywords: jurisdiction, court of law, cross-border, civil case, settlement, regulation, national, international.

În literatura de specialitate autohtonă nu este utilizat conceptul de competență generală internațională a instanțelor judecătorești. La analiza competenței instanțelor judecătorești în procese cu element de extraneitate este utilizată de autorii autohtoni [1; 2] noțiunea de „competență jurisdicțională.” Totuși în literatura română de specialitate [11, p. 366-367] sunt utilizate inclusiv noțiunile de „competență națională a instanțelor judecătorești” și „competența generală internațională a instanțelor judecătorești”.

După cum menționează autorul *SUCIU, A.* „competența națională a instanțelor române este instituția juridică prin care se reglementează normele de competență în procesele ce se desfășoară între persoanele de drept public sau privat de naționalitate română [11, p. 366].” Într-un mod similar putem defini competența generală națională a instanțelor judecătorești din Republica Moldova ca fiind instituția juridică prin care se reglementează normele de competență a instanțelor judecătorești în procesele ce se desfășoară între persoanele de drept public sau privat ce au naționalitatea Republicii Moldova.

În vedere definirii competenței generale internațională a instanțelor române autorul *SUCIU, A.* menționează că în vederea definirii acestei instituții juridice urmează a menționa că aceasta are o



dublă competență:

- competența în litigii de drept comunitar, în procesele cu element de extraneitate ce au legătură cu reglementările dreptului comunitar;
- competența în litigiile de drept extracomunitar, ce au legătură cu reglementările dreptului comunitar [11, p. 368].

Opinia enunțată de autorul român *SUCIU, A.* vine în contradicție cu opinia autorului autohton *LAZĂR, T.* care la analiza competenței instanțelor judecătorești ale Republicii Moldova în procese cu element de extraneitate menționează următoarele: „[...] ne referim la competența jurisdicțională, care este utilizată în dreptul procesual civil și nicidecum la competența generală, care face distincție între competența instanțelor judecătorești și competența altor organe cu atribuții jurisdicționale [5, p. 57].” Însă autorul autohton nu a luat în considerare că instanțele judecătorești naționale și cele străine fac parte din două sisteme jurisdicționale diferite, ceea ce nu se referă la competența jurisdicțională, dar la competența generală internațională a instanțelor judecătorești.

Cînd vorbim de competență jurisdicțională atunci cînd se pune problema delimitării împuternicirilor instanțelor judecătorești de a soluționa o cauză civilă din cadrul aceluiași sistem judecătoresc. În viziunea noastră, odată ce delimităm aceste împuterniciri ale instanțelor judecătorești de împuternicirile unui alt organ jurisdicțional (instanță judecătorească) din cadrul altui sistem jurisdicțional (sistem judecătoresc), atunci ne referim la competența generală.

În stabilirea competenței generale internaționale, se verifică existența legăturilor dintre litigiu și instanța judecătorească sesizată. În realitate, este vorba de un control negativ, respectiv constatarea lipsei criteriilor care pot atrage competența instanțelor naționale [9, p. 111]. Necompetența internațională a instanțelor naționale se invocă sub forma excepției de necompetență internațională [4, p. 122]. Dacă se constată că există o legătură dintre litigiu și împuternicirile instanței judecătorești din sistemul judecătoresc al Republicii Moldova atunci este stabilită competența generală internațională a instanței respective.

În Codul de procedură civilă al Republicii Moldova este stipulat Capitolul XLI „Competența instanțelor judecătorești ale Republicii Moldova în procese cu element de extraneitate” care conțin atît norme de competență generală, cît și norme de competență jurisdicțională, totuși legislatorul a denumit corect doar prevederile ce se referă la competența jurisdicțională, însă cele privind competența generală a instanțelor judecătorești le-a denumit doar „competență.” Prevederile art. 459 din CPC conțin norme juridice privind competența jurisdicțională, inclusiv norme de trimitere la cap. IV din CPC. Însă celelalte prevederi din Capitolul XLI se referă la competența generală a instanțelor judecătorești ale Republicii Moldova în procesele cu elemente de extraneitate, ce delimitează competența instanțelor judecătorești naționale față de competența instanțelor judecătorești străine.

În Capitolul XLI se conțin reglementări a mai multor feluri de competență generală internațională a instanțelor judecătorești naționale. Printre acestea se numără: competența generală internațională exclusivă a instanțelor judecătorești naționale; competența generală internațională alternativă a instanțelor judecătorești naționale; competența generală internațională contractuală a instanțelor judecătorești naționale.

Prevederile art. 461 din CPC stipulează competența generală exclusivă a instanțelor judecătorești ale Republicii Moldova în procese cu element de extraneitate, deși se întitulează doar „competența exclusivă a instanțelor judecătorești ale Republicii Moldova în procese cu element de extraneitate”. Dispozițiile art. 461 din CPC enumeră procesele cu element de extraneitate în privința cărora este stipulată prerogativa instanțelor judecătorești ale Republicii Moldova în examinarea și soluționarea lor. În caz contrar, dacă vor fi examinate și soluționate de instanțe judecătorești străine hotărârile judecătorești acestora din urmă nu vor putea fi recunoscute și executate pe teritoriul Republicii Moldova. Prevederile art. 461 alin. (1) din CPC enumeră următoarele procesele cu element de extraneitate în care:

a) acțiunea se referă la dreptul asupra unor bunuri imobiliare de pe teritoriul Republicii Moldova. În sensul prevederilor art. 2599 alin. (1) din Cod civil al Republicii Moldova, posesia, dreptul de proprietate și celelalte drepturi reale asupra bunurilor, inclusiv cele de garanții reale, sunt

cârmuite de legea locului unde acestea se află sau sunt situate, cu excepția cazurilor în care, prin dispoziții speciale, se prevede altfel. Locul unde este situat bunul constituie punctul de legătură al normei conflictuale (*lex rei sitae*). Observăm, că această regula stipulată în art. 461 alin. (1) lit. a) din CPC privind competența generală exclusivă a instanțelor judecătorești naționale rezultă din mai multe principii de drept, acestea fiind: 1) principiul suveranității (teritorialității), care constă în interesul statului de a governa, prin normele proprii, regimul juridic al bunurilor aflate pe teritoriul său, având în vedere faptul că bunurile constituie valori sociale importante; 2) principiul generalității, în sensul că legea locului situării bunului asigură aplicarea unui regim juridic unic pentru toate bunurile aflate pe același teritoriu; 3) principiul siguranței circuitului civil privind bunurile, regimul probator (expertiza, cercetarea la fața locului) este legat de locul situării bunului, competența în acțiunile reale imobiliare aparține instanței locului situării imobilului, respectiv și executarea silită se realizează în locul situării imobilului [10, p. 1228].

b) *bunul asigurat sau locul unde s-a produs riscul asigurat se află în Republica Moldova.* Pentru determinarea competenței instanțelor judecătorești, în particular la soluționarea litigiilor ce decurg din accidente rutiere, se vor lua în considerație prevederile art. 2 din Legea privind asigurarea obligatorie de răspundere civilă auto pentru pagube produse de vehicule nr. 106 din 21-04-2022 [8] potrivit căroră, Obiect al asigurării obligatorii de răspundere civilă auto îl constituie răspunderea civilă a proprietarului și/sau a utilizatorului de vehicul pentru orice pagubă produsă de un accident de vehicul în limitele teritoriale de acoperire și în limitele de răspundere ale acestei asigurări. Deci, normele privind competența generală exclusivă a instanțelor judecătorești în procesele cu element de extraneitate le identificăm atât în reglementările de drept procesual, cât și în reglementările de drept material.

c) *pretențiile decurg dintr-un contract de transport, iar transportatorii ori punctele de plecare sau sosire se află în Republica Moldova.* O regulă specială intrinsecă la determinarea competenței generale exclusive a instanțelor judecătorești naționale sunt prevederile art. 2606 din Codul civil al Republicii Moldova, ce prevede următoarele: „Apariția și stingerea dreptului de proprietate și a altor drepturi reale în baza actului juridic cu privire la bunurile mobile aflate în curs de transport se determină conform legii statului de unde aceste bunuri au fost expediate, cu excepția cazurilor în care:

a) prin acordul părților s-a stabilit altfel;

b) bunul este depozitat într-un antrepozit sau pus sub sechestru în temeiul unor măsuri asigurătorii ori ca urmare a unei vânzări silită, în aceste cazuri fiind aplicabilă, pe perioada depozitării sau a sechestrului, legea locului unde a fost reșezat temporar;

c) bunurile sînt bunuri personale ale pasagerului, în acest caz fiind supuse legii sale naționale.”

Deci, regula privind competența generală exclusivă a instanței de judecată națională stipulată în art. 461 alin. (1) lit. c) din CPC este stabilită pornind de la legea forului unde este recunoscut dreptul de proprietate a bunurilor mobile.

d) *procesul se referă la abordajul unor nave sau aeronave, precum și la asistența ori salvarea unor persoane sau a unor bunuri în largul mării, dacă nava sau aeronava are naționalitate moldovenească, ori locul de destinație sau primul port sau aeroport unde nava sau aeronava a ajuns se află pe teritoriul Republicii Moldova.* Aceste reglementări sunt în consonanță cu prevederile art. 302 alin. (1), (2) și (3) din Codul navigației maritime comerciale al Republicii Moldova [6], ce stipulează următoarele: „Raporturile ce țin de reparația daunelor cauzate de abordajul dintre nave în apele interioare sau în apele teritoriale sînt reglementate de legislația statului în ale cărui ape s-a produs abordajul. În cazul în care abordajul s-a produs în largul mării, iar litigiul se judecă în Republica Moldova, se aplică prevederile art.303-308. În cazul în care navele aflate în coliziune au pavilionul aceluiași stat, se aplică legislația aceluși stat, indiferent de faptul unde s-a produs abordajul.” Deci, în acest caz și reglementările ce stau la baza soluționării fondului cazului sunt în corelație cu reglementările privind competența generală a instanțelor judecătorești naționale.

e) *nava sau aeronava a fost sechestrată în Republica Moldova.* Se are în vedere aplicarea măsurii de asigurare sub formă de sechestru de instanțele judecătorești din Republica Moldova cu respectarea convențiilor internaționale asupra sechestrului navelor și aeronavelor la care Republica



Moldova este parte [10, p. 1229].

f) *procesul are ca scop declararea insolvabilității sau orice altă procedură judiciară privind încetarea plăților în cazul unei societăți comerciale străine cu sediu în Republica Moldova. Aceste societăți comerciale pot fi de orice formă recunoscută în Republica Moldova: societate pe acțiuni; societate cu răspundere limitată, societate în comandită, societate în nume colectiv* [10, p. 1229].

g) *la data depunerii cererii de desfacere, anulare sau declarare a nulității căsătoriei, precum și în alte litigii dintre soți, cu excepția celor cu privire la imobile din străinătate, ambii soți domiciliază în Republica Moldova, iar unul dintre ei este cetățean al Republicii Moldova sau apatrid. Se va avea în vedere că la „alte litigii dintre soți” se referă, de exemplu, litigiul privind partajarea averii, cu excepția imobilului aflat în străinătate, privind pensia de întreținere pentru celălalt soț, stabilirea domiciliului copilului* [10, p. 1229].

Litigiile ce vizează decăderea din drepturile părintești nu se încadrează în rigorile art.461 alin.(1) lit.g) CPC, la sintagma „și în alte litigii dintre soți”, deoarece potrivit art.68 alin.(2) Codul familiei, acțiunea privind decăderea din drepturile părintești poate fi pornită de celălalt părinte, tutorele copilului, autoritatea tutelară și, respectiv, nu poate fi considerată ca litigiu dintre soți, aceasta atribuindu-se la litigiile legate de drepturile și obligațiile părinților față de copii, adică la materia răspunderii părintești [10, p. 1229-1230].

La nivel conceptual poate apărea întrebarea încadrării teoretice a regulilor privind competența generală a instanțelor judecătorești în cauzele cu elemente de extraneitate stipulate în art. 460 din CPC. Dispozițiile art. 460 alin. (1) din CPC stipulează următoarele: „Instanțele judecătorești ale Republicii Moldova sînt competente să judece și cauze cu element de extraneitate dacă:

a) organul de administrare, agenția, sucursala, reprezentanța persoanei străine are sediu în Republica Moldova;

b) pîrîtul are bunuri pe teritoriul Republicii Moldova;

c) reclamantul în procesul cu privire la încasarea pensiei de întreținere și constatarea paternității are domiciliu în Republica Moldova;

d) prejudiciul cauzat prin vătămare a integrității corporale sau prin o altă vătămare a sănătății ori prin deces a avut loc pe teritoriul Republicii Moldova ori reclamantul are domiciliu în Republica Moldova;

e) fapta sau o altă circumstanță ce servește drept temei pentru intentarea acțiunii în reparație a daunei cauzate unui bun s-a produs pe teritoriul Republicii Moldova;

f) acțiunea decurge dintr-un contract a cărui executare, deplină sau parțială, trebuie să aibă loc ori a avut loc în Republica Moldova;

g) acțiunea ce rezultă din îmbogățirea fără justă cauză a avut loc în Republica Moldova;

h) reclamantul în procesul de desfacere a căsătoriei are domiciliu în Republica Moldova sau cel puțin unul dintre soți este cetățean al Republicii Moldova;

i) reclamantul în procesul privind apărarea onoarei, demnității și reputației profesionale are domiciliu în Republica Moldova;

j) în procesul privind protecția în străinătate a proprietății intelectuale a unei persoane domiciliată în Republica Moldova, persoana este cetățean al Republicii Moldova sau apatrid, iar prin convenția părților nu s-a stabilit o altă competență;

k) în procesul dintre persoane străine, acestea au convenit expres astfel, iar raporturile juridice privesc drepturi de care ele pot dispune în legătură cu bunuri sau interese ale persoanelor din Republica Moldova;

l) prin lege sînt prevăzute și alte cazuri.

În viziunea noastră, prevederile art. 460 din CPC învederează doar niște criterii de determinare a instanței judecătorești competente în cauzele cu elemente de extraneitate. Deci, cu alte cuvinte legislatorul a prevăzut în acest articol criteriile de determinare a instanței judecătorești din punctul de vedere al competenței generale, dar nu regulile unui fel de competență generală a instanței judecătorești.

Legislatorul moldav a reglementat și competența generală contractuală în Codul de procedură



civilă al Republicii Moldova în art. 462 alin. (1) din CPC, ce stipulează următoarele: „Într-un litigiu civil cu element de extraneitate, părțile, înainte de pornirea procesului, pot schimba competența litigiului și pot investi o anumită instanță cu competență jurisdicțională (prorogarea convențională).” Ultimele cuvinte semnifică că instanța de judecată este competentă jurisdicțional la nivelul statului de care este instituită, însă prățile aleg dintre două instanțe judecătorești din diferite state care sunt două sisteme judecătorești diferite, ceea ce reprezintă competența generală contractuală în procesele cu element de extraneitate.

Observăm că legiuitorul moldav a exclus competența jurisdicțională contractuală în procesele naționale abrogând art. 41 CPC prin Legea nr. 244-XVI din 21.07.2006 [7], însă în puterea tratatelor internaționale la care Republica Moldova este parte a păstrat competența generală contractuală în procesele cu element de extraneitate. De exemplu, potrivit art. 21 § 1 din Convenția cu privire la asistența juridică și raporturile juridice în materie civilă, familială și penale din 22.01.1993 de la Minsk se stipulează: „Instanțele de judecată ale Părților Contractuale pot examina dosare și în alte cauze, dacă există acordul scris al părților de a transmite cauza acestor instanțe de judecată. Totodată, competența absolută, care reiese din punctul 3) al articolului 20 și alte norme, stabilite de capitolele II-V ale prezentei Părți, precum și din legislația internă a Părții Contractante respective, nu poate fi modificată printr-o înțelegere a părților” [3]. În aceste cazuri acordul părților cu privire la alegerea competenței urmează a fi încheiat în formă scrisă, astfel încât să fie determinat expres instanța competentă de a soluționa eventualul litigiu sau litigiul deja apărut [10, p. 1232].

În sensul prevederilor art. 267 lit. e) CPC, în cazul în care reclamantul încalcă regulile privind competența generală contractuală în procesele cu element de extraneitate, iar partea adversă ridică obiecții împotriva soluționării litigiului de către instanța judecătorească a Republicii Moldova, instanța judecătorească urmează să scoată cererea de pe rol.

Aplicarea relementărilor privind competența generală a instanțelor judecătorești în procesele cu element de extraneitate va avea loc în modul următor:

a) se vor aplica mai întâi prevederile art. 460 din CPC pentru a constata dacă sunt întrunite anumite criterii ce permit de a examina cauza cu element de extraneitate de instanțele judecătorești naționale;

b) în a doua etapă se va verifica dacă procesul cu element de extraneitate se referă la competența generală exclusivă a unei instanțe judecătorești străine cu verificarea coincidenței cazului civil în lista proceselor enumerate în art. 461 alin. (1) din CPC;

c) în a treia etapă se va verifica dacă există un acord dintre părțile litigiului civil prin care a schimbat competența litigiului prin investirea unei instanțe judecătorești concrete dintr-un anumit stat, astfel se vor aplica prevederile art. 462 din CPC;

d) dacă procesul cu element de extraneitate implică aplicarea normelor procesuale speciale privind competența generală a instanțelor judecătorești, în particular în materie de moștenire, în a patra etapă se vor aplica prevederile art. 462¹, art. 462² din CPC; 462³ din CPC; 462⁴ din CPC; 462⁵ din CPC; 462⁶ din CPC; 462⁷ din CPC.

Pornind de la cele menționate definim competența generală a instanțelor judecătorești în procesele cu element de extraneitate ca fiind instituția juridică ce delimitează împuternicirile instanțelor judecătorești naționale de împuternicirile instanțelor judecătorești străine în procesele ce se desfășoară între persoanele de drept public sau privat ce au naționalitate diferită.

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COMPETENȚA GENERALĂ A INSTANȚELOR JUDECĂTOREȘTI LA SOLUȚIONAREA CAUZELOR CIVILE CE REZULTĂ DIN RAPORTURILE JURIDICE DE FAMILIE

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Abstract. In this article, the special rules regarding the general jurisdiction of the courts to resolve civil cases resulting from family legal relations were analyzed. Since these regulations have a diverse character, the following types of general jurisdiction of the courts were subjected to analysis: exclusive general jurisdiction, alternative general jurisdiction and conditional general jurisdiction.

In order to improve the legislation of the Republic of Moldova in this field, proposals were formulated to amend and supplement the legislation”.

Keywords: jurisdiction, court of law, family relations, civil case, settlement, regulation, exclusive, alternative, conditional.

Competența generală delimitează împuternicirile organelor jurisdicționale la soluționarea cauzelor civile. Configurarea reglementărilor privind competența generală la soluționarea cauzelor civile ce rezultă din raporturile juridice de familie sunt într-o strânsă dependență de politica statului în reglementarea relațiilor de familie și de modalitățile de realizare a politicii în creșterea demografică a populației. La fel, aceasta este într-o dependență cu obiectivele conducerii statale în administrarea

eficientă a instanțelor de judecată, în particular, în ceea ce privește reducerea numărului dosarelor civile aflate pe rolul instanțelor judecătorești din Republica Moldova.

La soluționarea cauzelor civile ce rezultă din raporturile juridice de familie este cea mai mare diversitate a felurilor competenței generale a instanței de judecată, comparativ altor procese civile. Pentru a fi îndeplinite premisele și condițiile de exercitare a dreptului la acțiune la intentarea proceselor civile privind relațiile juridice de familie, de regulă urmează a fi respectate regulile unora din următoarele feluri de competență generală a instanțelor judecătorești: a) competența generală exclusivă a instanțelor judecătorești; b) competența generală alternativă; c) competența generală condițională (imperativă) a instanțelor judecătorești.

a) competența generală exclusivă a instanțelor judecătorești la soluționarea cauzelor civile ce rezultă din raporturile juridice de familie. Legislatorul moldav atrage o atenție deosebită reglementării competenței generale exclusive la intentarea acestor procese civile, pentru a împiedica unele abuzuri de drepturile alternative din partea unor membrii de familie cu o pregătire juridică mai bună.

Unele din prevederile legislative ce se referă la competența generală exclusivă a instanței judecătorești la soluționarea cauzelor civile ce rezultă din raporturile juridice de familie sunt: art. 23 din Codul familiei (Recunoașterea bunurilor personale ale soților proprietate în devălmășie a acestora) [3]; art. 31 alin. (2) din Codul familiei (Declararea nulității contractului matrimonial); art. 41 alin. (1) din Codul familiei (Declararea nulității căsătoriei); art. 48 din Codul familiei (Stabilirea paternității în instanța judecătorească); 49 alin. (1) din Codul familiei (Contestarea paternității (maternității)); art. 68 alin. (1) din Codul familiei (Decăderea din drepturile părintești); art. 78 alin. (2) din Codul familiei (Stabilirea cuantumului pensiei de întreținere pentru copii majori inapți de muncă). În toate aceste cazuri este stabilită de lege competența generală exclusivă a instanțelor judecătorești, regulă comună și în sistemele de drept a altor state, cum ar fi România [5, p. 114], în scopul apărării intereselor copilului, sau persoanei care a suferit în urma unor abuzuri din partea membrilor familiei.

Fiind stabilită competența generală exclusivă a instanțelor judecătorești la examinarea acestor cauze civile, judecătorul nu poate impune reclamantul la etapa intentării procesului civil de a fi prezentate anumite probe privitor la respectarea unei proceduri prealabile extrajudiciare. Inclusiv ne referim și la cazul de stabilire a paternității în instanța judecătorească, reglementat în art. 48 din Codul familiei, în care nu este necesar de a fi prezentat refuzul unuia din părinte sau a tatălului copilului de a fi înscris ca tată în certificatul de naștere de oficiul stării civile. În cazul adresării în instanța de judecată a unuia din părinte există prezumpția legală că nu există declarația comună a părinților privind stabilirea paternității și această circumstanță nu urmează a fi dovedită la momentul depunerii cererii de chemare în judecată. Judecătorul, în acest proces civil, poate impune printr-o încheiere de a nu da curs cererii, de a fi respectate prevederile art. 166 și art. 167 din CPC, în particular cele prevăzute în art. 166 lit. e) din CPC [2], ce stipulează: „Circumstanțele de fapt și de drept pe care reclamantul își întemeiază pretențiile și toate probele de care acesta dispune în momentul depunerii cererii”.

O reglementare specifică privind competența generală exclusivă a instanței judecătorești la examinarea cauzelor civile ce rezultă din raporturi juridice de familie sunt prevederile art. 68 alin. (1) din Codul familiei, ce stipulează următoarele: „Decăderea din drepturile părintești are loc numai pe cale judecătorească.” Comparativ altor reglementări privind competența generală exclusivă a instanțelor judecătorești în cauzele civile ce rezultă din raporturile juridice de familie, prevederile art. 68 alin. (1) din Codul familiei, stipulează sintagma „numai pe cale judecătorească”. Este reglementată în această modalitate competența generală exclusivă a instanței de judecată din cauza că instanța de judecată urmează să aplice o măsură juridică, care nicidecum nu poate fi aplicată de un alt organ jurisdicțional. Privitor la acest aspect, în literatura de specialitate este menționat: „În fond, rezultă că decăderea din drepturile părintești și luarea copilului fără decăderea din drepturile părintești nu reprezintă de fapt o sancțiune juridică, ci o măsură de protecție a copiilor survenită din cauza comportamentului necorespunzător al părinților, cele două instituții menționate mai sus reflectă răspunderea juridică de dreptul familiei, dar nefiind totuși în esență sancțiuni juridice [1, p. 204].”



Prin urmare, legislatorul a urmărit prin sintagma „numai pe cale judecătorească” de a specifica împuternicirea exclusivă a instanței de judecată de aplica această răspundere juridică de dreptul familiei. Totuși, și în alte cazuri stipulate în Codul familiei menționate *supra* legislatorul a urmărit de a stabili competența exclusivă a instanței de judecată, însă nu a utilizat sintagma „numai pe cale judecătorească”. Considerăm că în ansamblu, aceasta constituie o greșală de tehnică legislativă fiindcă nu a fost folosită terminologia unitară în reglementarea competenței generale exclusive a instanței de judecată în cauzele civile ce rezultă din raporturile juridice de familie. În vederea excluderii unei astfel de inadvertențe legislative propunem *de lege ferenda* de a fi exclus cuvântul „numai” din prevederile art. 68 alin. (1) din Codul familiei.

b) competența generală alternativă la soluționarea cauzelor civile ce rezultă din raporturile juridice de familie. Cel mai pronunțat se evidențiază competența generală alternativă a organelor jurisdicționale la soluționarea litigiilor de familie în procesele privind desfacerea căsătoriei. În particular, reglementările acestui fel de competență generală sunt stipulate în art. 35 din Codul familiei, ce prevăd următoarele: „În cazurile prevăzute la art. 36 alin. (1) și (2), căsătoria se desface de către organul de stare civilă, în cazurile prevăzute la art. 36 alin. (4) și (5) și la art. 37 – pe cale judecătorească, iar în condițiile prevăzute la art. 41 și 42 din Legea nr. 246/2018 privind procedura notarială – de către notar.” Deci, soții pot alege de a se adresa fie către organul de stare civilă, fie în instanța de judecată sau către notar pentru a desface căsătoria în condițiile legii.

Deși, în toate aceste cazuri soții au posibilitatea de a alege modalitatea de desfacere a căsătoriei, totuși conform 37 alin. (1) din Codul familiei, la adresarea în instanța de judecată soțul ce este reclamant urmează să dovedească lipsa acordului la divorț a celuilalt soț. Însă o astfel de condiție nu presupune existența competenței generale condiționale, fiindcă nu se impune adresarea în prealabilă pe cale extrajudiciară către un organ jurisdicțional. Este doar condiția ce se referă la dovedirea adresării în prealabil către partea adversă pentru desfacerea căsătoriei. În cazul existenței unor circumstanțe excepționale din care ar rezulta că nu poate exista acordul celuilalt soț la desfacerea căsătoriei, o astfel de adresare prealabilă pe cale extrajudiciară nici nu este necesară. De exemplu, dacă soțul pîrît se află peste hotarele țării și este în imposibilitatea de a se prezenta în Republica Moldova pentru a desface căsătoria prin adresare la notar sau la oficiul stării civile, aceasta constituie o circumstanță ce indică asupra la aceea că soții nu au ajuns la un acord privind desfacerea căsătoriei.

c) competența generală condițională (imperativă) a instanțelor judecătorești la soluționarea cauzelor civile ce rezultă din raporturile juridice de familie. Acest fel de competență generală îi găsim realizarea la confirmarea de instanța de judecată a unor fapte și evenimente ce se referă la actele de stare civilă. În particular, ne referim la prevederile art. 281 alin. (2) lit. c) din CPC ce stipulează: „Instanța judecă cauzele în care i se cere să constate înregistrarea nașterii, adopției, căsătoriei, divorțului și decesului”. Întrucât o condiție de constatare a acestor fapte cu valoare juridică este ca petiționarul să nu aibă posibilitatea de a obține sau de a restabili documentele care ar certifica faptul juridic a cărui constatare o solicită, acesta urmează să prezinte instanței de judecată proba (un răspuns al organului de stare civilă) care dovedește imposibilitatea de a restabili înscrisurile privind înregistrarea faptului nașterii, adopției, căsătoriei, divorțului și decesului [4, p. 889]. Prin urmare, este impusă condiția petiționarului mai întâi de a se adresa organului de stare civilă privind restabilirea înscrisurilor privind înregistrarea faptului nașterii, adopției, căsătoriei, divorțului și decesului, iar în caz de imposibilitate pentru organul de stare civilă de a le restabili, petiționarul poate cere constatarea faptelor respective în instanța de judecată. Astfel, observăm că la soluționarea acestor cauze existența organului jurisdicțional de bază (organul de stare civilă) și altul organul jurisdicțional complementar și neobligatoriu (instanța de judecată). Aceste cauze civile se examinează într-o ordine consecutivă de organele jurisdicționale ceea ce caracterizează regulile competenței generale condiționale.

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INTERNATIONAL TRANSPORT LAW WITHIN THE FRAMEWORK OF MODERN CONCEPTS OF NATIONAL LEGISLATION AND THE EU

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Abstract. International private transport law is a sub-branch of international law, namely a complex of legal norms that are fixed in national legislation, as well as international treaties and customs that regulate the obligation to transport goods, passengers and luggage in international traffic. Obligations in the field of cargo and passenger transportation, covering the legal order of two or more states, are the subject of international transport law. International transportation is the transportation of goods and passengers between two or more states, performed under the terms of an international agreement concluded between them. The essence of legal regulation in the considered sub-sector of the private sector is that the primary issues of transportation are regulated in international agreements containing unified material-legal and conflict-of-law norms. International transportation of cargo, passengers and luggage functions by means of a contract of carriage, which is bilateral, remunerative, and real consensual.

Keywords: International transport law, legal regulation, international transportation of goods conflicts, mixed transportation, passengers, luggage, receipt, contract, legal, order

Introduction: This type of contract is drawn up by issuing a transport document: bill of lading - for sea transportation; air waybill - for air transportation; road transport document (road transport document) - for road transport; railway bill of lading (rail transport document for railway transportation); document of mixed transportation (multimodal transport document) - for combined transportation). Currently, the situation in the field of transportation is significantly different compared to the situation a few decades ago. Relations in the field of road transport are constantly being improved [9, p. 117-122]. In the absence of an international agreement, cross-border transportation is not recognized as international, but it is included in the scope of the International Emergency Situations Act, and is also regulated by national legislation. A contract of carriage is a foreign trade transaction that provides a common system of goods movement. The following types of international transportation exist: railway, automobile, air, water (river and sea) modes of transport.



Transit, container, combined mixed international transportation has its own special features. In some states, transportation means are subject to state registration, for example, according to Art. 46.3 of the Civil Code of Portugal [1]: "The origin and transfer of rights to vehicles subject to the registration regime are regulated by the law of the country where the registration is carried out". If the means of transport are not entered in the state register, property rights to them are determined: a) according to Art. 22 of the Law on Emergencies of Estonia [8]. - the right of the state of registration, and in its absence - the right of the state of the port of registration; b) according to Art. 10.2 Civil Code of Spain [2] - cars and other means of road transport remain subject to the law of the place where they are located.

When writing the article, the following **methods were used**: comparative legal, logical, imperial, historical.

States establish special collision regulation applicable to cargo (goods in transit, transported goods), for example, Art. 10.1 of the Civil Code of Spain [2]. provides the following: "For the consequences of the establishment or transfer of rights to property in transit, the latter are considered to be located at the place of their departure, unless the sender and the recipient expressly or tacitly agreed that they are considered to be located at the place of destination". In relation to property rights, which are in the passenger's possession of personal items, they are determined according to his personal law, for example, Art. 67 of the Code of Civil Procedure of Bulgaria stipulates the following: "Property rights to things for personal use, transported by a passenger, are regulated by the law of the state in which the passenger's usual place of residence is located". The essence of collision regulation in international private transport law is presented in the form of the action of general collision bindings and their transformation into special ones. The specificity of the contract of international transportation as a special type of international commercial transactions is due to the peculiarities of transport, a kind of natural monopoly of the state. This contract consists of a public-law aspect and a private-law aspect. According to Art. 94 of the Code of Civil Procedure of Bulgaria [3]. assumes: "a contract for the carriage of goods has the closest connection with the state on whose territory the main place of activity of the carrier is located at the time of the conclusion of the contract, provided that the following state is located in the same state: a) the place of loading, or b) the main place of activity of the consignor".

Transport Logistics

The pursued task of international transportation is the elimination of geographical and temporal gaps that exist between the shipper and the recipient, as well as the delivery of the cargo in compliance with the following requirements: a) the intended cargo; b) the prescribed quality of the cargo; c) the prescribed amount of cargo; d) delivery of cargo at the right time; e) cargo delivery to the right place; f) cargo delivery with minimal costs. Such requirements presuppose the "six rules of logistics". **Logistics** is a combination of different types of activity, the goal of which is to obtain the necessary amount of production at a certain time and in a certain place, where a specific need for this production has arisen, with the lowest costs. Logistics includes a complete material flow, starting with the purchase of raw materials and ending with the delivery of the final product. The entire scale of the international freight transport process is organized on the basis of transport logistics, therefore transport logistics has the following tasks: 1) providing technical and technological connectivity to the subjects of the transport process; 2) accounting of the economic interests of the subjects of the transport process; 3) the use of basic planning systems and a unified information system for all. When moving goods, the company provides storage and transportation of goods, to facilitate their availability to the consumer at the right time and in the right place.

Today, the dominant concept is that intermodality - the integrated use of various types of transport in one transport system - is the basis of the effectiveness of international trade and sustainable development [5, p. 596]. Intermodality occurs in the form of a continuous connection of all possible modes of transport into one continuous process of sales and provision of services, recognized as a commercial transaction.



Intermodal transportation is a kind of system for the delivery of goods in an international message on the basis of a single transport document and accompanied by the transfer of goods moved from one type of transport to another. The basic element of such transportation is an intermodal cargo unit that allows customs sealing that meets international requirements.

Intermodal transportation is schematically organized, mixed combined transportation. The most important task in transport logistics is the choice of transport, with the help of which the transportation will be carried out in the best possible way, because the level of prices of goods, the maximum term of their delivery, and their condition at the time of arrival at the destination directly depend on such a choice of mode of transport.

International Railway Transportation

International railway transportation is the transportation of goods and passengers between states. This type of transportation is formalized by several contracts. Varieties of the general concept of international railway transportation may include: international direct communication, indirect communication, transit transportation, through transportation, transshipment international transportation. In Europe, the Berne Convention on the Carriage of Goods by Rail, developed as a set of basic transportation rules for European railways, is in force. A little later, an additional agreement on international railway transportation KOTIF, supplemented by an international passenger convention and an international cargo convention, was adopted.

The contract of international carriage of goods and the contract of carriage of goods do not have significant differences and they can be compared to contracts of the same type, because these agreements are basically the same in terms of elements. This applies, first of all, to their subject, signs, subjects and content, but certain differences cannot be excluded. In contrast to the contract of carriage of cargo, the contract of international carriage of cargo is regulated by international legal sources, and in the event of their absence or non-regulation of a number of issues by them - by the norms of domestic (national) legislation. The following feature is related to the terms of the contract, such as: terms of cargo delivery, freight payments, responsibility of the subjects of the contract. Considerable importance is given to transport documentation, which is issued for international transportation. In the role of the main document certifying the conclusion of the contract for the international transportation of goods, a bill of lading, a bill of lading, a transport document, a transportation document, a means of saving a record of the upcoming transportation [4].

There are two basic systems of transport documents that certify the conclusion of an international cargo transportation contract: 1– a waybill, which is used for road, rail, and air transportation; 2– bill of lading used for sea transportation and river transportation. What are their differences: a) a bill of lading corresponds to a certain form, a clear set of details and content, in contrast to a bill of lading, which contains a minimal list of details. It is drawn up by the carrier, signed by the carrier and handed over to the consignor, while the waybill is drawn up by the consignor and must be certified by both parties. An important distinguishing feature of transport documents that certify contracts for international cargo transportation is their enshrining in conventions.

There is a system of submitting an application (offer) for one-off cargo transportation, which is accepted in two ways: by the carrier's official response in writing or by the carrier's actions, expressed in the submission of transport at the chosen time and place.

International Automobile Transportation

International automobile transportation is the transportation of passengers and cargo by motor vehicle on the basis of an international transportation contract, as a result of which the point of departure is the territory of one state, and the destination is the territory of another state, including transit transportation. There are more than 40 international organizations dealing with road transport issues. The most significant European agreement is the Geneva Convention on the Contract for the International Carriage of Goods by Road. The agreement on international automobile transportation is a special type of foreign trade transaction, where the automobile transportation is performed not by the subjects of the agreement, but by companies related to them, which themselves conclude the



automobile transportation agreement. If the transportation is carried out between countries that have not concluded bilateral agreements with each other, then permits may be issued on a one-time basis by the competent authorities of the carrier's country. In European countries, there are several types of permission: a) permission obtained for one flight; b) permission received for multiple flights; c) permission received for a certain number of flights; d) transit permits; e) permission obtained for suburban transportation.

International transportation of passengers and cargo by means of transport is possible under the condition of mandatory civil liability insurance of the carrier to third parties. The carrier must insure its civil liability in advance for each vehicle, and the insurance covers all damage that may be caused by vehicles. At the same time, it should be noted the fact that the importance and scientific and practical value of transport law is indisputable, and the prospect of its formation as a separate area of research is becoming more and more obvious [9, p. 117-122].

International Air Transportation

The main document regulating international airspace is the Chicago Convention on International Civil Aviation of 1944, which determined the general rules of civil aviation for the execution of international messages; categories of international flights; established the concept of international flights and air routes, the passage of which is previously stipulated in international agreements on air traffic. The main purpose of this convention is to ensure the legal regulation of international air traffic and commercial activities. The basic forms of cargo transportation organized by air transport are: 1) mixed cargo transportation; 2) special cargo transportation. In turn, mixed cargo transportation is divided into cargo transportation in special cargo compartments of passenger planes and cargo transportation in convertible cargo-passenger planes. If necessary, the salon can be completely or partially re-equipped. Such transportation as regular and charter transportation involves the transportation of cargo on specially equipped aircraft. Regular flights are flights operated according to the published schedule of contracted airlines. Regarding transportation by cargo airlines, their activities are regulated by intergovernmental agreements on air traffic. Contractual lines are divided into: a) the right to make a transit flight without landing on the territory of the state granting this right; b) the right to fly through a foreign territory with landing on this territory; c) the right to drop off passengers on foreign territory; d) the right to receive passengers on foreign territory; e) the right to receive on foreign territory passengers going to the territory of any third state; f) the right to transport passengers; g) the right to transport passengers, mail and cargo between third countries.

International air transportation is transportation in which the place of departure and destination are located on the territory of two participating states, or on the territory of one and the same participating state. According to the Montreal Convention [10], the carrier is responsible for causing harm to the passenger's life and health, as well as for the loss or damage of checked baggage. The fault is not removed from the carrier until it is proven that the adverse consequences were caused by military actions, armed conflict, inherent quality defects of the cargo, i.e. all of the above was caused either by the person's inaction, or negligence and carelessness. The national legislation of the majority of states is limited to special collision bindings for air traffic. The law of the place where the contract was signed is recognized as the law of the country where the first flight segment began. The law of the state of the place of registration of the aircraft contains: 1) powers, competence and duties of the commander of the aircraft; 2) the content of the ship's crew hire contract, if the parties have not chosen a different law; 3) the responsibility of the air transport enterprise for the actions and concessions of the commander, captain and crew. Damage caused by an aircraft on the surface of the earth is determined by the law of the state on the territory of which such damage was caused.

International Sea Transportation

International maritime transportation is regulated by the 1982 UN Geneva Convention on the Law of the Sea. The regulation of cargo transportation by sea is a subsystem of the International Emergency Situations and includes the norms of sea shipping and commercial navigation. The concepts of "international private maritime law" and "merchant shipping and navigation" were established in the doctrine quite a long time ago [6, p. 54]. Today, in the field of international private



maritime law, there are a large number of universal international agreements that determine that international liner shipping is issued by a bill of lading - a special receipt that certifies the carrier's acceptance of the cargo for its subsequent transportation by sea. Before the start of the voyage, the carrier must: 1) bring the vessel to a seaworthy state; 2) equip, equip and equip the vessel; 3) bring the vessel into proper condition. The UN Convention on the Carriage of Goods by Sea from 1978 (Hamburg Rules) [12], which established 13 mandatory elements of the bill of lading.

The responsibility of the carrier for the cargo begins from the moment of receipt of the cargo for transportation and ends at the moment of delivery of the cargo. The carrier is responsible for the loss or damage of the cargo, delay in its delivery, if the claimant proves that the loss, damage or delay occurred during the period of responsibility of the carrier [5, p. 612]. The carrier is released from liability if it proves its innocence, and the consignor is liable for losses or damages incurred by the carrier if it is proven that such losses or damages were caused by the consignor's breach of obligations.

A charter is the legal form of tramp transportation. The charter contract is concluded with the help of an intermediary or freight broker and includes a number of conditions related to the vessel, cargo, freight. The subjects of the charter contract are: the charterer and the charterer. Freight is the fee paid to the carrier for the delivery of the cargo to the port of destination, and the voyage charter is a contract for the sea transportation of the cargo on the condition that the entire vessel or part of it is delivered for cargo. Types of charter contracts are: time charter contract and dimaise charter contract, where a time charter is understood as a contract where the shipowner undertakes to provide the charterer with a fee for a certain period of time for the specified purposes, and a dimaise charter contract is understood as a contract in which the charterer is granted the right of ownership and ship control. The charter itself is a complex contract. A time charter is a contract of chartering a vessel for a period of time, where the shipowner continues to be the owner of the vessel and control the crew, placing the crew at the disposal of the charterer for a certain period of time for the transportation of cargo, according to the terms of the charter. At the same time as a time charter, there is bareboat chartering of vessels - a type of chartering agreement where the shipowner transfers the vessel to the charterer without a crew on the terms of the lease, while the charterer becomes the temporary owner of the vessel.

Conclusions:

Transportation of passengers, cargo and luggage in international law creates the need for transportation between different states with the participation of different types of transport. This type of transportation is called mixed transportation. Today, more than 90% of foreign trade operations are carried out with the help of at least two types of transport, which ensure the smooth functioning of the entire world transport system, and also allow solving the problems of transit countries by increasing the export of transport services. The organization of such transportation as mixed transportation is aimed at solving various legal and technical problems such as: 1) establishing the status and relationship of the carriers themselves, which carry out mixed transportation; 2) establishment of the legal regime of mixed transportation, as well as the responsibility of carriers to the cargo owner. International mixed transportation is a certain type of cargo transportation by at least two modes of transport based on a mixed transportation agreement concluded from the destination point in one country, where the cargo is entrusted to the management of the operator performing mixed transportation, to the point of arrival of the cargo - the specified place of delivery in the country of destination. Mixed transportation is a transportation in which the cargo moves through the territory of several states that have signed a special agreement, only in that case the transportation acquires the character of international mixed transportation. Very often, terminologically, mixed transportation is identified with combined, multimodal, and intermodal transportation [7, p. 87]. Mixed transportation is transportation with the consecutive use of at least two or more types of transport in international cargo and passenger traffic. Direct mixed transportation is issued with a transport document that covers all types of transport involved in this transportation. The main difference between direct mixed transportation is the presence of a person who takes responsibility for the safety of the cargo in transit. If the person does not take responsibility for the cargo, it means that this person is a forwarder. In this



situation, the responsibility for the damage falls on each specific executor of the transportation contract [13, p. 165-172].

A special type of mixed transportation is combined transportation, i.e. transportation using technical means of various types of transport. It should be noted that a common legal status and a common tariff are established for all types of transport involved in transportation. Combined transportation includes: direct combined transportation, where transportation of one loaded means of transport is carried out on another loaded means and indirect combined transportation, i.e. consecutive transportation of one loaded means of transport on two or more others. From the very beginning, there was a question about creating a transport document for mixed transportation, which would include new conditions for integrated transportation - an *end-to-end negotiable document* that allows its holder to dispose of the cargo and which would accompany the container. The mixed transportation operator, anyone else who concludes a mixed transportation contract on his own behalf or through a representative, acts as the subject of the contract, assuming responsibility for the performance of the contract. Under the contract of mixed transportation, the operator of mixed transportation undertakes to carry out international mixed transportation for the payment of payments.

From the moment the cargo is accepted into its custody, the mixed transportation operator issues a mixed transportation document signed by the mixed transportation operator or an authorized person. The cargo is under the control of the operator of mixed transportation from the moment of acceptance of the cargo from the consignor or his representative until the moment when he released the cargo at the disposal of the consignee in accordance with the terms of the contract.

The operator is responsible for the delivery of the cargo in the proper form and condition at the specified point. At present, when there is a technical possibility to ensure timely and safe delivery of goods, objective economic prerequisites have been created for the formation of its single unified legal regime [5, p. 692].

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CONCEPTUAL FOUNDATIONS OF INTERNATIONAL MONETARY LAW WITHIN THE FRAMEWORK OF NATIONAL LEGISLATION AND THE EU

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Abstract. International settlements is a process that allows you to regulate payments for monetary obligations that arise in the field of international commercial relations, which assume a non-cash form of settlement. The following are the main forms of international payments: an advance is a preliminary payment for goods, an open account is periodic payments after receiving the goods, a bank transfer is a bank order addressed to a second bank that will pay the amount to the transferee or carry out a transfer of funds from the account, on the order of the transferor in favor of the transferee, a letter of credit is a transaction separate from the international commercial contract on which the letter of credit is based, the most complex form of payment, the collection form of payment is a banking operation in which the bank, on behalf of the client, receives payment from the importer for goods shipped to his address or services rendered and credits this money to the exporter's account.

Keywords: letter of credit payment form, collection payment form, contract, bank, securities, currency transactions, bank order, payment, services, work.

Introduction: Public currency law covers the state currency policy, and private currency law is the relationship between private individuals related to the circulation of currency values[11, p. 98]. As such, the term "international private currency law" is practically not used, but the concept of "credit and settlement relations with the participation of a foreign element" is used. By itself, the concept of "international private currency law" originated in German jurisprudence. International private currency law is an independent sub-branch of the International Monetary Fund, which has a stable nature and a special subject of regulation, includes a set of norms that regulate the financing of international commercial activity, settlement relations, such as: currency, credit, related to foreign legal order.

The subject of regulation of international private currency law includes international currency relations, which are formed when the currency functions in the world economy, i.e. a variety of monetary relations that are formed during the functioning of money in international circulation. The monetary obligation is aimed at the payment of currency signs, i.e. for the provision of material things that perform the function of a means of circulation[6, p. 45]. As a "currency" it is customary to consider that money that is recognized by the international community as universal equivalents[8]. Money belonging to the currency system of the country is recognized as foreign currency. Currency operations are performed by means of currency obligations. The amount of the currency liability must always be determined or determined[5, p. 90]. In currency obligations, the following are distinguished: - the monetary unit in which the amount of the obligation is calculated, - the currency of the debt; - currency signs, which are a means of repayment of a monetary obligation, - currency of payment, and the currency of the debt and the currency of payment are part of each obligation, calculated in a certain amount [4, p. 701].

The international monetary unit is an artificial currency unit representing a conventional scale used to measure international debt obligations and payments[8].



World Currency System

The foundation of interstate regulation of international currency relations is the world currency system, the first of which was formed at the Paris Conference in 1867. The second world currency system was formed a little later at the Genoa Economic Conference in 1922, and the third world currency system was formed in 1944 at the Bretton Woods conference. In 1979, the first European regional currency system was formed within the framework of the EEC.

The International Currency Market is an official financial center where the buying and selling of currencies and securities denominated in foreign currency is involved, through the supply and demand for them. Here, two types of currency operations are carried out - these are cash operations and urgent operations, of which: cash transactions are carried out by market entities to receive currency within one to two days, i.e. with immediate delivery of the purchased currency. The purpose of a cash transaction is to exchange one currency for another. As for urgent foreign exchange operations, they are designed for a longer period and have the goal of converting currencies to collect income, making a profit due to the exchange rate difference.

Subjects of international currency relations are exposed to various risks, for example, commercial risks: changes in the price of goods after how the contract was signed; errors in documents or payment for goods; theft of foreign currency, insolvency of the buyer or borrower; inflation. A certain place among commercial risks is occupied by currency risks - these are risks divided into exchange rate and inflation risks[3, p. 76]. In the role of an insurance mechanism against various inflationary processes, currency and financial conditions are used, which are the requisites of any foreign trade contract. Currency conditions contain: establishment of the price currency and payment currency, determination of the order of currency conversion in the event of a discrepancy between the price currency and the payment currency. The price currency is the currency in which the price of the goods is set, and the payment currency is the currency in which the importer's obligation must be repaid.

The development of international trade provides for the stabilization of the content of obligations. This is how protective clauses appeared, for example, the gold clause, based on the fixation of the gold content of the payment currency on the date of the conclusion of the contract. A currency clause is a specific condition in the agreement that provides for the revision of the payment amount in proportion to the change in the exchange rate of the clause in order to insure the exporter or creditor against the risk of currency depreciation. Multi-currency reservations are practiced, which are based on international currency units - gold, francs, euros.

International Settlement Relations

Settlement relationship is a fulfillment of a monetary obligation, since it is aimed at terminating the obligation by paying out a sum of money by the debtor to the creditor. A monetary obligation is a legal fact of the emergence of a settlement relationship, which in the process of functioning breaks away from its foundation and acquires a legally independent character[3, p. 143].

Securities are stock values. The work of the stock market is carried out through the movement of securities. Civil legislation forms the basis of normative regulation of relations on the securities market. Currently, within the limits of international private monetary law, it is necessary to mention the law of international circulation of securities, which includes the norms of stock law, regulating private relations on the circulation of stock values related to the legal order of several states.

The securities market is a system in which the purchase and sale of securities is recorded. Investors are divided into two classes: individual and institutional. Individuals invest money in securities independently or through institutional investors - intermediaries. The state, regional and municipal government bodies, legal entities act as issuers on the bond market, the goal is to place the planned tranche at the highest possible price; and the goal of the investor is the purchase of cheaper securities to obtain income.

Information Technologies in International Operations

In order to increase the efficiency of international currency and credit operations, they should be computerized as much as possible. Since 1973, a joint-stock company - World Interbank Financial



Telecommunication Network (SWIFT) has been operating in Brussels, the task of which is the high-speed transfer of banking and financial information, its sorting and archiving. The main achievement of SWIFT is the creation and use of banking documentation standards. A prerequisite for the successful functioning of SWIFT is the standardization of message formats, i.e. creation of a single "language of banks". In the second half of the 1980s. the SWIFT-P -M system was created, the international interbank organization for currency and financial settlements by telex - and the new START system - an automated control system for the correct implementation of transactions on accounts[3, p. 187]. Since 1993, financial interfaces were introduced - SWIFT Alliance, formed on open systems, serving as a single platform for all means of financial communication. The use of SWIFT contributes to the improvement of international settlement, currency and credit operations.

International Bill of Exchange and Check Law

A promissory note is a negotiable non-issued security, i.e. document - the creditor's order to pay a specific amount of money to the person named in the bill of exchange within the time specified in the bill of exchange, i.e. - this is a written debt obligation. Necessary properties of a promissory note, which determine its specifics, are indisputability and negotiability. Thus, a promissory note is an abstract obligation, detached from the basis of the ego's origin. In 1930, at the Geneva International Conference, the following conventions were signed: 1) Convention on a uniform law on negotiable and simple promissory notes; 2) Convention aimed at resolving some conflicting laws on bills of exchange and promissory notes; 3) Convention on stamp duty in respect of bills of exchange and promissory notes[3, p. 217].

A promissory note is a formal document that includes the requisites specified in the Uniform Bill of Exchange Law, if 1 of the requisites is missing, the document is considered invalid. The main classification of promissory notes in the Geneva system of bills of exchange is their division into simple and transferable promissory notes, where a simple promissory note is a promise of the drawer, but not an offer or an order addressed to a third party, to pay a certain amount of money. In a simple promissory note, the drawer and the holder of the promissory note participate, and the payer is absent. The principal debtor of a simple promissory note is the drawer, who bears responsibility from the moment the promissory note is issued. Acceptance of a bill of exchange is the written consent of the payer to accept the obligation to pay the bill amount. In order to unify the law of promissory notes within the framework of UNCITRAL, a draft Convention on International Bills of Exchange and International Promissory Notes was developed. The Convention itself was adopted in 1988 by the UN General Assembly.

A check is one of the types of securities and one of the types of payment documents, i.e. negotiable non-issued security - an order of the bank drawer to make payment of the amount specified in it to the check holder. Differences between a check and a promissory note: a) Promissory note - credit security; a check is an instrument of bank credit. b) The term of circulation of the promissory note is established by agreement between the issuer of the promissory note and the first holder of the promissory note, and the term of payment by check is several days. c) The obligation of the payer on a bill of exchange arises on the basis of a unilateral transaction of the payer, and the obligation of the payer on a check is based on the contract between him and the drawer. d) Any person can be the payer of a promissory note, and the bank is the payer of a check. e) A promissory note may contain an indication of the interest rate, and the indication of the interest rate is prohibited by the check legislation.

Collision Regulation in Private International Currency Law

All relations in the private sector are accompanied by monetary obligations. With this in mind, the currency statute of the transaction is distinguished, i.e. a set of questions reflecting the legal status of monetary obligations in a legal relationship. The essence of international private currency law reflects the norms of national currency legislation, which are of an administrative-legal nature and have a civil-law effect. The functioning of these norms is directed entirely to legal relations subject to foreign law. Most of the national codifications of the International Criminal Code do not include sections devoted to the conflict regulation of monetary obligations, because currency relations were included



in the sphere of public law, therefore, provided for the impossibility of applying foreign law. Today, currency relations between private entities related to the foreign legal order are the sphere of action of the International Criminal Court. In the course of regulating private currency relations, the norms of foreign currency legislation are used. A number of states have included in the codification of the International Criminal Code sections devoted to conflict regulation of the circulation of securities (for example, Romania, Switzerland). A similar regulation is provided in the UNCITRAL Model Law on International Credit Transfers (1992)[10]: "Rights and obligations arising from a payment order shall be governed by the law chosen by the parties. In the absence of an agreement, the law of the state of the payee bank applies".

According to § 26.2 of the Hungarian Emergencies Decree[2]: "the law most closely related to stock exchange transactions is considered to be the law of the country where the exchange is located: for contracts concluded on stock exchanges, through a tender or at an auction, the applicable law is the law of the state on whose territory the exchange is located or a tender or an auction is held". In 2006, the Hague Conference on Private International Law adopted the Convention on the Law Applicable to Certain Rights in Securities Held by an Intermediary[1, p. 70-87], which regulates issues related to securities held by an intermediary. The term "securities" includes assets that are financial in nature, regardless of whether they exist in bearer or nominal form.

The Convention includes three subordinate alternative conflict of laws rules: a) the right of location of the office, which is clearly and unambiguously specified in the written account agreement as the office through which the relevant intermediary concluded the account agreement; b) the right of place of establishment or creation of a corresponding intermediary; c) the right of the main place of commercial activity of the relevant intermediary[4, p. 717]. In 1988, the UN General Assembly adopted the Convention on International Bills of Exchange and International Promissory Notes[9], where the main conflicting links under the Convention are: personal law, the law of payment and the law of the form of the act.

Conclusions:

A security is a document that certifies property, loan rights and obligations, where their realization is possible in the case of its presentation, and transfer is when the ownership of this document changes. A clear action plan for issuing and placing securities is called *an issue*, where the issuer is recognized as a person who initiates the issue of securities, and also bears obligations to the owners of the securities on his behalf. An issue security is a security that is placed serially and has equal volume and terms of exercise of rights within one issue. In the course of the transaction, the owner is issued a certificate, by means of which the right of ownership of the purchased security is certified. Derivative securities arose in the process of development of the securities market and were considered as the documentation of contracts related to "classic" securities. They are distinguished by the following types: - an option - a transaction that gives the right to its owner to buy or sell a certain amount of securities at a fixed price during the agreed period. Fixed price — execution price; the date when the option expires - the option expiration date. Warrants are securities that give the owner the right to buy a certain amount of securities at a predetermined price in the future. Depositary receipts are freely negotiable receipts for foreign shares deposited in a US bank.

The creation of the basic legal basis of the securities market provides for the legal form of the stock exchange organization, the structure of its bodies, the procedure for issuing and placing securities, control over stock exchange operations. A stock exchange is a trading platform where stock traders conclude transactions on standard stock exchange products. The object of the transaction on the world market is certain capital that is attracted from abroad.

The international bond market is a combination of two markets: the foreign bond market and the proper international bond market — Eurobonds, where foreign bonds are a variety of national bonds, but the issuer and investor are located in different countries, and Eurobonds are placed on national markets in a currency that is foreign to the country of placement.

The international securities market is the primary market, i.e. placement of issues expressed in euro currencies. Currency regulation and regulation of "fund activity" is an authoritative, centralized,



imperative regulation, therefore, the main role in the legal provision of global circulation of stock values should be played by unified substantive and conflicting norms [4, p. 707].

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INTERNATIONAL PRIVATE LABOR LAW AND TORT LAW

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Abstract. Labor relations, like other relations of a private law nature, but only within those frameworks where their legal regulation is carried out using the categories of private law. International private labor law is a special regulation of labor relations related to foreign law. Any kind of private law relationship, which is connected with a foreign legal order, gives rise to a conflict issue. Labor relations with a foreign element, along with civil law relations, are included in the subject of the International Criminal Code. Even taking into account the narrow interpretation of the subject of the International Criminal Procedure Code, it is possible to include in its subject the norms on the labor relations of natural persons.

Non-contractual obligations, i.e. obligations from the law consist of: - obligations from caused harm; - obligations from unjust enrichment; - obligations from unfair competition; - obligations from conducting other people's affairs without a mandate. The grounds for liability arising from damage caused by the State of Emergency: - a foreigner is the victim; - actions to compensate damages depend on the foreign legal sphere; - the subject of the resulting legal relationship is damaged on the territory



of a foreign state; - the right and the victimized obligation of a foreigner arise in one state, and their realization is carried out in another state; - protection and protection of violated rights of third parties is protected by the laws of a foreign state; - resolution of a dispute about compensation for the damage caused in a foreign court; - a decision on compensation for damage is subject to execution in a foreign state.

Keywords: labor relations, private international law, foreign element, conflict, code, individuals, private law relations, subject, rule of law.

Introduction: Collision regulation of international labor relations provides for the use of general categories of conflict law, but with a number of reservations. Labor relations of any state are subject to the law of this state. In such countries as: France, Belgium, the regulation of international labor relations is based on civil law concepts. For example, The French Labor Code includes a special section "Foreign workforce and protection of the interests of the national workforce", the rules of which concern the access of foreigners to work in France and have an administrative and legal nature [2, p. 43].

Conflict-of-law regulation of international labor relations includes issues of the employment contract. An employment contract is a contract to which the autonomy of the will of the parties extends. The legislation of Great Britain, as well as Italy, recognizes unlimited autonomy of the will. The main feature of the autonomy of the will of the parties in labor relations is that the choice of the law of the subjects should not contribute to the deprivation of the employee's protection. In a simplified form, it was possible to express the main tendencies of conflict regulation of labor relations in Art. 96 of the Code of Civil Procedure of Bulgaria [6]: "The employment contract is governed by the law chosen by the parties". The choice of applicable law should not deprive the employee of the protection provided to him by the mandatory norms of the law, which would have been applied if there had been no choice of applicable law. When there is no choice of applicable law, the employment contract is governed by the law of the state in which the employee usually performs his work, even if he is temporarily sent to another state. When an employee does not usually perform his work in the same state, the law of the state in which the employer's habitual residence or established place of activity is located shall apply. If, as a result of the circumstances in general, it follows that the employment contract has the closest connection with the second state, the law of this second state applies". In international private labor law, issues of conflict of qualifications, conflict of jurisdictions and application of referrals are resolved on the basis of general principles of conflict regulation [8, p. 739].

The closest thing to an employment contract should be considered a civil law contract on the paid provision of services. Then it turns out that the labor contract, in the absence of a choice of law by the subjects, can also be resolved by the law of the state in whose territory the executor's place of residence is.

Labor Relations Connected with Foreign Law

The conflict of laws is recognized as a serious problem of the ECHR arising in connection with accidents at work. Indications of the choice of law in "mutilated" cases are provided by the main concepts: a) Concept of delictual origin of the employer's responsibility. b) The concept of the contractual origin of responsibility for the rights and obligations of the participants in the obligation to compensate for damage. c) The concept of cumulation of tortious and contractual liability of the employer. d) The concept of the priority of the law of the location of the enterprise [8, p. 413].

The trend of modern judicial practice regarding the consideration of "perpetual" cases suggests the rejection of "rigid" collision bindings in exchange for more flexible collision bindings (for example, France). Within the framework of the legislation presented by the legislator, the injured person has the right to independently determine the right through which the claim is presented. In a number of states, such as France, the Federal Republic of Germany: laws were passed on the extension of national compensation acts to foreign workers in the event of injury at a local enterprise, but there is a problem: the order and size of compensation for moral damage are very different in different



countries. Today, it is generally accepted that moral damage involves the infliction of physical and moral suffering and is subject to compensation in the presence of fault. Compensation for moral damage is assumed in monetary or other material form and in the amount established by the court[11, p. 73].

In the modern practice of labor relations, a special legal structure has been developed - "loan labor", where three subjects are involved: 1) employee; 2) user enterprise; 3) an employment agency is a special entity. The employee applies to the employment agency for assistance in finding a job and signs an employment contract with the agency. The employment agency hires an employee in order to subsequently provide his services to other persons. In this case, the employment agency pays the employee a salary, registers him for work, pays income and social taxes. In the future, the work of the employee is offered to a second legal entity (enterprise-user), which sets tasks for the performance of the work. This legal entity provides conditions and labor protection. There is a distribution of rights and responsibilities of the employer between the employment agency and the user company.

Regulation of various services offered by employment agencies is included in the competence of the state. A private employment agency is any entity, independent of the state authorities, offering various services on the labor market aimed at satisfying the offered jobs and the demand for them; 2) services consisting in the hiring of workers with the ultimate goal of providing them for the use of a third party-enterprise-user, who defines tasks and conducts control over their implementation.

The employer's obligations are shared between the employment agency and the user enterprises, which in the future use the labor of temporary workers. The state imposes responsibility on employers regarding: 1) conclusion of collective negotiations; 2) minimum wage; 3) duration of working time; 4) social security benefits; 5) access to professional training; 6) protection in the field of safe and healthy working conditions; 7) compensation in case of an accident at work or occupational disease; 8) compensation in case of bankruptcy and protection of employees' claims; 9) maternity protection, benefits for pregnancy and childbirth, protection of parents[8, p. 11].

In international practice, forms of mutual labor have been developed - contracts for the provision of personnel services, for example: outsourcing, personnel leasing. Outsourcing (outsourcing — the use of other people's resources) is the practice of entrusting certain areas of activity to professional firms. The client company hires another firm to perform business functions that are considered to be the client company's core business, but are necessary for full-fledged operations. In this case, the client company does not buy the labor of employees, but the service. This type of relationship is fixed by a contract for paid services, or a contract.

The outsourcing contract allows the customer to reduce costs for the organization of less significant business processes. Outstaffing is recognized as the most common form of temporary work, i.e. withdrawal of employees from the staff of the organization with registration of the employee's employment relationship with the recruitment agency. Outstaffing provides for the transfer of employees from the company's staff to the agency's staff, where they continue to perform their functions in the same place, but according to the direction of the agency. The company acquires and pays for the services of a staffing agency, the staffing agency performs all the functions and duties of the employer in relation to these employees.

The main advantage of outstaffing for the company is the reduction of direct costs that affect the cost of the manufactured product. Thus, outstaffing is a technology that allows reducing costs and risks associated with the company's personnel.

The action resulting in the damage takes place on the territory of one state, and undesirable consequences may occur in another, then the tort of the causer of the damage is determined by the law of the place of occurrence of the consequences, based on Art. 45 of the Civil Code of Portugal[5]. In French law, there is such a concept as the extended interpretation of civil liability, namely issues related to the laws of "welfare and security", which are mandatory for all persons residing in France[9, p. 11]. Currently, the principle of choosing the law of the state where the interests of the victim are taken into account is very widespread.



According to Art. 3543 of the Civil Code of the State of Louisiana: "If the harm occurred in another state, the law of which provides for a higher standard of conduct, and the delinquent anticipated the occurrence of the harm in this state, the law of the place where the harm occurred applies". If the obligation to compensate damages arises from a contractual obligation, in this case such claims are resolved by the law applicable to the contract. The countries of the Anglo-American legal system understand the place of injury as the place where the harmful action was committed, and in the countries of the continental legal system, the place of injury is the place of manifestation of harmful consequences.

According to Art. 34 of the Law on Emergency Situations of Macedonia[13]: "If the event, on the basis of which an obligation to compensate for damage arose, occurred on board a ship, in the open sea or on board an aircraft, then as the legal place where the facts that caused the obligation to compensate for damage occurred, the law of the state of which the sea vessel is a national or the law of the state in which the aircraft is registered applies.

General Principles of Conflict Regulation of Non-Contractual Obligations

The conflict of laws principle "the law of the place of injury" applicable to tort obligations is defined in the legislation of all countries and is recognized as a general principle for determining the applicable law, for example, in Art. 21 of the Civil Code of Egypt[3]states: "Non-contractual obligations are subject to the law of the state, on the territory of which the action is performed, leading to the emergence of the obligation".

According to Art. 34 of the Code of Civil Procedure of Turkey[12]: "If the place of commission of the tort and the place of causing the damage are in different countries, then the law of the country of the place of causing the damage shall be applied". Based on Art. 62.2 of the Law on Emergencies of Italy: "If the injury affects only citizens of one and the same state, who have a place of residence on its territory, the law of the given state shall be applied". Also according to Art. 45.3 of the Civil Code of Portugal: "If the cause of harm and the victim have the same citizenship or, in the absence of such, the same habitual residence and they find themselves in a foreign state by accident, the applicable law will be the law of their citizenship or common residence". When harm is caused by several persons, the applicable law is established for each individual foreigner according to the general rules of choice of law for tortious relations, based on Art. 1.47 Civil Code of Lithuania[4]. According to §33.1 of the Emergencies Act of Hungary[7]: "If by the law of the place where the damage was caused or the place where the harmful deed was committed, the responsibility is conditioned by the presence of fault, the ability to bear the blame is determined either by the personal law of the person who caused the damage, or by the law of the place of violation of the law". Article 11.1 of the Law on International Criminal Procedure of Great Britain establishes: "The general rule is that the applicable law is the law of the locality in which the events constituting the considered offense or delict occurred". In US law, there is a theory of "vested rights" - an obligation that arose at the place of the tort, follows the delinquent and can be enforced in any place[1, p. 65].

Collision Regulation of Individual Obligations of Non-Contractual Nature

According to the legislation of Switzerland, in the case of application of foreign law to the claim for compensation for damage caused by defects or incorrect description of the goods, the compensation provided for by the law of the country of the court may be applied.

In the legislation on the International Criminal Code, it is assumed that personal rights may be violated by means of the Internet: "Claims that arise as a result of illegal actions using the Internet are regulated by one of the following rights with which there is the closest connection: (1) the right of the place of action; if the place of commission of the action cannot be established - by the right of residence of the perpetrator; (2) if the causer had to foresee the place of occurrence of the harm, by the right of the place of occurrence of the harm; (3) if the personal rights of the victim are violated - the law of the country of citizenship[8, p. 749]. According to §28 of Taiwan's Law on Emergencies and Disasters[10]: "If the perpetrator commits an illegal action using the Internet while conducting a commercial activity, the right of the place of commercial activity applies".



Conclusions: Labor law is a set of public-law and private-law regulations, therefore, the state's intervention in the regulation of this type of law is connected with the need to conduct social policy that contributes to the balance of the interests of employees and employers in order to maintain stability in society and eliminate unemployment. International organizations, for example, the International Labor Organization (ILO) are an international intergovernmental organization whose activities are based on participation in decision-making by all subjects of labor law. The task of the ILO is to protect workers' rights, develop partnerships, and constantly fight unemployment. A distinctive feature of international private labor law is the gradual attitude of the legislator to the possibility of the autonomy of the will of the parties, the direction to protect the interests of the "weak" party.

As a result, the legislator assumes special regulation of some types of non-contractual obligations. This concerns "quasi-delict" obligations. In most countries, the differentiation of the conflict regulation of certain non-contractual obligations is provided for. One of the types of torts is unjust enrichment. The law contains the concept of unjust enrichment, which means the payment of a non-existent debt, the receipt of what is not owed. If considered from a material and legal point of view, unjust enrichment presupposes the return of what was improperly received, as well as tort liability of the guilty party. In continental law, regarding unjust enrichment disputes, the law of the place where the unjust enrichment takes place and the law by means of which the transfer of property value in favor of the enriched person was carried out are applied.

If it follows from the circumstances of the case that the obligation due to unjust enrichment has close ties with another country, then the law of that country applies. Regarding the obligations that arise from the use of someone else's property without conducting someone else's business, in this case, the law of the place where the fact occurred, where the obligation arose, will be applied. The law applicable to the obligation to restrict competition is the law of the country where the market is or may be affected.

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UNELE ASPECTE PRIVIND DELIMITAREA INFRAȚIUNII DE TRAFIC DE COPII DE ALTE FAPTE CONEXE

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Abstract. The present paper refers to the field of Criminal Law, Special Part. The aim is to identify some recommendations in order to improve the incriminating framework regarding the crime of child trafficking, which would ensure the uniform applicability of the criminal rules provided for in art. 206 Criminal code of Republic of Moldova. The research of national and international scientific materials in the field of child trafficking; establishing the opportunity to include the crime of child trafficking in Chapter VII of the Criminal Code of the Republic of Moldova; the legal-criminal analysis of the constitutive elements and the aggravating circumstantial elements of the offense provided by the art. 206 of the Criminal Code of the Republic of Moldova; the analysis of ECtHR jurisprudence on human trafficking in general and child trafficking in particular; the delimitation of the offense provided by the art. 206 of the Criminal Code of the Republic of Moldova for some crimes and related misdemeanors; the elaboration of some proposals of de lege ferenda that would remove the technical-legislative deficiencies. The innovation is confirmed by the author's personal contribution to the investigation of the most controversial theoretical and practical problems in the field of the crime of child trafficking. The interpretation of criminal norms, the analysis of jurisprudence in the field and the critical analysis of the scientific materials studied, gives to the present work an authentic character. The results will be used to develop some new recommendations for improving the criminal law provided by the art. 206 of Moldovan Criminal Code. The significance of the present research lies in the complex investigation of the crime of child trafficking through the systematization and critical approach of a vast number of theoretical and practical materials. The study carried out allowed the disclosure of the existence of some deficiencies in the regulations of the crime of child trafficking. This creates difficulties in the application of these rules and in order to enhance them some technical - legislative recommendations were formulated.

Key-words: child trafficking, sexual exploitation, crime, minor, victim, forced labor or services, begging, slavery, sale or purchase of minor, prostitution.

Fiind o infracțiune complexă traficul de copii, are similitudini cu alte infracțiuni incriminate de legislația penală. Autorul Tănase A afirma că: „Atunci când vorbim despre trafic de ființe umane, trebuie să avem în vedere și aspectele colaterale legate de răpirea unei persoane, de privațiunea ilegală de libertate, de proxenetism, de trecerea ilegală a frontierei de stat etc. O importanță deosebită prezintă capacitatea de individualizare riguroasă a activităților prin a căror săvârșire se realizează infracțiunea



de trafic de ființe umane, în scopul delimitării acestora de alte activități ilegale, incriminate ca infracțiuni distincte” (Tănase A, 2011, p.221.).

În scopul stabilirii asemănarilor care creează probleme de calificare, dar și a semnelor distinctive ale fiecărei infracțiuni, vom supune investigării infracțiunea de trafic de copii analizată în raport cu alte infracțiuni. Infracțiunile în raport cu care va fi analizată fapta de trafic de copii pot fi împărțite în două categorii: infracțiuni contra minorilor, prevăzute în Capitolul VII și infracțiuni prevăzute în alte Capitole ale Codului Penal.

Pentru început, vom cerceta în plan comparativ infracțiunea de trafic de copii și infracțiunile care nu atentează propriu-zis la dezvoltarea normală a minorilor, dar care au tangență cu infracțiunea prevăzută la art. 206 CP RM. Vom debuta prin delimitarea infracțiunii de trafic de copii și trafic de ființe umane (art. 165 CP RM). Aceste infracțiuni atentează la valori diferite, astfel, dacă infracțiunea de trafic de ființe umane are ca și obiect generic relațiile sociale cu privire la libertatea, cinstea și demnitatea persoanei, fiind inclusă în capitolul IV, infracțiunea de trafic de copii are ca și obiect juridic generic relațiile sociale cu privire la conviețuirea în cadrul familiei și dezvoltarea minorului, fiind inclusă în grupul infracțiunilor din Capitolul VIII CP RM.

Un alt semn distinctiv al acestor două componente de infracțiuni îl reprezintă victima infracțiunii. Dacă în cazul infracțiunii de trafic de ființe umane, victima poate fi orice persoană care a atins vârsta de 18 ani, în cazul infracțiunii de trafic de copii, victima are o calitate specială și anume e copil, adică nu a atins vârsta de 18 ani. Legiuitorul agravează răspunderea penală pentru infracțiunile de trafic de copii săvârșite asupra copiilor care nu au împlinit vârsta de 14 ani (lit. f) alin. (3) art. 206 CP RM).

Analizând latura obiectivă a acestor infracțiuni, remarcăm că în cazul infracțiunii de la art. 165 CP RM, acțiunile adiacente sunt menționate expres în cuprinsul norme penale, ceea ce le conferă un caracter obligatoriu. Astfel, acțiunea principală sub oricare din modalitățile specificate în norma penală și anume recrutarea, transportarea, transferul, adăpostirea sau primirea unei persoane, trebuie să fie însoțită de acțiunea sau inacțiunea adiacentă, în oricare din modalitățile enumerate: amenințare cu aplicarea violenței fizice sau psihice nepericuloase pentru viața și sănătatea persoanei, aplicarea violenței fizice sau psihice nepericuloase pentru viața și sănătatea persoanei, răpire, confiscarea documentelor, servitute, amenințare cu divulgarea informațiilor confidențiale familiei victimei sau altor persoane atât fizice, cât și juridice, înșelăciune, abuzul de poziția de vulnerabilitate a victimei, abuzul de putere și darea sau primirea unor plăți ori beneficii pentru a obține consimțământul unei persoane care deține controlul asupra unei alte persoane. În cazul infracțiunii de la art. 206 CP RM, autorii Brânză S. și Stati V. afirmă că nu este obligatoriu, dar totuși este posibil ca în contextul infracțiunii de trafic de copii, acțiunea prejudiciabilă în oricare din cele șase modalități normative să fie secundată de o acțiune adiacentă, nefiind vorba despre modalitățile acțiunii adiacente având rolul de circumstanțe agravante, enumerate la alin. (2) art. 206 CP RM (Brânză S., Stati V.,2015, p. 1039)

E de menționat că traficul de ființe umane, precum și traficul de copii face parte din componența de infracțiune formală și se consideră consumată din momentul săvârșirii cel puțin a unei acțiuni specificate la art. 165 și 206 CP indiferent de survenirea consecințelor prejudiciabile(Hotărârea Plenului CSJ a RM, nr. 37 din 22.11.2004.)

Astfel, lit. e) alin. (2) art. 165 CP RM, cât și lit.c) alin. (3) art. 206 CP RM stabilește existența unui subiect special - persoana publică, persoana cu funcție de răspundere, persoana cu funcție de demnitate publică, persoana publică străină sau funcționarul internațional. La lit. e¹) alin. (3) art. 206 CP RM e prevăzut un subiect special al infracțiunii de trafic de copii pe care nu-l regăsim în cuprinsul norme ce incriminează traficul de ființe umane și anume „persoana în îngrijirea, ocrotirea sau sub protecția, educarea ori tratamentul căreia se află minorul”.

În continuare, vom investiga infracțiunea de trafic de copii în raport cu infracțiunea de proxenetism. Obiectul juridic special al infracțiunii de proxenetism e constituit din relațiile sociale cu privire la sănătatea publică și conviețuirea socială, fiind inclus în Capitolul VIII, spre deosebire de infracțiunea de trafic de copii, care pune accent pe interesul prioritar al copilului. În literatura se specialitate sunt expuse mai multe opinii ce se referă la obiectul juridic special (nemijlocit, specific)



al infracțiunii de proxenetism, însă majoritatea autorilor pun accent pe relațiile sociale privind conviețuirea socială și moralitatea publică, care în viziunea lor formează obiectul juridic al infracțiunii nominalizate (Oancea Iu., 2010, nr. 11, p. 18.)

Obiect material identificăm doar în ipotezele specificate la lit. a) alin. (2) art. 206, lit.e) alin. (3) art. 206 CP RM, fiind atentat în aceste cazuri corpul copilului.

În cazul proxenetismului, victima are un caracter mult mai larg și poate fi orice persoană, neavând un caracter special. În cazul traficului de persoane, în schimb, victima este obligată prin diverse mijloace (fraudă, înșelăciune, violență sau profitând de imposibilitatea acesteia de a se apăra) să presteze servicii sexuale în beneficiul traficantilor. Chiar și în situația în care victima a avut cunoștință despre faptul că la locul de destinație urmează să întrețină raporturi sexuale cu clienții, dar odată ajunsă acolo este obligată să facă acest lucru, este deposedată de banii obținuți, ținută sub control 24 ore, fără a avea libertate de mișcare, atunci ne aflăm în situația infracțiunii de trafic de persoane, și nu de prostituție. (Tanislav A., 2009, p.10).

Deducem că pe lângă caracterul special al victimei infracțiunii de trafic de copii, o altă trăsătură caracteristică vizează existența mijloacelor de constrângere. Dacă în cazul traficului de persoane existența mijlocului de constrângere reprezintă un element-cheie în calificarea faptei săvârșite, atunci în cazul proxenetismului, existența unui mijloc de constrângere ar presupune dorința denaturată a persoanei de a practica prostituția. Totuși, spre deosebire de infracțiunea de trafic de ființe umane, unde legiuitorul enumeră care sunt acele mijloace de constrângere la care poate apela făptuitorul, ele având un caracter obligatoriu, în cazul traficului de copii, existența unor mijloace de constrângere se prezumă, în virtutea calității speciale a victimei – minor, ceea ce presupune și un grad mai mare de vulnerabilitate în fața unor asemenea pericole.

Latura obiectivă a infracțiunii de proxenetism se exprimă prin îndemnul la prostituție, determinarea la prostituție, înlesnirea practicării prostituției și tragerea de foloase de pe urma practicării prostituției de către o altă persoană. În cazul traficului de copii, latura obiectivă se exprimă în acele modalități normative analizate anterior.

Prezintă interes delimitarea proxenetismului și a traficului de copii săvârșit în scopul exploatării sexuale. Scopurile distincte, urmărite la săvârșirea infracțiunilor ne ajută la delimitarea acestor infracțiuni. Dacă în cazul infracțiunii de proxenetism, scopul este practicarea prostituției de către victimă, atunci în cazul traficului de copii scopul constă în exploatarea sexuală a victimei, incluzând exploatarea ei în prostituție (Brânză S., Stati V., 2009, p. 2-11).

Subiect al ambelor infracțiuni analizate este persoana fizică care a împlinit 16 ani, iar infracțiunea prevăzută la art. 220 CP RM nu stabilește existența unui oarecare subiect special, cu excepția celui prevăzut la lit. d) alin. (2) art. 220 CP RM, pe care îl regăsim și în norma penală care incriminează traficul de copii.

O similitudine a acestor infracțiuni este momentul consumării lor, ambele fiind infracțiuni formale. Astfel, traficul de copii se va considera infracțiune consumată în ipoteza în care vor fi săvârșite modalitățile normative ale infracțiunii, indiferent de faptul dacă au fost atinse scopurile infracțiunii ori nu. Autorii Brânză S. și Stati V. caracterizează momentul consumării infracțiunii de proxenetism (p. 2-11, 2015, p.1179): 1) în modalitatea de îndemn la prostituție, proxenetismul se consideră consumat din momentul îndemnului la prostituție; 2) în modalitatea de determinare la prostituție, proxenetismul se consideră consumat din momentul luării de către victimă a hotărârii de a practica prostituția; 3) în modalitatea de înlesnire a practicării prostituției, proxenetismul se consideră consumat dacă, prin ajutorul acordat de făptuitor, a fost facilitată practicarea sau continuarea practicării prostituției; 4) în modalitatea de tragere de foloase de pe urma practicării prostituției de către o altă persoană, proxenetismul se consideră consumat din momentul obținerii de către făptuitor, chiar și o singură dată, a foloaselor patrimoniale de pe urma practicării prostituției de către o altă persoană.

Remarcăm că legiuitorul chiar din conținutul normei penale a indicat la art. 220 alin. (1) CP RM că „Proxenetismul este îndemnul sau determinarea la prostituție ori înlesnirea practicării prostituției, ori tragerea de foloase de pe urma prostituției de către o altă persoană, dacă fapta nu



întrunește elementele traficului de ființe umane”. Astfel, în toate cazurile în care fapta nu va întruni elementele traficului de copii, vom fi în prezența infracțiunii de proxenetism.

În continuare vom investiga infracțiunea de trafic de copii în raport cu infracțiunea de organizare a cerșetoriei (art. 302 CP RM). Ținem să specificăm că prin Legea nr. 270 din 07.11.2013 pentru modificarea și completarea unor acte legislative a fost introdus art. 302 CP RM. Raționamentul includerii acestei componente de infracțiune era incriminarea faptei ilicite de organizare a cerșetoriei în situația în care aceasta nu întrunea elementele traficului de ființe umane.

Analizând semnele obiective ale componentelor de infracțiune supuse cercetării, specificăm că obiectul juridic special al infracțiunii prevăzute la art. 302 CP RM e constituit din relațiile sociale cu privire la ordinea publică apărute împotriva faptei de organizare a cerșetoriei. În cazul traficului de copii, obiectul juridic special are un caracter multiplu: se atentează la relațiile sociale cu privire la dezvoltarea fizică, psihică, spirituală și intelectuală a minorului, iar în plan secundar, se aduce atingere relațiilor sociale cu privire la libertatea fizică a minorului.

Victima infracțiunii de organizare a cerșetoriei poate fi orice persoană, legiuitorul neindicând careva trăsături distincte ale acesteia. În cazul traficului de copii, victima poate fi doar minorul.

Analizând latura obiectivă a infracțiunii de organizare a cerșetoriei, facem trimitere la concluziile autorilor Brânză S. și Stati V. care constată că aceasta e formată din acțiunea de organizare a cerșetoriei, dacă aceasta nu întrunește elementele traficului de ființe umane. Iar prin „organizarea cerșetoriei” se înțelege activitatea de inițiere sau dirijare a cerșetoriei, concretizată în: a) luarea deciziei de practicare organizată a cerșetoriei; b) selectarea persoanelor care vor dirija activitatea unor subdiviziuni ale rețelei de cerșetori; d) efectuarea controlului asupra executării acestora; e) dirijarea efectuării unor activități concrete ale rețelei de cerșetori; f) înaintarea propunerii unor persoane să-și dea consimțământul de a fi cerșetori; g) ținerea de adunări ale cerșetorilor, pentru a discuta unele probleme de interes comun; h) înzestrarea cerșetorilor cu mijloace necesare activității acestora; i) punerea de acord a eforturilor unei rețele de cerșetori sau a unor cerșetori aparte în vederea obținerii unor scopuri comune etc. (Brânză S., Stati V., 2015, p.709)

Autorul Tănase A. remarcă că una din asemănările infracțiunii de trafic de ființe umane și cea de organizare a cerșetoriei o reprezintă modalitățile sub care se poate înfățișa fapta prejudiciabilă. În acest context ne referim la recrutarea victimei, ca modalitate normativă a acțiunii principale din cadrul traficului de ființe umane și respectiv, ca modalitate faptică a acțiunii prejudiciabile a infracțiunii de organizare a cerșetoriei (Tănase A., 2011, p. 221-236.). Prin analogie, deducem că aceeași asemănare e valabilă și în cazul delimitării infracțiunii de trafic de copii de cea de organizare a cerșetoriei, întrucât recrutarea este la fel, o modalitate normativă.

Obiect material nu identificăm în cazul organizării cerșetoriei, spre deosebire de infracțiunea de trafic de copii.

Latura subiectivă a ambelor infracțiuni se manifestă prin intenție directă însoțită de existența unui scop special. În cazul traficului de copii, scopul special se manifestă în scopurile analizate la lit. a), b), b¹), c), d), e), f), h) alin. (1) art. 206 CP RM. În cazul infracțiunii menționate la art. 302 CP RM, scopul special este indicat în dispoziția normei penale și anume el fiind cel de „a obține pentru sine sau pentru altul foloase materiale injuste”.

Observăm că scopul direct al infracțiunii prevăzute la art. 302 CP RM este obținerea pentru sine sau pentru altul de foloase materiale injuste. În cazul traficului de copii, scopul infracțiunii este exploatarea copilului. Plus la toate, în cazul infracțiunii de organizare a cerșetoriei, lipsesc mijloacele de constrângere. Ori, în cazul existenței unor asemenea mijloace, nu am mai putea să ne referim la o „determinare de a practica cerșetoria”, dar am fi în prezența recrutării prin utilizarea cărorva mijloace de constrângere a persoanei în vederea exploatării în cerșit.

Sintetizând rezultatele investigației asupra delimitării infracțiunii de trafic de copii de alte infracțiuni, conchidem următoarele:

1) Traficul de copii se diferențiază de infracțiunea de trafic de ființe umane prin obiectul juridic special, victima infracțiunii și latura obiectivă.



2) La lit. e¹) alin. (3) art. 206 CP RM e prevăzut un subiect special al infracțiunii de trafic de copii pe care nu-l regăsim și în cazul traficului de ființe umane și anume persoana care are în îngrijirea, sub ocrotirea, sub protecția, la educarea sau la tratament un copil.

3) Proxenetismului nu presupune existența unui oarecare mijloc de constrângere, ori, dacă ar exista un mijloc de constrângere, fapta infracțională nu ar fi calificată ca și proxenetism, dar ca și trafic de copii ori trafic de ființe umane în scopul exploatării sexuale comerciale.

4) Scopul direct al infracțiunii prevăzute la art. 302 CP RM este obținerea pentru sine sau pentru altul de foloase materiale injuste. În cazul traficului de copii, scopul infracțiunii este exploatarea copilului. Plus la toate, în cazul infracțiunii de organizare a cerșetoriei, lipsesc mijloacele de constrângere.

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STANDARDE MINIME PRIVIND ORGANIZAREA ȘI FUNCȚIONAREA SERVICIILOR SOCIALE ÎN STATELE MEMBRE UE

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Abstract. Social services play an essential role within the European society, promoting and ensuring the increase of the capacity of vulnerable persons to participate actively in the life of society and they guarantee the respecting of the fundamental rights of the European citizens proclaimed by the Community legislation. In the realized study, there have been identified the most important characteristics and standards of the social services established through the European Union legislation, which states undertake to transpose within the national social policies in order to develop and improve the national social service systems.

Keywords: European legislation, social services, vulnerable persons, guarantee of citizens' rights, standards of social services, national systems of social services.

La jumătatea sec. al XIX-lea toate țările din Europa au recunoscut necesitatea intervenției statului pentru a garanta bunăstarea populației, drept pentru care atenția lor s-a îndreptat spre acordarea de servicii de asistență socială potrivit nevoilor individuale și colective, servicii de solidaritate socială la care au acces persoanele aflate în dificultate [2, 84p.].

La nivel european nu există o definiție comună a serviciilor sociale pentru toate țările Uniunii Europene. O definiție oficială a acestora o găsim în Concluziile Consiliului Europei din 2010 privind serviciile sociale de interes general „Centrul modelului social european”, în care a fost evidențiat



faptul că serviciile sociale diferă de alte servicii de interes general, deoarece sunt orientate spre persoană și concepute pentru a răspunde nevoilor vitale ale omului. Fiind bazate pe principiul solidarității, ele contribuie la protejarea drepturilor fundamentale și a demnității umane, a nediscriminării și la asigurarea de șanse egale pentru toți, permițând indivizilor să joace un rol semnificativ în viața economică și socială a societății. Printre acestea se regăsesc servicii de asistență socială, îngrijire pe termen lung, îngrijirea copiilor, servicii de ocupare a forței de muncă și de instruire a asistenților sociali, dar și locuințe sociale. Principiile de organizare și funcționare, scopul și obiectivele serviciilor sociale sunt stabilite în Comunicarea Comisiei europene privind serviciile de interes general și serviciile sociale de interes general. Documentul menționat stabilește că serviciile sociale trebuie organizate în așa mod încât să fie „cuprinzătoare, personalizate, concepute și prestate într-o manieră integrativă”.

La nivel național, de regulă, acestea joacă un rol decisiv în lupta cu sărăcia și excluderea socială. Importanța acestora constă atât în intervenția lor directă în comunități, cât și în facilitarea altor persoane și organizații de a interveni singure sau de a colabora, în același timp sau în paralel, și în interiorul comunității [4, p.6]. În acest context, stabilim că serviciile sociale de interes general reprezintă instrumente importante în vederea implementării cu succes a politicilor sociale europene cu scopul de a crea oportunități pentru a lua parte la viața societății și de a combate orice formă de excludere socială. Statele membre, în conformitate cu principiul subsidiarității, sunt responsabile de instituirea, organizarea și finanțarea sistemului de servicii sociale naționale, însă, conform principiului proporționalității, comunitatea europeană stabilește un set de obligații și responsabilități în vederea promovării unui nivel adecvat de bunăstare tuturor membrilor societății. În plus, recomandă statelor să-și organizeze sistemele de servicii sociale transparent, eficient, operativ și adaptate realităților sociale. Cadrul normativ în domeniu să fie ajustat la legislația europeană, națională, regională și locală, astfel încât să răspundă cât mai eficient problemelor și riscurilor sociale existente în țară.

Dreptul la serviciile sociale de interes general reprezintă un drept fundamental la nivel european, de aceea el se include în cadrul drepturilor economice, sociale și culturale proclamate de Declarația Universală a Drepturilor Omului. În aceste sens, Parlamentul European îndeamnă statele să garanteze un acces nediscriminatoriu, indiferent de sex, venit, rasă sau origine etnică, credință religioasă, handicap, vârstă, orientare sexuală sau încadrare în muncă. Carta socială europeană, revizuită, în art. 14, consfințește expres dreptul persoanelor de a beneficia de servicii sociale și în acest sens incumbă obligația statului să „încurajeze sau să organizeze serviciile care prin metode specifice serviciului social contribuie la bunăstarea și la dezvoltarea indivizilor și a grupurilor vulnerabile din cadrul comunității, precum și la adaptarea acestora la mediul social.

Analizând legislația europeană în domeniul social, constatăm că Uniunea Europeană vine cu recomandări clare în domeniul organizării, furnizării și dezvoltării acestui segment atât de important al vieții societății. În acest sens, experții europeni recomandă statelor să adopte cele mai bune metode în scopul furnizării unor **servicii sociale personalizate**, în conformitate cu nevoile și trebuințele solicitanților. Prin abordarea individuală a fiecărui beneficiar, se urmărește să fie obținute cele mai bune rezultate în procesul depășirii stării de vulnerabilitate și al integrării lui în societate. Mai mult, legislația comunitară stabilește că serviciile sociale ar trebui să ia în considerare mediul fizic, intelectual și social al utilizatorilor și ar trebui să respecte particularitățile lor culturale [1, p.13]. Mai mult, personalizarea implică regândirea completă a serviciilor de îngrijire și suport. Acest lucru înseamnă că persoana ca individ, cu calitățile, caracteristicile, preferințele și aspirațiile sale este pusă în centrul procesului de determinare a nevoilor și de alegere a modului și momentului în care va fi ajutată să-și trăiască viața [3, p.16]. În acest sens, observăm că asistenților sociali le revine un rol extrem de important, deoarece aceștia, în funcție de necesitățile solicitanților, trebuie să le acorde un suport personalizat/individual. Potrivit experților europeni, în procesul beneficierii de suport social, utilizatorii trebuie să-și conștientizeze potențialul, să obțină încredere în sine ca să poată independent să-și asigure un nivel adecvat de bunăstare și să participe activ la viața socială.



În majoritatea statelor europene, solicitanților de servicii sociale li se furnizează gratuit aceste servicii. În plus, Comisia europeană stabilește: pentru a-și îndeplini rolul, serviciile sociale trebuie să fie **accesibile** nu doar persoanelor defavorizate și vulnerabile, ci tuturor persoanelor, indiferent de avere sau venit, asigurând totodată un acces echitabil persoanelor celor mai vulnerabile, în conformitate cu legile și practicile statelor membre [5, p.9]. Această normă este transpusă foarte bine în legislația națională a statului suedez, în care legislația cu privire la serviciile sociale nu instituie nici un fel de condiții referitoare la beneficierea de servicii sociale. Astfel, în Suedia dreptul la serviciile sociale este universal și nerestricționat, deoarece acestea sunt prevăzute pentru prevenirea cauzelor care duc la instalarea sărăciei, dar nu pentru anihilarea consecințelor riscurilor sociale, așa cum se întâmplă în cazul beneficiilor monetare. Serviciile sociale sunt complexe și se acordă în vederea consilierii persoanelor cu privire la planificarea bugetară, repartizarea rațională a cheltuielilor etc.

În conformitate cu Recomandările Comitetului pentru protecție socială al Uniunii Europene, serviciile sociale trebuie să aibă un **rol preventiv**, fiind acordate și persoanelor care nu neapărat se încadrează în categoria persoanelor vulnerabile. În general, în țările dezvoltate precum Franța, Marea Britanie, Germania, Suedia serviciile sociale preventive sunt foarte răspândite și se adresează întregii societăți, indiferent de starea materială a acestora. De exemplu, în Franța, pe lângă programele sociale destinate persoanelor aflate în situații de dificultate, sunt prevăzute și servicii sociale care au drept scop întreținerea unui nivel adecvat de viață. Aici este vorba despre servicii de îngrijire a copiilor în timpul zilei: grădinițe, babysitter, locuri de joacă pentru copii, grupe pentru copii după închiderea grădiniței, centrele culturale pentru copii sau despre serviciile sociale care consultă cetățenii referitoare la planificarea familiei, adopția copiilor, planificarea cheltuielilor, educația financiară etc.

Indiferent dacă serviciile sociale sunt furnizate formal sau informal, instituțiile abilitate cu funcții sociale rămân responsabile de asigurarea unor fonduri suficiente care să asigure prestarea serviciilor calitative și accesibile. În conformitate cu ultimele statistici, finanțarea publică a serviciilor sociale în ultimii ani a scăzut considerabil practic în toate statele membre, deoarece anual numărul cererii de servicii diverse și complexe crește în mod dramatic. Astfel, investițiile modeste împiedică dezvoltarea și inovarea acestui segment atât de important pentru constituirea unei Europe sociale și unite. Finanțarea adecvată a serviciilor de asistență socială este esențială pentru consolidarea modelului social, din aceste considerente experții europeni îndeamnă statele să stabilească corect prioritățile, deoarece numai o societate egală, incluzivă și productivă poate asigura un progres economic.

Factorii de decizie de nivel european consideră că statele membre trebuie să-și organizeze sistemul serviciilor sociale într-un mod în care acestea să asigure **continuitate**. Astfel, un moment extrem de important în vederea obținerii rezultatelor pozitive în urma furnizării serviciilor sociale este abordarea în conformitate cu etapele vieții solicitanților. Acestea trebuie să acopere întreg ciclul de viață al individului, care să includă intervențiile de la o etapă incipientă până când persoana ajunge în stare de vulnerabilitate, iar în cazul în care persoana deja se află într-o stare de dificultate, să i se ofere sprijin nemijlocit. Dacă aceasta și-a recăpătat resursele psihologice și financiare, ea continuă să fie monitorizată pentru a evita impactul întreruperii prestării serviciilor sociale. Analizând legislația socială a mai multor state membre ale Uniunii Europene, am descoperit o practică bună în acest sens în Germania. Astfel, asistentul social este responsabil de furnizarea serviciilor sociale pe tot ciclul de viață al beneficiarului până când acesta este reintegrat pe piața muncii și nu mai este dependent de sistemul de asistență socială. În unele regiuni, administrația publică transmite aceste competențe organizațiilor neguvernamentale, care primesc chiar finanțare suplimentară pentru încadrarea cu succes în câmpul muncii a beneficiarilor de asistență socială.

Serviciile sociale trebuie stabilite și furnizate într-un mod integrat, care să reflecte necesitățile, capacitățile și preferințele multiple ale utilizatorilor și, atunci când este cazul, ale familiilor și îngrijitorilor acestora și care îmbunătățesc confortul acestora [1, p.9]. La stabilirea tipului de serviciu social, este necesară o analiză de ansamblu a necesităților sociale, medicale, educaționale ale solicitanților pentru a le acorda un sprijin complex, astfel încât toate solicitările lor să fie satisfăcute.



Pentru a furniza asistență socială durabilă, serviciile sociale trebuie organizate și furnizate într-o manieră **integrată**, iar pentru ca acestea să constituie un suport integrat este necesară combinarea lor cu alte servicii publice, de exemplu cu serviciile publice din educație, sănătate și ocuparea forței de muncă. Un exemplu de bună practică în acest sens întâlnim în Franța, unde serviciile sociale sunt integrate în multe sfere ale politicilor statului. În primul rând, vorbim despre **domeniul sănătății** (protecția sănătății mamei și copilului; serviciul de ajutor la domiciliu; instituțiile pentru persoanele cu dizabilități); **domeniul educației** (asistența socială în școli, surorile și asistentele, babysitter, lucrătorii sociali și psihologii, serviciile sociale în instituțiile superioare de învățământ); **domeniul justiției** (serviciile sociale prestate în instituțiile destinate pentru infractori; deținuții și familiile acestora); **domeniul tinereții și sportului** (centrele de agrement, tabere de vară organizate pentru copiii din familiile vulnerabile etc.); de asemenea și **domeniul muncii și formării profesionale**.

Un alt exemplu de bună practică în domeniul prestării serviciilor sociale integrate regăsim în orașul București, România. În anul 2003 au fuzionat mai multe departamente (Protecția copilului și Protecția Socială), formând un departament general pentru asistență socială, care cuprinde sistemul de plăți, sistemul serviciilor sociale, serviciile de sprijin psihosocial și de gestionare a asistenței. Această schimbare a fost menită să facă serviciile mai puțin fragmentate, să ofere posibilități de planificare individualizată a cazurilor, să îmbunătățească calitatea și eficiența și să îmbunătățească capacitatea de a monitoriza atât beneficiarii, cât și serviciile sociale disponibile [7, 125p].

Conform practicilor europene, furnizarea unor servicii sociale integrate este posibilă doar în cazul existenței unei strânse colaborări intersectoriale și interinstituționale. Potrivit factorilor de decizie europeni, este necesară stabilirea unei **cooperări trainice între sectoare**. În vederea obținerii rezultatelor așteptate în urma furnizării serviciilor sociale este necesar să formăm echipe multidisciplinare cu specialiști din diverse domenii și organizații; administrația publică să colaboreze cu societatea civilă având structuri formale și neformale. Un exemplu demn de urmat sunt practicile statului francez, unde organizarea, dezvoltarea și coordonarea programelor sociale sunt îndeplinite de către Ministerul Afacerilor Sociale și Solidarității Naționale (Ministere des Affaires Sociales et de la Solidarite Nationale) și Ministerul Sănătății, Familiei și Persoanelor cu Dizabilități (Ministere de la Sante, de la Famille et des Personnes Handicapees). Mai mult, pentru a spori eficiența rezultatelor sunt formate comitete interministeriale. În acest sens, legislația comunitară prevede: stabilirea de sinergii între toate părțile interesate din comunitate, în ceea ce privește elaborarea politicilor, identificarea necesităților, planificarea, elaborarea, furnizarea, monitorizarea și evaluarea serviciilor, asigurarea continuității furnizării de servicii sociale pe durata necesității, facilitarea accesului utilizatorilor la o gamă cuprinzătoare de servicii sociale și contribuirea la realizarea unei societăți favorabile incluziunii. Cooperarea interinstituțională a jucat un rol decisiv în managementul situației de criză generată de pandemie, deoarece instituțiile au fost nevoite să-și unească forțele în combaterea consecințelor negative ale acesteia și furnizarea unor servicii de ajutorare adecvate circumstanțelor create și nevoilor individuale ale utilizatorilor. Un exemplu de bună practică în acest sens a fost înregistrat în Italia, în care a fost creat un grup operativ de protecție civilă care a coordonat activitatea tuturor instituțiilor implicate în furnizarea serviciilor sociale, organizațiilor neguvernamentale și a voluntarilor, informându-i prompt despre deciziile luate la nivel național și alte informații relevante legate de activitățile îndreptate spre combaterea efectelor negative ale pandemiei.

În concluzie, deducem că serviciile sociale la nivel european reprezintă o componentă importantă a modelului social european care asigură cetățenilor europeni o mai bună calitate a vieții. Experții europeni constată că, deși există diferențe între sistemele de servicii sociale, între ele există și multe asemănări: cererea tot mai mare de servicii sociale; transferul de la asistența socială instituțională la asistența socială la domiciliu sau bazată pe comunitate care se produce de peste două decenii. Totodată există încă modificări de atitudine instituțională și socială necesare înainte ca oamenii cu diferite tipuri de dizabilități să poată duce o viață activă la domiciliile proprii; există o presiune tot mai mare pentru servicii individualizate și cu mai multe servicii de asistență la domiciliu. Anumite țări au introdus reforme în organizarea și finanțarea serviciilor sociale, dar sustenabilitatea pe termen lung a sectorului de servicii sociale nu este sigură în aceste țări [6, p.13].



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UNELE REFLECȚII PRIVIND RESPECTAREA PRINCIPILOR DREPTULUI PENAL ÎN TEMEIUL CARTEI DREPTURILOR FUNDAMENTALE A UE ȘI CEDO

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Abstract. European Union law influences the substantive criminal law of the member states. In this area of law the protection of fundamental rights is indispensable, which means that the Charter has great relevance. This article examines the protection of fundamental rights within the EU in substantive criminal law since the Charter became binding and compares it with the protection offered by the European Court of Human Rights (ECtHR).

Keywords: criminal law, principle, fundamental rights, Human Rights.

Dreptul penal a încetat de mult să mai fie o chestiune juridică strict națională. Inițial, Consiliul Europei și mai recent Uniunea Europeană (UE) au influențat acest domeniu al dreptului, care obișnuia să fie modelat și colorat doar de cultura și politica națională. Intrarea în vigoare a Tratatului UE de la Lisabona (denumit în continuare Tratatul), la 1 decembrie 2009, a oferit un impuls uriaș eforturilor de a ajunge la un spațiu comun de libertate, securitate și justiție. Odată cu adoptarea Tratatului, combaterea criminalității în Uniune a luat un nou contur, în timp ce, în același timp, a dat forță obligatorie Cartei Drepturilor Fundamentale a UE (denumită în continuare Carta).



Odată cu eliminarea de către tratat a controalelor interguvernamentale în favoarea puterilor supranaționale în domeniul dreptului penal, influența UE asupra dreptului penal material și a dreptului procesual penal a crescut. În acest context, protecția adecvată a drepturilor fundamentale continuă să fie o perspectivă importantă pentru sistemul judiciar. O mare atenție în acest sens este acordată procedurii penale, dar dreptul penal material și răspunderea penală au, de asemenea, o influență semnificativă asupra posibilităților autorităților de a limita libertatea indivizilor într-o societate precum și de a proteja acea libertate împotriva altora.

În ultimii 40 de ani, UE a devenit o sursă din ce în ce mai importantă de pentru dreptul penal. Cu fiecare pas în procesul de integrare europeană, influența UE asupra sistemelor de drept penal din statele membre s-a dovedit a fi mai mare decât ar fi putut fi prevăzut pe baza dreptul comunitar primar. Deocamdată, orizontul acestei cooperări din ce în ce mai intense este principiul recunoașterii reciproce: o hotărâre judecătorească dintr-un stat membru va fi recunoscută în celelalte state membre ca și cum ar fi o hotărâre a unei instanțe din propriul lor stat. Este nevoie de încredere considerabilă a statelor membre în dreptul penal și procedurile penale ale altora. La consolidarea încrederii și spori instrumentul de recunoaștere reciprocă, a existat o cantitate mare de armonizare în domeniul dreptului penal material și al dreptului procesual penal.

Tratatul de la Lisabona a schimbat considerabil poziția cooperării în materie penală în cadrul Uniunii. În conformitate cu articolul 4 alineatul (2) din Tratatul privind funcționarea Uniunii Europene (TFUE), spațiul comun de libertate, securitate și justiție se referă în prezent la o competență comună între Uniune și statele membre. Desființarea structurii bazate pe piloni și comunitarizarea a cooperării în domeniul dreptului penal au consecințe importante asupra procesului decizional și repartizarea competențelor între UE și statele membre. Aceasta înseamnă că cooperarea europeană în acest domeniu s-a întemeiat și mai ferm pe Dreptul Uniunii în sens constituțional. În lumina acestor evoluții, numărul de măsuri legislative și deciziile judiciare referitoare la dreptul penal este de așteptat să crească și mai mult [1, p. 13].

Articolul 83 TFUE este cea mai importantă dispoziție în ceea ce privește competența Uniunii de armonizare a dreptului penal material. Primul paragraf al acestuia conferă Uniunii competența cu privire la cooperarea împotriva formelor grave de criminalitate transfrontalieră. În acest scop, Uniunea poate armoniza dreptul penal material referitor la 10 categorii de infracțiuni care sunt precizate exhaustiv. Astfel, dreptul Uniunii menționează în prezent mult mai multe domenii de competență decât erau prevăzute în cadrul pilonului trei. Cu toate acestea, în aproape toate domeniile menționate acum, măsurile existau deja create sub cel de-al treilea pilon. Traficul ilicit de arme este singura categorie menționată la articolul 83 alineatul (1) TFUE care nu a făcut încă obiectul armonizării infracțiunilor [2]. Al doilea paragraf al art. 83 TFUE conferă Uniunii competența de armonizare cu un obiectiv diferit. Aceasta permite armonizarea acolo unde acest lucru este necesar pentru a realiza implementarea eficientă a legislației și politicilor UE. Măsurile bazate pe articolul 83 alineatul (2) sunt destul de variate ca natură. [3]

Domeniul exact de aplicare a competențelor de armonizare a dreptului penal în alte domenii noi depinde foarte mult de interpretarea diferiților termeni juridici. În special, conceptele de „esențial” și „eficientă punere în aplicare” menționate la articolul 83 alineatul (2) din TFUE vor fi cruciale pentru domeniul operațional al competențelor de drept penal ale Uniunii [4, p. 24]. În plus, nu este sigur dacă alte dispoziții ale TFUE pot oferi, de asemenea, o bază pentru armonizarea dreptului penal. Având în vedere istoria recentă, acesta nu ar trebui să fie surprinzător dacă, în practică, utilizarea competențelor Uniunii se va dovedi din nou să fie mai largă decât sugerează formularea textului tratatului [5, p. 291].

Tratatul de la Lisabona a soluționat dezbaterile cu privire la legitimitatea dreptului penal al UE, cel puțin într-un mod formal-juridic. În timp ce domeniul de implicare al UE în dreptul penal material pare în continuare creștere, acest lucru necesită o abordare mai substanțială cu referire la întrebarea în ce circumstanțe și în ce mod legea penală a UE este dorită sau, dimpotrivă, nedorită [6, p. 346]. Această dezbateră trebuie să abordeze întrebarea în ceea ce privește modul în care sistemul echilibrat și consecvent de drept penal european interferează cu sistemele naționale de drept penal.



Până acum, răspunsul la această întrebare dat de instituțiile UE nu este același pentru dreptul penal material și dreptul procesual penal. În ceea ce privește dreptul procesual, accentul a vizat armonizarea drepturilor individului, atât ale victimelor, cât și ale inculpaților, prin intermediul dreptului secundar al Uniunii. În schimb, armonizarea dreptului penal material se caracterizează în principal prin dorința de a crea condiții pentru a lupta eficient împotriva criminalității în Uniune. Ca urmare sunt impuse niveluri minime de armonizare, însă statelor membre li se permite să extindă și mai mult incriminarea, dar nu li se permite să delimiteze domeniul de aplicare al euroinfracțiunilor. Acest lucru a produs câteva exemple binecunoscute de definiții largi, cum ar fi cele referitoare la spălarea banilor și la traficul de ființe umane.

Comisia Europeană, în special, pare intenționată să continue în același sens. Comisia pledează, de asemenea, în favoarea unor penalități minime la nivelul UE, pentru a completa nivelurile minime și maxime ale sancțiunilor. Consiliul și Parlamentul, totuși, par să susțină o politică mai restrânsă de armonizare [7].

Astfel, Comisia subliniază că propunerile de dispoziții de drept penal material al UE trebuie să respecte pe deplin principiile subsidiarității și proporționalității, precum și faptul că dreptul penal trebuie să respecte pe deplin drepturile fundamentale ale persoanelor bănuite, învinuite sau condamnate.

În acest sens, Comisia indică faptul că nu este suficient să se facă referire la noțiuni abstracte sau la efecte simbolice, dar necesitatea unor noi dispoziții de drept penal material trebuie demonstrată prin probe de fapt, necesare, care să precizeze că: prevederile penale se concentrează pe comportamente care cauzează un prejudiciu material sau moral semnificativ societății, persoanelor sau unui grup de persoane; nu există alte măsuri, mai puțin aspre, disponibile pentru sancționarea unui astfel de comportament; infracțiunea este una deosebit de gravă, cu o dimensiune transfrontalieră sau are un impact negativ direct, asupra punerii în aplicare efectivă a unei politici a Uniunii într-un domeniu care a făcut obiectul unor măsuri de armonizare; este necesar să se combată infracțiunea în cauză pe o bază comună, adică să existe o valoare practică adăugată într-o abordare comună a UE, ținând seama, printre altele, de cât de răspândită și de frecventă este infracțiunea în statele membre; și în conformitate cu articolul 49 alineatul (3) din Carta drepturilor fundamentale a UE, severitatea sancțiunilor propuse nu este disproporționată față de infracțiune.

Consiliul și Parlamentul UE recunosc importanța celorlalte principii generale care guvernează dreptul penal, cum ar fi: principiul vinovăției individuale (*nulla poena sine culpa*), prevăzând astfel pedepse numai pentru faptele care au fost săvârșite cu intenție sau, în cazuri excepționale, pentru fapte care implică neglijență gravă; principiul securității juridice (*lex certa*): descrierea elementelor unei infracțiuni trebuie formulată exact în sensul că o persoană va putea prevedea acțiunile care o vor face responsabilă penal; principiul neretroactivității: excepțiile de la principiul retroactivității sunt admise numai dacă beneficiază persoanelor bănuite sau învinuite; principiul *ne bis in idem*, care înseamnă că o persoană care a fost condamnată sau achitată printr-o hotărâre judecătorească definitivă într-un stat membru nu poate fi urmărită sau pedepsită pentru aceeași cauză în cadrul procedurilor penale dintr-un alt stat membru; principiul prezumției de nevinovăție, care prevede că fiecare persoană acuzată de o infracțiune este considerată nevinovată până la stabilirea vinovăției sale în condițiile legii.

În acest context, întrebarea presantă este de ce se limitează posibilitățile incriminare și sancționare. Astfel, principiul dreptului penal, așa-numita noțiune *ultimum remedium*, presupune că incriminarea și aplicarea legii penale sunt doar o ultimă soluție pentru a fi utilizată acolo unde alte instrumente nu sunt suficient de adecvate, desigur, este important din perspectiva dezbaterii politice, dar se dovedește a fi incapabil să indice limitele concrete ale aplicării dreptului penal material al Uniunii Europene. Având în vedere faptul consolidării cadrului normativ al drepturilor omului prin aderarea Uniunii la CEDO, este cu atât mai important ca Uniunea însăși să ofere un nivel adecvat de protecție a drepturilor fundamentale în acest domeniu.

Legislația UE privind drepturile fundamentale este complicată de faptul că nu întotdeauna impune doar limitele domeniului de aplicare al dreptului penal material național. În special, decizia



Melloni [8] face o claritate în acest sens indicînd că protecția drepturilor fundamentale prevăzute de dreptul Uniunii nu este întotdeauna doar la cea mai scăzută limită de protecție [9]; spre deosebire de protecția instituită de CEDO, în principiu, protecția drepturilor fundamentale oferită prin dreptul Uniunii nu poate fi depășită uneori de un stat membru. Acest lucru este deosebit de problematic în domeniul dreptului penal, deoarece la nivel național pe lângă drepturile omului, există adesea alte principii și ipoteze care sunt aplicate pentru a reduce puterile nelimitate de incriminare ale legiuitorului la proporții acceptabile.

În plus, drepturile fundamentale nu protejează doar persoana suspectată de comiterea unei infracțiuni, ci și (potențiale) victime. În aceste împrejurări, drepturile fundamentale ale bănuțului, asupra căruia este pusă în aplicare forța legii penale, vor fi încălcate în numele drepturilor fundamentale ale victimei [10, p. 196]. Având în vedere articolul 53 din Cartă, se pare că aceasta nu poate aduce atingere acelei obligații pozitive prevăzute de CtEDO. Articolul 52 alineatul (3) din Cartă chiar subliniază că sensul și domeniul de aplicare al dispozițiilor Cartei trebuie să fie cel puțin egale cu protecția a drepturilor și libertăților fundamentale corespunzătoare din CEDO și protocoalele adiționale acesteia. Această obligație de a atinge niveluri de protecție cel puțin egale se aplică și în jurisprudența CtEDO [11]. Aceasta pare să determine ca doctrina obligațiilor pozitive – inclusiv elementele care necesită incriminare – vor trebui încorporate în protecția prevăzută de Cartă.

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UNELE CONSIDERAȚII PRIVIND ORIENTĂRILE JURISPRUDENȚIALE ÎN MATERIA REVOCĂRII CONTRACTULUI DE DONAȚIE

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Abstract. The present paper briefly analyzes the interpretation and the application of provisions of the Civil Code of the Republic of Moldova concerning the rules on the right of the donor to revoke the donation, by the courts of law. The study analyses the courts interpretation concerning the revocation for ingratitude, revocation for the unjustified non-fulfillment of conditions or charges, revocation in case of impoverishment of the donor and residual right to revoke the donation.

Keywords: contract of donation, donor, donee, revoking, grounds for revocation, time limits.

Aspecte introductive

Contractul de donație este irevocabil, adică odată valabil încheiat acesta nu mai poate fi revocat decât în cazurile prevăzute expres de lege sau de clauzele contractuale, astfel după cum se menționează în art. 1207 C. civil.

În cadrul examinării litigiilor privind revocarea donației, instanțele de judecată vor trebui să soluționeze litigiile privind revocarea donației cu aplicarea legislației civile prin prisma dispozițiilor art. 7 C. civil. Astfel, în alin. 1 este stipulat că: „*Legea civilă nu are caracter retroactiv. Ea nu modifică și nici nu suprimă condițiile de constituire a unei situații juridice constituite anterior, nici condițiile de stingere a unei situații juridice stinse anterior. De asemenea, legea nouă nu modifică și nu desființează efectele deja produse ale unei situații juridice stinse sau în curs de realizare*”. În alin. 4 este precizat că „*în cazul situațiilor juridice contractuale în curs de realizare la data intrării în vigoare a legii noi, legea veche va continua să guverneze natura și întinderea drepturilor și obligațiilor părților, precum și orice alte efecte contractuale, dacă legea nouă nu prevede altfel*”.

Pe de altă parte, art. 7, alin. 5 C. civil precizează căror situații juridice contractuale urmează a fi aplicată legea nouă, fiind stipulat că „*dispozițiile legii noi se aplică modalităților de exercitare a drepturilor sau de executare a obligațiilor, precum și de înstrăinare, preluare, transformare sau de*



stingere a acestora. De asemenea, dacă legea nouă nu prevede altfel, clauzele unui act juridic încheiat anterior intrării în vigoare a legii noi contrare dispozițiilor ei imperative sînt, de la această dată, lipsite de orice efect juridic”.

În ipoteza contractelor de donație încheiate până la 01.03.2019, dar a căror acțiune de revocare a fost înaintată după această dată, vor putea fi aplicate atât dispozițiile codului civil de până la modernizare, cât și noile dispoziții introduse prin legea de modernizare, însă cu luarea în considerare a dispozițiilor art. 7 C. civil.

Donația poate fi revocată pentru ingratitude (art. 1210 C. civil), pentru neexecutarea sarcinii (art. 1204 C. civil), în caz de stare de nevoie (art. 1211 C. civil), din alte motive întemeiate (art. 1212 C. civil).

Orientări jurisprudențiale în cazul revocării donației pentru ingratitude

Potrivit art. 1210 C. civil, donația poate fi revocată dacă donatarul a atentat la viața donatorului sau a unei persoane apropiate acestuia, dacă se face vinovat de o altă faptă ilicită față de donator sau față de o persoană apropiată acestuia, fapt care atestă o ingratitude gravă, sau dacă refuză fără motive întemeiate să acorde donatorului întreținerea datorată.

Merită menționată jurisprudența în domeniu (decizie definitivă și irevocabilă) care se referă la o cauză de revocare pentru ingratitude a unui contract de donație încheiat după 01.03.2019, adică cu aplicarea dispozițiilor codului civil modernizat pentru soluționarea litigiului [1].

Se precizează în decizie cu privire la atentatul la viața donatorului că reieșind din dispozițiile art. 1210, alin. 1 C. civil, *„este indiferent dacă a existat doar o tentativă de omor sau fapta s-a consumat, precum și nu este necesară o condamnare penală a donatarului pentru fapta săvârșită”*. Astfel, se confirmă în această orientare jurisprudențială soluția dată în doctrina românească [2, p. 27], existând însă opinie contrară în doctrina din R. Moldova, unde se menționează că faptele donatarului ce atentează la viața și sănătatea donatorului urmează a fi dovedite *„de către organele împuternicite cu asemenea competențe, inclusiv, vinovăția sau nevinovăția sa”* [3, p. 12].

Merită și trebuie, de asemenea, de menționat interpretarea și aplicarea de către instanță a dispozițiilor art. 1210, alin. 2 C. civil care prevede că revocarea pentru ingratitude este exclusă, dacă donatorul îl iartă pe donatar, în cunoștință de cauză. În acest sens, instanța a considerat că depunerea unei plângeri de către donator la inspectoratul de poliție pentru atragerea la răspundere contravențională a donatarului pentru fapte ilicite, iar apoi depunerea unei cereri prin care s-a solicitat încetarea examinării cazului, precum și refuzul donatorului de la examinarea medico-legală, echivalează cu iertarea donatarului. În prezența unor asemenea probe, desigur instanța de fond, dar și cea de apel nu aveau decât să respingă acțiunea de revocare a donației pentru ingratitude.

Conform unei orientări jurisprudențiale nu se consideră ingratitude gravă distrugerea de către donatar a bunurilor aparținând donatorului, instanța menționând: *„or prevederile art. 835 alin. (1) din Codul civil expres presupune săvârșirea unor fapte penale, cruzimi sau injurii grave numai față de donator, nu și față de bunurile donate, astfel încât pretinsa deteriorare a bunurilor donate nu poate determina revocarea donației pentru ingratitude”* [4].

În contextul celor menționate de instanță, mai trebuie precizat că deteriorarea a avut loc asupra bunurilor aflate în bunul imobil donat, adică proprietate a donatarului, aceasta fiind într-adevăr important la stabilirea faptei de ingratitude gravă, în sens că donatarul nu a deteriorat bunurile proprietate a donatorului.

În altă ordine de idei, instanța a reținut că pentru a fi constatată vinovăția donatarului în comiterea contravenției prevăzute de art. 104 Cod contravențional, adică distrugerea sau deteriorarea bunurilor străine, la caz fiind vorba de deteriorarea automobilului aparținând donatorului, nu este suficientă simpla scrisoare a agentului constatator, privind adevărarea faptelor și pornirea procesului contravențional. Or această scrisoare *„nu este o decizie de sancționare contravențională definitivă și irevocabilă, ce ar face dovada vinovăției lui în învinuirile aduse la atentarea asupra bunurilor reclamantului”* [4].

Considerăm că distrugerea și deteriorarea unuia sau mai multor bunuri aparținând donatorului, inclusiv omorul sau faptele de cruzime aplicate asupra unui animal aparținând donatorului, pot fi

calificate ca ingraturitate gravă, în special când ar fi vorba de bunuri individual determinate, care au valoare istorică sau artistică importantă pentru donator, cum a fi de ex. un tablou de un anumit pictor renumit etc. Desigur că acțiunile donatarului, în așa ipoteză, nu sunt îndreptate asupra donatorului, însă scopul distrugerii sau deteriorării, ori omorului, cruzimilor asupra animalului, este de a provoca suferințe psihice donatorului.

Cu titlu comparativ menționăm art. 801 C. civil italian în care este menționat expres ca temei de revocare a donației „cauzarea intenționată a unui prejudiciu grav patrimoniului donatorului” [5].

Orientări jurisprudențiale în cazul revocării donației pentru neîndeplinirea sarcinii

Donația poate fi condiționată, adică să prevadă îndeplinirea unei sarcini sau efectele sale să fie condiționate de realizarea unui scop. Astfel, potrivit art. 1204, alin. 1 C. civil, părțile contractului de donație pot conveni ca efectele donației să fie condiționate de îndeplinirea unei sarcini sau de realizarea unui scop. Scopul poate fi și de utilitate publică. Va constitui donație, însă, numai partea excedentară cheltuielilor de executare a sarcinii sau de atingere a scopului.

Este obligatoriu ca sarcina ce urmează a fi îndeplinită și scopul ce trebuie realizat să fie menționate în contractul de donație? Răspunsul este afirmativ, însă putem menționa o orientare jurisprudențială în care s-a considerat că chiar dacă în contract nu s-a menționa expres sarcina sau scopul, contractul de donație urmează a fi interpretat prin prisma principiului bunei credințe și a principiului interpretării după intenția comună a părților.

În acest sens, se menționează de către instanță că „s-a constatat că contractul de donație încheiat la între nu conține o condiție expresă, însă el urmează a fi interpretat prin prisma prevederilor art. 725 Cod civil. Conform art. 725 alin. (1,2) Cod civil, Contractul trebuie interpretat pe principiile bunei-credințe. Contractul se interpretează după intenția comună a părților, fără a se limita la sensul literal al termenilor utilizați. Deci, prin interpretarea contractului urmează de a înțelege nu numai determinarea conținutului clauzelor incluse de către părți în contract, ci și determinarea efectelor pe care le-a produs contractul. Interpretarea contractului constă în determinarea voinței părților, ținându-se cont de toate circumstanțele relevante ale cazului” [6].

Orientări jurisprudențiale în cazul revoazării donației în caz de stare de nevoie

Prevăzută în art. 1211, C. civil, conform căruia donatorul are dreptul să revoce donația dacă nu este în stare să se întrețină din contul patrimoniului sau venitului său.

Alin. 2 al art. 1211 C. civil instituie o prezumție legală că donatorul nu este în stare să se întrețină dacă sînt întrunite condițiile stabilite de lege pentru a cere întreținere de la o altă persoană sau pentru a primi prestații de asigurări sociale în sistemul public, chiar dacă nu a exercitat aceste drepturi.

În cazul examinării unei acțiuni de revocare a donației în caz de stare de nevoie, deși instanța menționează ca aplicabile dispozițiile art. 1211 C. civil pentru un contract de donație încheiat în anul 2011, totuși ulterior menționează despre „refuzul de a acorda întreținere se va considera ingraturitate gravă” [7], or reclamanta a invocat drept cauză de revocare starea de nevoie și nu ingraturitatea manifestată prin refuzul de acordare a întreținerii.

De asemenea, deși în hotărâre este invocat art. 1211 C. civil, instanța menționează că acest temei, adică „starea de nevoie” „operează în situația în care după executarea donației, adică după mărirea patrimoniului donatarului din contul patrimoniului donatorului (transmiterea bunului donat), donatorul nu mai este în stare să-și asigure o întreținere corespunzătoare și să-și îndeplinească obligațiile legale de întreținere față de terți. Cele două condiții de revocare: starea de imposibilitate de a-și asigura întreținerea corespunzătoare și starea de imposibilitate de a îndeplini obligațiile legale de întreținere față de terți, pot constitui motive de admitere a acțiunii numai în cazul în care acestea coexistă” [7]. Astfel, pe de o parte instanța menționează dispozițiile art. 1211 C. civil, pe de altă parte invocă prevederile codului civil de până la modernizare, adică art. 836 C. civil, în privința temeiniciei revocării (rezoluțiunii) donației în cazul stării de nevoie. În aceeași ordine de idei, instanța nu a verificat și nu s-a pronunțat asupra faptului dacă veniturile pe care le are donatorul sunt suficiente pentru ca acesta să-și asigure o întreținere corespunzătoare sau dacă are sau nu obligații de întreținere față de terți.



Într-o altă cauză de revocare a donației în caz de stare de nevoie, chiar dacă este vorba de un contract de donație încheiat în anul 1998, instanța de apel a admis apelul donatarului și a respins acțiunea de revocare fiind invocate termenele de decădere în care trebuie înaintată acțiunea, prevăzute de art. 1208 C. civil. Se precizează de către instanță că: „*astfel, donatorul a solicitat revocarea donației depășind termenul de 3 ani stabilit de lege, în interiorul căruia acesta dispune de dreptul său subiectiv de a solicita revocarea donației*”, acțiunea fiind înaintată după 17 ani din momentul transferului dreptului de proprietate [8].

Decizia în cauză este doar definitivă, fiind în examinare în procedura de recurs la CSJ. Dacă va fi confirmată de instanța supremă, această orientare jurisprudențială în privința termenelor în care pot fi înaintate acțiunile de revocare a donației, prezintă importanță și în cazul revocării donației pentru orice alte temeiuri legale sau contractuale, întrucât orice acțiune de revocare înaintată după 3 ani din momentul dobândirii dreptului de proprietate de către donatar, urmează a fi respinsă în baza dispozițiilor art. 1208 C. civil.

Revocarea donației din alte motive întemeiate

Prin legea de modernizare a codului civil au fost introduse prevederi ca d-au dreptul la revocarea donației și din alte motive întemeiate, prevăzute la art. 1212, alin. 1 C. civil. Astfel, donatorul are dreptul să revoce donația în situația în care există alte circumstanțe decisive care au stat la baza încheierii contractului (boala fatală a donatorului, intenția de căsătorie sau căsătoria donatarului, relația de căsătorie dintre donator și donatar etc.) și care s-au schimbat esențial după încheierea contractului, dacă în urma acestei schimbări:

- a) folosul oferit donatarului este vădit nepotrivit sau excesiv;
- b) este vădit injust de a obliga donatorul să respecte donația.

În alin. 2 al art. 1212 C. civil este precizat că revocarea donației va putea fi declarată dacă sunt întrunite cumulativ următoarele condiții:

1. schimbarea circumstanțelor era atât de imprevizibilă, încât donatorul, la momentul încheierii contractului, nu ar fi putut în mod rezonabil să o prevadă;
2. donatorul nu și-a asumat riscul acestei schimbări a circumstanțelor.

În privința revocării donației pentru alte motive întemeiate prevăzute de art. 1212 C. civil, poate fi menționată orientarea jurisprudențială prin care s-a respins aplicarea revocării în baza art. 1212, instanța considerând inaplicabile dispozițiile în cauză unui contract încheiat înainte de 01.03.2019. Astfel, este menționat: „*deși nici aceste temeiuri nu au fost confirmate pe parcursul examinării cauzei, se rețin prevederile art. 7 alin (1) Cod civil, care stipulează, că legea civilă nu are caracter retroactiv. Ea nu modifică și nici nu suprimă condițiile de constituire a unei situații juridice constituite anterior, nici condițiile de stingere a unei situații juridice stinse anterior. De asemenea, legea nouă nu modifică și nu desființează efectele deja produse ale unei situații juridice stinse sau în curs de realizare*” [9].

Suplimentar, se precizează că: „*norma art. 1212 Cod civil, invocată de reclamant, nu este aplicabilă speței, deoarece nu era în vigoare la momentul încheierii contractului între părți. Astfel nu poate fi revocat contractul de donație, încheiat la 12.12.2014, în temeiurile de revocare a contractului de donație din alte motive, ce se regăsesc în art. 1212 Cod civil, deoarece aceste temeiuri nu erau prevăzute în legislația civilă în vigoare la momentul încheierii contractului*” [9].

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PUNCTUL 5) ALINIATUL (1) AL ARTICOLULUI 69 DIN CODUL DE PROCEDURĂ PENALĂ AL REPUBLICII MOLDOVA CA UNUL DINTRE TEMEIURILE ACORDĂRII ASISTENȚEI JURIDICE OBLIGATORII

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Abstract. The article examines the criteria for granting mandatory legal assistance in the criminal proceedings of the Republic of Moldova, with a focus on the necessity of providing a defense counsel for individuals with sensory impairments or special needs. The author emphasizes the uncertainty of the term "person with special needs," which could lead to abuses and incorrect application of the law. It is proposed to clarify the legislation to ensure the proper provision of mandatory legal assistance guaranteed by the state.

Keywords: right to a fair trial, right to defense, mandatory legal assistance.

Asistența juridică obligatorie este un instrument prin care statul își îndeplinește obligațiile asumate de a asigura echitatea procesului judiciar, garantată de art. 6 (1) al Convenției Europene pentru Protecția Drepturilor Omului și a Libertăților Fundamentale.

Convenția Europeană nu stabilește criteriile pentru furnizarea asistenței juridice obligatorii. Potrivit Curții Europene a Drepturilor Omului, Părțile Contractante trebuie să decidă singure cum vor respecta obligațiile care decurg din Convenție [1]. Aceasta înseamnă că stabilirea criteriilor pentru acordarea asistenței juridice obligatorii este lăsată la discreția autorităților naționale. Singura cerință este ca dreptul de acces la justiție să fie „practic și eficient, nu teoretic și iluzoriu” [4].

Dreptul de acces la justiție va fi practic și eficient doar dacă inculpatul are la dispoziție proceduri adecvate și poate participa în mod semnificativ la acestea [14, p. 54]. Acest lucru presupune că el înțelege pe deplin natura procesului judiciar și ceea ce îi este amenințat, inclusiv cunoașterea oricărei pedepse care ar putea fi aplicată. El trebuie să aibă posibilitatea de a-și prezenta propria versiune a evenimentelor, de a indica dovezi cu care nu este de acord și de a prezenta fapte care ar trebui aduse în apărarea sa [3]. Altfel, procesul nu poate fi considerat drept echitabil.

Stabilind în sistemele lor legislative criteriile pentru acordarea asistenței juridice obligatorii, statele iau de obicei în considerare circumstanțe precum nivelul corespunzător de jurisdicție (multe dintre ele prevăd asistență juridică obligatorie în instanțele superioare, unde trebuie prezentate argumente juridice), gravitatea infracțiunii (când inculpatul este acuzat de o infracțiune mai gravă, care se pedepsește cu închisoare pentru o anumită perioadă), precum și capacitatea acuzatului de a-și



exercita propria apărare, inclusiv factori precum absența sa la ședința de judecată, disponibilitatea de a nu perturba ordinea ședinței, vârsta, sănătatea mintală, capacitatea de a vorbi limba instanței [2].

În legislația Republicii Moldova, criteriile pentru acordarea asistenței juridice obligatorii sunt stabilite de art. 69 alin. (1) din Codul de procedură penală. Unul dintre aceste criterii este prevăzut la p. 5) al acestui articol, conform căruia participarea unui avocat în procesul penal este obligatorie dacă bănuitul, învinuitul, inculpatul întâmpină dificultăți pentru a se apăra el însuși, fiind mut, surd, orb sau având alte dereglări esențiale ale vorbirii, auzului, vederii, precum și este o persoană cu necesități speciale [6]. În opinia noastră, acest temei pentru acordarea asistenței juridice obligatorii nu este suficient de clar, ceea ce poate duce la diferite interpretări și, ca rezultat, la aplicarea incorectă a legii. Prin urmare, vom încerca să analizăm acest criteriu pentru a clarifica sensul intenționat de legiuitor în această construcție juridică.

Să începem cu faptul că criteriul pentru acordarea asistenței juridice obligatorii bănuितului, învinuitului, inculpatului prevăzut la p. 5) al alin. (1) al art. 69 din Codul de procedură penală este personal. El pune problema acordării asistenței juridice unei persoane în funcție de anumite calități personale ale subiectului respectiv, care îi creează dificultăți în exercitarea independentă a dreptului său la apărare [14, p. 58].

Este necesar să reamintim că dreptul la apărare este un ansamblu de toate drepturile și regulile procedurale care îi oferă unei persoane posibilitatea de a se apăra împotriva acuzațiilor aduse împotriva sa [8, p. 92-93]. Principalele dintre aceste drepturi și reguli procedurale sunt enumerate în articolele 64 și 66 din Codul de Procedură Penală, dedicate drepturilor și obligațiilor bănuितului, învinuitului și inculpatului. Este dreptul persoanei care este supusă răspunderii penale să știe de ce este suspectată (acuzată) și, în acest sens, să ia la cunoștință actele procedurale corespunzătoare; dreptul de a participa la acțiuni procesuale; dreptul de a fi audiată, de a prezenta dovezi, de a face declarații etc.

Acum să analizăm calitățile personale ale subiectului menționate la p. 5) alin. (1) al art. 69 din Codul de procedură penală, care, în opinia legiuitorului, îl împiedică să-și exercite dreptul la apărare în mod independent.

Conform Dicționarului explicativ al limbii române, ”mut” înseamnă cel care nu poate vorbi, lipsit de facultatea vorbi; ”surd” înseamnă cel care nu aude (bine), lipsit (total sau parțial) de auz; orb este cel care lipsit de simțul văzului, care nu vede (deloc) [7]. Este evident că persoanele cu astfel de deficiențe senzoriale, precum și cu alte deficiențe semnificative ale funcțiilor vorbirii, auzului sau vederii, nu sunt într-adevăr capabile să utilizeze pe deplin toate drepturile și garanțiile procedurale pentru a-și exercita dreptul la apărare.

În ceea ce privește expresia ”persoană cu nevoi speciale” din p. 5) alin. (1) al art. 69 din Codul de procedură penală, semnificația sa juridică nu este clară. Legislația Republicii Moldova nu oferă o definiție pentru persoana cu nevoi speciale, iar unii autori includ în această categorie, pe lângă persoanele cu dizabilități, și copii abandonati sau neglijați; victime ale violenței (fizice, psihologice, emoționale și sexuale) indiferent de sex și vârstă; persoane cu traume psihice și emoțional-psihologice; persoane dependente de diverse substanțe (alcoolici, narcomani, fumători); persoane eliberate din detenție; vârstnici; copii din diferite grupuri etnice (de exemplu, romi) și chiar copii ”genii” [5, p. 14]. Aceste circumstanțe fac imposibilă confirmarea statutului de persoană cu nevoi speciale în scopul acordării asistenței juridice obligatorii, care este oferită pe cheltuiala bugetului de stat, și creează condiții pentru interpretarea extensivă și abuzul dreptului la asistență juridică garantat de stat. În opinia noastră, actuala redactare a p. 5) alin. (1) al art. 69 din Codul de procedură penală nu corespunde cerințelor impuse actelor normative de art. 54 din Legea cu privire la actele normative, care stabilește că, dacă o noțiune sau termen conținut într-un act normativ poate avea înțelesuri



diferite, în proiect se stabilește semnificația acestuia în context pentru a asigura înțelegerea corectă a noțiunii sau a termenului respectiv și pentru a evita interpretările neuniforme [10].

Pentru a clarifica esența criteriului de acordare a asistenței juridice obligatorii stabilit de legiuitor în p. 5) alin. (1) al art. 69 din Codul de procedură penală, vom încerca să determinăm intenția sa la adoptarea acestui act normativ, referindu-ne, în conformitate cu art. 71 alin. (3) din Legea cu privire la actele normative, la nota explicativă și alte documente care au însoțit proiectul de lege.

Actuala redactare a p. 5) alin. (1) al art. 69 din Codul de procedură penală a fost adoptată la 31 iulie 2023 prin Legea privind modificarea unor acte normative (modificarea Codului de Procedură Penală și a Codului contravențional), care a prezentat art. 69 din Codul de procedură penală într-o nouă redactare [11]. În nota explicativă a proiectului de lege, al cărui autor este Ministerul Justiției, se menționează că noua redactare a art. 69 din Codul de procedură penală are scopul de a clarifica și ajusta normele referitoare la participarea obligatorie a apărătorului în procedurile penale, în vederea eliminării abuzurilor drepturilor procedurale care apar din cauza existenței multor interpretări și practici diferite legate de aplicarea normelor relevante ale legislației procedurale penale, datorită formulărilor normative generale și insuficient de clare [12, p. 15-16].

După cum reiese din Sinteza obiecțiilor și propunerilor la proiectul de lege, în redacția inițială a p. 5) alin. (1) al art. 69 din Codul de procedură penală era formulat diferit față de versiunea finală. Pe lângă acordarea asistenței juridice obligatorii bănuیتului, învinuitului sau inculpatului, care întâmpină dificultăți în exercitarea dreptului la apărare din cauza mutității, surdității, orbirii și a altor deficiențe semnificative ale funcțiilor vorbirii, auzului și vederii, autorul proiectului de lege propunea să se ofere asistență și persoanelor cărora le este împiedicată exercitarea dreptului la apărare de prezența altor defecte fizice și psihice. Totuși, în cursul discuțiilor asupra proiectului de lege, autorul a fost de acord cu opinia că utilizarea termenului „defecte” este discriminatorie față de persoanele cu nevoi speciale și a acceptat propunerea de a înlocui acest termen cu „nevoi speciale” [13, p. 76].

Astfel, oferind dreptul la asistență juridică obligatorie bănuیتului, învinuitului sau inculpatului care este o persoană cu nevoi speciale și care întâmpină dificultăți în exercitarea dreptului la apărare în mod independent, p. 5) alin. (1) al art. 69 din Codul de procedură penală presupune că o persoană cu nevoi speciale este o persoană care are defecte fizice sau psihice care îi împiedică exercitarea independentă a drepturilor sale. Aceste defecte pot fi de obicei cauzate de diverse afecțiuni congenitale sau dobândite. Ele pot duce la o scădere a funcțiilor cognitive, cum ar fi memoria, atenția, concentrarea și gândirea critică; pot provoca dependență, cum ar fi alcoolismul sau dependența de droguri; pot duce la tulburări de stare emoțională. Subiectul care suferă de astfel de boli poate să nu-și amintească detalii importante legate de infracțiune; să nu înțeleagă esența acuzației aduse; să nu poată formula corect argumentele în apărarea sa; să nu poată rezista presiunii din partea acuzării. De altfel, așa cum arată practica, persoanelor cu astfel de deficiențe nu li se determină întotdeauna dezabilitate în conformitate cu Legea nr. 60 din 30.03.2012 [9] (de exemplu, în cazul alcoolismului cronic sau al dependenței de droguri, al unei ușoare grade de retard mintal).

Prin urmare, pentru a elimina posibilitatea unei interpretări extinse a acestei norme, ea, în opinia noastră, ar trebui modificată. În acest sens, se propune ca p. 5) alin. (1) al art. 69 din Codul de procedură penală să fie redactat astfel: „bănuitul, învinuitul, inculpatul întâmpină dificultăți pentru a se apăra el însuși, fiind mut, surd, orb sau având alte dereglări esențiale ale vorbirii, auzului, vederii, precum și a unei alte afecțiuni”. Utilizarea termenului „afecțiune” în loc de „nevoi speciale” nu va fi discriminatorie. În plus, termenul „afecțiune”, spre deosebire de „nevoi speciale”, este un termen concret și clar, care nu permite interpretări multiple.



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THE CONCEPTUAL AND NORMATIVE FRAMEWORK OF CRIMINAL LIABILITY FOR NON-QUALITATIVE CONSTRUCTION EXECUTION

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Abstract. The poor execution of construction projects can have significant implications, including risks to human safety and the potential for environmental damage. While there is no unified international legislation on the poor execution of constructions, there are numerous agreements, treaties, and international conventions that address standards and practices in construction, including safety, environmental, and quality standards. Furthermore, the criminal legislation of several countries includes norms that hold individuals criminally responsible for the poor execution of constructions and violations of construction quality laws, authorization of construction works, and breaches of national norms and regulations that can ultimately lead to severe consequences for the integrity of human lives, immovable property, and the environment.

In this research, we aim to analyze and specify the most important concepts and legislative acts regulating the execution of construction works and their quality, in accordance with both national and international provisions. Determining and defining these notions and concepts contribute to a broader understanding of the specificity of the offense outlined in Article 257 of the Penal Code of the Republic of Moldova, regarding the crime of poor execution of constructions.

Keywords: concept, constructions, notion, criminal responsibility.

The International Organization for Standardization (ISO) provides a series of standards for the construction industry, including ISO 9001 for quality management systems and ISO 14000 for environmental management [1]. Additionally, there are numerous national laws and regulations addressing the issue of substandard construction. These may include sanctions for poorly executed construction works, requirements for periodic inspections of constructions, and regulations regarding the qualifications and licensing of builders. In the European Union, the Construction Products Directive (EU) 305/2011 [2] establishes harmonized standards for the marketing of construction products in the EU, while the Energy Performance of Buildings Directive (EU) 2010/31 [3] requires member states to improve the energy performance of buildings. It is important to note that, although there are international standards and agreements, they need to be transposed into national legislation and properly enforced to be effective.

The European Committee for Standardization (CEN) is an organization that sets technical standards within the European Union, including standards for construction materials and construction methods. CEN closely collaborates with ISO to ensure that the standards are internationally compatible [4].

In addition, there are other non-governmental and private organizations that provide certifications and standards for the construction industry. For example, the U.S. Green Building Council (USGBC) is responsible for developing the Leadership in Energy and Environmental Design (LEED) standard, one of the most well-known standards for sustainable construction [5].



In any case, it is essential for all those involved in the construction industry to be aware of their legal and ethical responsibilities to ensure the safety, sustainability, and quality of construction works. This includes not only builders but also designers, material suppliers, inspectors, and building owners.

In order to protect and safeguard essential requirements in the construction sector, and to uphold the rule of law, the Penal Code of the Republic of Moldova, in Article 257, criminalizes the offense related to the poor execution of constructions.

To better understand the operational and executive aspects of activities in the construction sector, we introduce the following **concepts**:

- *Value of new construction works* (including reconstruction and extension works): represents the value of construction works executed for the first time, as detailed in the cost estimate articles.

- *Value of major repairs*: represents the value of a complex set of works and measures aimed at restoring the capacity or operating condition of buildings, constructions, elements, and their parts, including engineering structures and equipment. Major repairs involve the replacement of worn-out parts or their exchange with more durable and advantageous ones, improving the operational capabilities of the repaired object, extending its service life compared to the initially determined duration, except for the complete replacement of basic structures (walls, foundations, intermediate floors, etc.).

- *Value of current maintenance and repair works*: represents the value of works performed to preserve or restore the ability to obtain future economic benefits (profit) in proportions determined at the initial entry. Current maintenance and repair works include a set of operations such as painting, varnishing, repairing minor parts carried out on an existing construction to ensure its continued use, prevent rapid wear, and extend the service life. This category also includes the installation of mechanical, electrical, or heating systems, replacement of pipelines, and water pipes (even if they are new) [6].

According to the Classifier of Activities in the Moldovan Economy, construction activities encompass:

- organization of construction sites and site preparation;
- complete and partial construction of buildings and engineering structures; civil engineering constructions;
- installation works for buildings;
- finishing works for constructions;
- rental of construction equipment with associated service personnel [7].

Additionally, construction works are grouped and presented based on structural elements: new construction works, major repair works, current maintenance and repair works, and other works.

To better understand the specificity of the offense related to poor execution of constructions, it is important to initially comprehend the concept of this activity and the defining elements within the construction domain. Therefore, the following concepts are introduced:

- **Construction**: the term refers to a branch of technology dealing with the design, execution, maintenance, and operation of various structures or infrastructure works.
- **Construction works**: it encompasses a set of operations performed with the help of mechanisms, machines, and labor, aiming to achieve, reconstruct, restore, or strengthen a construction [8].
- **Demolition works**: encompasses a set of operations performed with the help of mechanisms, machines, and labor, aiming for the total or partial demolition of a construction/facility.
- **Classification of constructions**: it is based on various objectives such as design, technical specifications, economic or statistical records, planning and organization of works, documentation, etc. Homogeneity in classification is ensured by grouping similar constructions through common main elements of design and execution. In functional or destination-based classification, constructions are grouped based on functional requirements



and geographical location. From this perspective, constructions are divided into buildings and engineering structures.

- **Engineering structures:** include all other constructions, land and water communication routes, hydraulic and underground constructions, power transmission lines, etc.
- **Technical conditions for constructions:** each construction or construction element must meet a set of technical conditions or main techno-economic requirements, including durability over time, structural robustness, fire resistance, construction resistance and stability, physical and hygienic conditions, architectural, economic-organizational aspects, etc.
- **Durability:** represents the normal operating lifespan of the main construction elements without losing the required quality for optimal use. It can be classified as high (Grade I) with a lifespan of over 100 years, medium (Grade II) between 50 and 100 years, and normal or common (Grade III) between 20 and 50 years. Constructions with a lifespan of less than 20 years are considered to have a temporary character. Durability is determined by the materials used, the design solution chosen, the mode of execution, operating and maintenance conditions, and refers to the resistance of materials and construction elements to various actions such as freezing-thawing, humidity, corrosion, biological action of microorganisms, as well as the impact of the surrounding environment: atmospheric agents, smoke, gases, various indoor pollutants, etc.
- **Requirements for the strength, stability, and rigidity of structural elements:** refer to meeting design conditions regarding their load-bearing capacity, maintaining balance, and the ability to dissipate energy necessary for maintaining the overall integrity of the structure. It also includes limiting excessive deformations, preventing vibrations, and other conditions necessary for ensuring normal operation [9].
- **Strength and stability of constructions:** the construction work must be designed and built in such a way that the loads exerted during construction and use do not lead to any of the following events: a) the collapse of the entire structure or a part thereof; b) deformation to an unacceptable extent; c) damage to other parts of the work or installations or facilities due to significant deformations of support elements; d) damage resulting from accidental events disproportionate to their initial cause [9].
- **Physical and hygienic conditions:** are related to achieving a suitable indoor climate by considering factors such as temperature, humidity, lighting, speed, and circulation of air currents, and the evacuation of stale air, etc.
- **Architectural conditions:** must ensure a pleasant aesthetic appearance with optimal architectural composition while simultaneously achieving optimal functionality according to the building's purpose.

Thus, the structural resistance of a building or the structural framework represents a set of structural elements (columns, beams, walls, floors, etc.), arranged in such a way as to ensure the absorption and transmission of the loads acting on it without jeopardizing the safety and integrity of the building. The design and sizing of the structural framework of a building are complex processes and must meet various engineering requirements, including:

- *Engineering Requirements:* the structure must meet all design norm requirements, including those related to strength, stability, ductility, deformability, and operational safety;

- *Architectural:* the structure must correspond functionally to the established purpose and present an aesthetic appearance;

- *Economic:* to minimize costs, reduce material consumption, execution expenses, transportation, and assembly of structural elements, as well as long-term maintenance. The solution should also be efficient and sustainable.

According to *Article 3 of Law No. 721 dated February 2, 1996*, regarding quality in construction, the quality of constructions is the result of their behavior characteristics during operation, aiming to meet the requirements of users and communities throughout their entire lifespan [10].



Constructions are considered to be of poor quality if they do not comply with construction normative documents developed by the National Construction Management Authority, as well as other requirements constituting the quality system in construction. Normative documents in construction, developed by the National Construction Management Authority, cover the conception, calculation, design, execution, and operation of constructions. These normative documents primarily establish the minimum quality conditions required for constructions, products, and procedures used in construction, as well as the method for determining and verifying them [11, p.317].

Constructions are considered unfinished if the construction works have not been fully completed, making it impossible for the investor to receive the constructions [12].

Constructions are deemed not in accordance with the project conditions if they do not align with clauses related to the quality level of constructions corresponding to essential requirements.

Considering that the subject of the offense outlined in Article 257 of the Penal Code of the Republic of Moldova has a special nature, it is important to introduce the following *concepts*:

Construction Organization, refers to a legal entity that, individually or in association with other legal entities, carries out or designs and executes any type of constructions and/or related installations. This includes works such as modernization, modification, transformation, consolidation, repairs of constructions and their installations. It also encompasses entities engaging in activities like design, research, consultancy, maintenance, monitoring of long-term behavior, and specialized services in constructions, including technological services with specialized equipment [11, p.317].

Construction director, [13] designated individual appointed by the contractor to oversee the implementation of works on the construction site and ensure their completion in accordance with the project.

Person with Quality Control Responsibilities in Construction [14], the quality of constructions of any purpose, regardless of ownership form and funding source, as well as construction works, reconstructions, modernizations, and major repairs to existing constructions, and the production of materials and articles for constructions are subject to state control. State quality control in construction is carried out by the State Construction Inspectorate (ISC).

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FUNDAMENTAREA CONCEPTUALĂ A TEORIEI SUPRANAȚIONALITĂȚII A UNIUNII EUROPENE ȘI A INSTITUȚIILOR SALE

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Abstract. The article examines the conceptual foundations of the theory of supranationality of the European Union (EU) and its institutions in the context of harmonisation of European legislation. In the process of harmonisation, national law retains its existence but is subject to the requirements of EU legislation. The article considers the complexities and duration of the process of adaptation of national laws, distinguishing three types of relationship between EU law and national law. Particular attention is paid to the role of directives, the law of direct effect and co-operation between national systems. The article also emphasises that EU law complements national rules while preserving their integrity.

Keywords: supranationality, harmonisation, national law, directives, European Union.

În procesul de armonizare a legislației europene, dreptul național continuă să existe, dar este lipsit de capacitatea de a determina finalitatea în sine. Ar trebui să se schimbe și să se dezvolte în conformitate cu cerințele definite și impuse de legislația UE, astfel încât diferitele sisteme naționale să reprezinte un anumit grad de uniformitate și coerență între ele, care rezultă din obiective comune.



Este evident că această convergență și armonizare ar trebui să însoțească și să completeze funcționarea legii acțiunii directe, a cărei generalizare a fost imposibilă atât din punct de vedere tehnic, cât și politic. La fel de important, legislația UE menită să reglementeze acest tip de tranzacție trebuia să ia forma unor directive. Conform caracteristicilor lor, aceste directive sunt perfect potrivite pentru funcția care nu constă în elaborarea unei singure legi, ci în definirea obiectivelor Comunității. Sistemele juridice naționale ar trebui să atingă aceste obiective folosind propriile forme și mijloace.

Adaptarea drepturilor naționale sub formă de armonizare s-a dovedit a fi o operație lungă și dificilă [1, pp. 100-103]. Cu atât mai lungă, cu cât trebuia să se bazeze pe studii pregătitoare de drept comparat; cu atât mai complexă, cu cât trebuia aplicată unui număr tot mai mare de regimuri juridice naționale diferite, dintre care multe nu conțin dispoziții care reglementează anumite aspecte.

Elaborarea directivelor, care, în loc să se limiteze la prescrierea rezultatului obținut, au stabilit reguli de bază din ce în ce mai detaliate și mai precise, este cea mai generală manifestare.

Al treilea tip de relație între legislația UE și legislația națională este coordonarea. Spre deosebire de armonizare, în care normele naționale sunt supuse obiectivelor și deciziilor dreptului UE, coordonarea presupune că normele naționale rămân neschimbate, iar intervenția dreptului Uniunii are loc numai în ceea ce privește consecințele acestora. Acest lucru se face în interesul persoanelor juridice care pot intra sub incidența mai multor sisteme de reglementare.

Legea UE este o lege suplimentară care trebuie să aibă caracteristici de lege unificată pentru a-și îndeplini funcțiile. Este important să subliniem că aceasta nu înlocuiește regulile naționale, ci le menține integritatea, acționând ca un factor ce reduce diferențele în consecințele lor.

Ultimul tip de relații îl reprezintă situația de vecinătate. Aceasta se datorează faptului că două ordini juridice – europeană și națională – reglementează aceleași obiecte, dar pornind de la premise diferite și cu scopuri diferite, care nu pot fi complet identice. Fiecare dintre acestea își îndeplinește propria funcție.

Un exemplu al acestei concepții poate fi legislația antimonopol a UE. În timp ce Tratatul de la Roma, în articolele 85 și 86, stabilește dreptul concurenței al UE, aplicat companiilor și dezvoltat prin acte normative, scopul său nu este de a înlocui prevederile naționale care, de asemenea, reglementează concurența.

Așa cum se întâmplă în toate situațiile similare, aceasta poate genera dificultăți.

Competențele în domeniul legislației și, în consecință, în domeniul unificării și implementării ordinii juridice europene comune aparțin Parlamentului European, care nu dispune de atribuțiile parlamentelor naționale în problemele legislative [2, p. 153]. Parlamentul European nu are nici dreptul de a iniția, atribuit Comisiei, nici dreptul de a lua decizii, atribuit Consiliului.

Competența Parlamentului pentru luarea deciziilor comune, declarată fundamentală (în conformitate cu articolul 36 din proiectul de tratat al Uniunii Europene), există numai în domeniul „modificărilor mici” (articolul 95 din Tratatul ECUS). În caz contrar, Parlamentul are doar statutul de legislație asociată în diferite grade.

1. Procedura de consultare: consultările sunt obligatorii. Consiliului îi este interzis să ia o decizie fără o concluzie preliminară a Parlamentului cu privire la propunerea Comisiei de către Parlament. Acest lucru este prevăzut de texte într-un anumit număr de circumstanțe (19 articole din Tratatul CEE, 12 din Tratatul EAEU (*Uniunea Economică Eurasiatică*) și 8 din SEE), uneori de natură foarte generală.

2. Procedura acordului: rezultă din Declarația comună a Adunării, a Consiliului și a Comisiei, adoptată la 4 martie 1975, în îndeplinirea angajamentelor Summitului de la Paris din decembrie 1974. În virtutea acestui acord, a fost stabilită o procedură de înțelegere reciprocă între Adunare și Consiliu cu participarea activă a Comisiei, care se deschide atunci când Consiliul vede o limitare a avizului adoptat de Adunare și Comisia de înțelegere reciprocă, formată din membri ai Consiliului și o delegație a Parlamentului, condusă de președintele său, la care participă și Comisia, încearcă să ajungă la un acord între cele două instituții, în principiu, cu o întârziere de 3 luni. Atunci când punctele de vedere ale celor două instituții sunt suficient de apropiate, Parlamentul ar trebui să facă o nouă propunere, iar Consiliul ar trebui să ia o decizie, acest mecanism fiind similar cu procedura Comisiei



mixte de paritate (Adunarea Națională – Senat) în sistemul francez. Procedura se aplică numai unei părți limitate a domeniului legislativ și, în practică, se deschide numai dacă fiecare dintre cele două părți și-a recunoscut aplicabilitatea.

3. Procedura de cooperare a fost introdusă în cadrul Actului Unic European (SEE) și este descrisă în prezent la alineatul (2) al articolului 149 din Tratatul privind Comunitatea Economică Europeană (CEE). Această procedură se referă la deciziile adoptate de Consiliu cu majoritate calificată în domeniul pieței interne, al politicii sociale, al solidarității economice și sociale, precum și al cercetării. Toate aceste aspecte sunt reglementate în detaliu de articolul 6 din Actul Unic European. Acesta permite Parlamentului European să aibă un impact direct asupra metodelor de luare a deciziilor prin intermediul Consiliului, fără a afecta dreptul acestuia la o decizie finală și fără a aduce atingere rolului Comisiei.

Parlamentul European intră în procesul de adoptare a reglementărilor Comunității Europene în diferite moduri:

1. inițierea ofertelor;
2. efectuarea consultărilor;
3. participarea la procedura de aprobare;
4. participarea la procedura de cooperare (articolul 189a din Tratatul privind funcționarea Uniunii Europene);
5. procesul decizional în cadrul unei proceduri comune (articolul 189b din Tratatul privind funcționarea Uniunii Europene);
6. informarea cu privire la conformitate.

În procesul de formare și adoptare a legislației în UE, mai multe instituții au roluri și posibilități unice de a propune noi inițiative. Acest lucru are ca scop asigurarea unui proces de luare a deciziilor democratic și echilibrat în Uniunea Europeană.

a) Inițiativa legislativă

În foarte rare cazuri, Consiliul este împuternicit să ia decizii în absența unei propuneri din partea Comisiei, cu condiția ca majoritatea calificată necesară adoptării actului să fie susținută de cel puțin 11 state membre (articolul 148, alineatul 2 din Tratatul privind Uniunea Europeană).

b) Consultările Parlamentului European

Această procedură reprezintă una dintre procedurile legislative speciale utilizate în Uniunea Europeană. Cuvântul „consultare” se referă la rolul pe care îl joacă în această procedură Parlamentul European. Un aspect obligatoriu este desfășurarea consultărilor cu Parlamentul European. Rolul legislativ aparține exclusiv Consiliului de Miniștri. Parlamentul European emite un aviz cu majoritatea voturilor asupra propunerii. De asemenea, Comisia poate avansa amendamente la propunere [8, pp. 9-12]. Consiliul de Miniștri poate să aprobe sau să respingă propunerea. Consiliul nu este obligat să urmeze recomandările Parlamentului European și amendamentele propuse, dacă acestea au fost prezentate. Consiliul ia o decizie asupra propunerii cu majoritate calificată sau unanim, în funcție de domeniul de politică.

Participarea Parlamentului European la procesul legislativ este o manifestare a principiului cooperării între ramurile puterii, care domină în exercitarea funcției legislative în cadrul sistemului constituțional al Comunității.

c) Adoptarea legii

Propunerea Comisiei, eventual modificată pentru a se ține seama de poziția Parlamentului (uneori și de opinia Comitetului Economic și Social și/sau a Comitetului Regiunilor), este examinată de Comitetul Reprezentanților Permanenți și adoptată de Consiliu în conformitate cu regulile de vot prevăzute în tratatul care constituie baza legală a actului.

d) Procedurile legislative menite să consolideze rolul Parlamentului European

- Procedura de consultare. Extinderea competențelor bugetare ale Parlamentului European presupune că acesta trebuie să fie mai intens implicat în elaborarea actelor legislative care pot influența competențele bugetare.



- Procedura de cooperare. Această procedură a fost introdusă prin intermediul AEM. În absența unui acord între statele membre privind acordarea de competențe reale Parlamentului European pentru luarea deciziilor comune, autorii AEM și-au imaginat o procedură specială de cooperare care să consolideze semnificativ rolul Parlamentului European în luarea anumitor decizii, lăsând ultimul cuvânt Consiliului.

- Contribuția Tratatului UE și a Tratatului de la Amsterdam: în primul rând, Tratatul de la Maastricht a adoptat dispozițiile alineatului (2) al articolului 149 din CEE, astfel cum a fost modificat de SEE în noul articol 189C, adică sprijină procedura de cooperare prin integrarea în dispozițiile generale privind procesul decizional legislativ. Singura inovație în ceea ce privește procedura este permisiunea Comisiei de a-și modifica propunerea în decursul procedurii [10, p. 530].

- Procedura de aprobare introdusă prin Actul Unic European în domeniul relațiilor externe ale Comunității a fost extinsă, în special în cadrul Tratatului UE, la o serie de domenii noi care intră în competența activității legislative a Comunității. De exemplu, chestiunile legate de cetățenie (art. 8A), competențele organismelor Uniunii Monetare (art. 105 din RR 6 și 106-5), acțiunile fondurilor structurale și ale fondului de convergență (articolul 130 D), precum și instituirea unei proceduri electorale unice (art. 138-3) necesită acum aprobarea Parlamentului European pentru deciziile Consiliului.

Aceste ipoteze sunt eliminate prin Tratatul de la Amsterdam, care înlocuiește avizul privind procesul decizional comun de la articolul 251 (fostul art. 189B) al UE. Astfel, procedura de aprobare există doar în chestiuni constituționale sau în încheierea acordurilor de asociere.

- Procedura deciziei comune: procedura prevăzută la articolul 189B, introdusă prin Tratatul privind Uniunea Europeană, se califică drept procedură de decizie comună, deși nu este specificată în mod explicit în tratat. Se aplică într-o serie de domenii relativ eterogene, inclusiv unor ramuri de competență clasică, cum ar fi libera circulație a lucrătorilor, a serviciilor sau piața comună, în care decizia a fost luată anterior în conformitate cu procedura de cooperare, sau în domenii precum cercetarea ori mediul, în care intervenția Parlamentului European s-a limitat la o simplă consultare, precum și în domenii noi: educație, cultură, asistență medicală, consumatori, rețele transeuropene.

Deși inițial domeniul de aplicare a procedurii descrise la articolul 189B ar fi putut părea limitat, este important de menționat că, în conformitate cu articolul 189B. C. 8, această procedură poate fi extinsă la noi domenii de activitate comunitară în cazul unei revizuirii prevăzute de „clauza de întâlnire” la articolul N. C. 2 din Tratatul UE.

Această modificare a fost realizată datorită Tratatului de la Amsterdam, care a condus dacă nu chiar la o acoperire completă, cel puțin la o extindere semnificativă a domeniului de aplicare a procedurii comune de luare a deciziilor.

Pe de o parte, o serie de aspecte cărora li s-au aplicat anterior proceduri de cooperare sau consimțământ și, mai rar, procedura de consultare vor intra în viitor sub procedura deciziei comune [6, pp. 82-84]. Pe de altă parte, procedura de luare a deciziilor în anumite domenii noi de competență ale Comunității, cum ar fi politica socială, sănătatea și politica veterinară, este reglementată de articolul 251 (articolul anterior 189B). Această schimbare reprezintă o dezvoltare treptată și stabilă a procedurilor legislative.

Procedura de adoptare în comun include una, două sau trei lecturi în cadrul Parlamentului European și al Consiliului și ar trebui să se încheie cu aprobarea aceluiași text final de către ambele instituții. În practică, ambele instituții încearcă să ajungă la un acord în prima lectură, folosind reuniuni dialog informale cu participarea Comisiei Europene.

Acest lucru este demonstrat și de faptul că documentele relevante aparțin Parlamentului și Consiliului sub semnătura președintelui interimar al Consiliului și a președintelui Parlamentului. Astfel, vorbim despre un salt calitativ în distribuția constituțională a funcțiilor în cadrul sistemului comunitar, chiar dacă eficacitatea reală a acestei proceduri în practică este afectată de complexitatea sa extremă.

Din acest motiv, Conferința Interguvernamentală a propus o serie de modificări care au fost reținute de Tratatul de la Amsterdam. În primul rând, legea va putea fi adoptată în prima lectură dacă



Parlamentul European nu formulează niciun amendament sau dacă, în cazul amendamentelor, Consiliul le adoptă în ansamblu.

Pe de altă parte, în lectura a doua, Parlamentul va putea respinge direct poziția comună, fără a fi necesară inserarea „intenției de respingere”, implicând convocarea unei comisii de conciliere. În cele din urmă, în a treia lectură, dacă Comitetul de conciliere nu poate ajunge la un text comun, care arată ca o „sesiune întârziată” dintr-un punct de vedere politic foarte dubios, acesta va fi respins.

Dacă aceste modificări pot fi considerate un progres incontestabil, ele încă nu par suficiente pentru a elimina opacitatea procedurii [5, p. 46].

Parlamentul European stabilește controlul politic asupra ordinii juridice europene ca model pentru aplicarea și adoptarea acesteia în statele europene care aderă la integrare.

Parlamentul European este primul atribut al puterii ordinii juridice europene. Această oportunitate, pe care o are Parlamentul European, se concretizează, în primul rând, în dezbateri organizate, cu prilejul cărora sunt chemate diverse organisme de acțiune pentru a-și susține activitățile și orientarea politică. Modul de lucru este fundamental. Fiecare discuție se încheie cu adoptarea unei rezoluții care stabilește poziția cu privire la o anumită problemă.

Parlamentul European, o instituție consultativă, poate trimite spre examinare orice problemă care, în opinia sa, este legată de activitățile și misiunile Comunităților, inclusiv cooperarea politică. Problemele sunt examinate în comisii, discutate în sesiunile plenare (dacă este necesar), Parlamentul își anunță poziția, adoptă rezoluția.

Instrumentul de control include, în același timp, întrebările pe care parlamentarii le pot adresa Comisiei în temeiul dreptului acordat de articolul 140 din Tratatul CEE. După formularea lor, sunt publicate atât întrebările, cât și răspunsurile.

Astăzi, dispozițiile generale privind dreptul Parlamentului de a vota o moțiune de cenzură față de Comisie sunt incluse în articolul 17, alineatul (8) din Tratatul UE și în articolul 234 din Tratatul UE. O astfel de decizie necesită o majoritate de două treimi a voturilor, reprezentând majoritatea membrilor Parlamentului. Un vot de neîncredere reușit duce la demisia Comisiei din calitatea de organism, inclusiv a vicepreședintelui Comisiei/Înaltului Reprezentant al Uniunii pentru Afaceri Externe și Politica de Securitate în ceea ce privește atribuțiile lor îndeplinite în cadrul Comisiei [3, p.13]. Până în prezent, Parlamentul a încercat fără succes, de mai multe ori, să utilizeze dispozițiile relevante ale tratatului și predecesorii lor pentru a demite Consiliul Comisiei.

De-a lungul timpului, nu numai că s-a amplificat statutul de control al Parlamentului, ci s-au extins și funcțiile sale tradiționale în domeniul sprijinului informațional. În acest context, a devenit o chestiune de principiu ca toate celelalte instituții comunitare să prezinte Parlamentului European rapoarte anuale privind progresele înregistrate în ce privește punerea în aplicare a politicii comunitare.

Extinderea atribuțiilor informaționale a condus la stabilirea unor noi relații interinstituționale, care întruchipează principiile stabilite în temelia sistemului instituțional al Comunității, inclusiv principiile de echilibrare și cooperare loială.

În practică, Parlamentul European și-a sporit controlul asupra Consiliului European în ceea ce privește dreptul de a obține informații.

În conformitate cu articolul D din Tratatul de la Maastricht, Consiliul European este obligat să prezinte Parlamentului un raport după fiecare dintre reuniunile sale, precum și un raport anual scris privind progresul Uniunii. În conformitate cu articolul 103, alineatul (4) din Tratatul UE, președintele Consiliului și președintele Comisiei sunt obligați să prezinte Parlamentului rapoarte privind rezultatele supravegherii multilaterale prevăzute în cadrul noii politici economice. Potrivit articolului 130B, alineatul (3) din Tratatul UE, Comisia este obligată să prezinte Parlamentului, Consiliului, Comitetului Economic și Social și Comitetului Regiunilor un raport privind progresele înregistrate în realizarea echilibrului economic și social [7, pp. 211-213]. În plus, obligația Președintelui Băncii Centrale Europene de a prezenta un raport privind activitățile sistemului european al Băncilor Centrale este, de asemenea, inclusă în competențele de informare. Chiar și președintele Consiliului poate fi invitat la comisia parlamentară relevantă pentru a oferi explicații în cazul în care Consiliul a publicat recomandări privind politica economică.



Interpelările sunt un instrument tradițional de control parlamentar și sunt reglementate de articolul 23 din Tratatul CEE, articolul 110 din Tratatul CEEA și de articolul 140, alineatul (3) din Tratatul UE. Regulamentul intern al Parlamentului (Capitolul IV, secțiunea 2) stabilește trei categorii de interpelări: în scris, oral fără dezbateri și oral cu dezbateri. Membrii Parlamentului pot trimite cereri scrise Comisiei sau, în funcție de circumstanțe, Consiliului cu privire la orice problemă legată de Uniunea Europeană și de statele sale membre. La aceste întrebări trebuie să se răspundă în conformitate cu anumite proceduri în termen de la patru până la șase luni. Cererile deputaților sunt trimise Secretariatului General al Comisiei, care le distribuie departamentelor relevante. Răspunsurile sunt transmise în scris și publicate în Jurnalul Oficial al Uniunii Europene.

Cererile orale fără dezbateri pot fi făcute de deputații comisiei sau, în funcție de circumstanțe, de Consiliu. Interpelările sunt prezentate mai întâi Președintelui Parlamentului, care le expediază Biroului extins pentru aprobare, iar acesta decide cu privire la forma apelului lor, transmițându-le deputatului, Consiliului sau Comisiei. Votul asigură caracterul democratic al procesului decizional în Uniunea Europeană. Votarea noilor propuneri legislative are loc în cadrul sesiunilor plenare.

Cererile orale cu dezbateri sunt primite de la comisiile parlamentare, grupurile politice sau grupurile de cel puțin cinci deputați. Acestea sunt transmise Președintelui Parlamentului, analizate de Biroul extins și apoi trimise organismului corespunzător. La întrebări va răspunde un reprezentant al instituției relevante.

Pe parcursul dezvoltării construcției sociale, o atenție deosebită s-a acordat promovării și respectării drepturilor omului, dezvoltării metodelor și mijloacelor de asigurare a acestor drepturi pe baza instrumentelor juridice internaționale comune, în special a celor europene.

Datorită Tratatului de la Maastricht, două noi drepturi sunt recunoscute pentru cetățenii Uniunii, și anume: dreptul de a depune petiții și dreptul de a contacta un intermediar. În conformitate cu articolul 8D, alineatul 1 din Tratatul UE, orice cetățean al Uniunii are dreptul de a depune o petiție la Parlamentul European în conformitate cu dispozițiile articolului 138D. Dispozițiile articolului 138D stabilesc că orice cetățean al Uniunii, precum și orice persoană fizică sau juridică având reședința sau domiciliul într-un stat membru are dreptul de a depune o petiție individual sau împreună cu alți cetățeni la Parlamentul European pentru o problemă direct legată de sfera de activitate a Comunității.

Solicitantul prezintă Parlamentului un raport anual privind rezultatele investigațiilor. Numirea unui mediator se face după fiecare alegere a Parlamentului European pentru un mandat corespunzător organului său legislativ, iar mandatul acestuia poate fi prelungit [9, p.158]. Un mediator poate fi revocat din funcție de o instanță la cererea Parlamentului dacă nu respectă condițiile necesare îndeplinirii funcțiilor sale sau dacă comite încălcări grave. Mediatorul acționează independent, fără interferențe din partea altor organisme. În timpul îndeplinirii atribuțiilor sale, el nu poate desfășura alte activități profesionale plătite sau neplătite.

Statutul și condițiile funcțiilor mediatorului sunt stabilite de Parlament, ținându-se cont de încheierea Comisiei și cu aprobarea Consiliului cu majoritate calificată.

Un alt mijloc de a sublinia puterile de control ale Parlamentului este crearea unei comisii temporare de anchetă, reglementată de articolul 138C. Pe parcursul activităților sale, Parlamentul European, la cererea unui sfert din membrii săi, poate înființa o comisie temporară pentru a investiga acuzațiile de infracțiuni sau de gestionare defectuoasă în aplicarea dreptului comunitar european. Acest lucru nu interferează cu competențele altor instituții sau organizații, cu excepția cazurilor în care faptele relevante sunt deja cercetate de autoritatea jurisdicțională, iar în ce privește activitatea de procedură, nu au fost încă finalizate.

Comisia investighează cazuri individuale strict definite în ceea ce privește acuzațiile de infracțiuni și examinarea necorespunzătoare a cererilor din legislația comunitară, iar existența sa se încheie cu prezentarea unui raport în baza concluziilor anchetei.

Dispoziția legală nu face nicio referire la calitatea subiectului activ, astfel încât se poate presupune că taxele pot fi achitate de orice cetățean al Uniunii, persoane fizice sau juridice, instituții comunitare sau state membre.



Comisia Europeană depune eforturi constante pentru a consolida drepturile cetățenilor în cadrul procedurilor penale. La elaborarea și punerea în aplicare a legislației penale a UE, este important să se găsească un echilibru corect între măsuri, pe de o parte, protejarea drepturilor persoanelor suspectate și acuzate și, pe de altă parte, contribuția la investigarea și urmărirea penală a infracțiunilor.

Un rol important în exercitarea dreptului la apel joacă un intermediar numit de Parlament și autorizat să primească plângeri de la persoanele menționate mai sus, care sunt asociate cu cazuri de gestionare defectuoasă în acțiunile instituțiilor sau organelor publice, cu excepția Primei Instanțe, în exercitarea funcțiilor lor jurisdicționale. Cu toate acestea, considerăm că gestionarea deficitară a fondurilor bugetare, fără îndoială, este competența specială a camerei contabile fixate în această chestiune.

Potrivit misiunii sale, mediatorul inițiază o anchetă în cazurile pe care le consideră justificate, fie din proprie inițiativă, fie pe baza plângerilor depuse direct (conform articolului 8D, alineatul (2)) sau prin intermediul unui deputat. Acest lucru are loc cu excepția situațiilor în care faptele au fost deja examinate în instanță. În consecință, mediatorul poate iniția o anchetă din oficiu, dar se presupune că informațiile care permit începerea procedurii au o sursă publică oficială sau au fost descoperite de mediator prin propriile observații ale cazurilor de gestionare nelocală [4, pp. 156-158]. Pe de altă parte, dacă petiționarii sunt implicați în proces, pot exista două tipuri de interacțiune între mediator și petiționari: directă, atunci când ei depun o cerere personală, și indirectă, prin intervenția unui membru al Parlamentului European. Textul legal nu specifică faptul că acest mediator trebuie să fie un compatriot al solicitantului sau un coabitant, ceea ce ne permite să concluzionăm că orice membru al Parlamentului poate fi mediator. Astfel, mediatorii reprezintă nu doar propriile popoare, așa cum se menționează oficial în articolul 147 din Tratatul UE.

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ВИКТИМОЛОГИЧЕСКИЙ АСПЕКТ ФЕНОМЕНА ПРЕСТУПЛЕНИЙ ПРОТИВ ИНОСТРАННЫХ ГРАЖДАН НА ТЕРРИТОРИИ РЕСПУБЛИКИ МОЛДОВА

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Abstract. In real life, we cannot understand the psychology of criminal without studying in detail the personality, psychology and sociology of the (potential) crime victim, i.e. without exploring the victimological aspect of the criminal phenomenon. The criminal, the victim and the situation are so closely interconnected that they form a single system. In this article authors tried to consider the victimological aspect of the phenomenon of crimes against various types of persons at the present stage, especially against foreign citizens on the territory of the Republic of Moldova, because there are prerequisites for the spread of this negative phenomenon and the growth of crimes on our territory against the backdrop of military events in Ukraine.

Keywords: victimology, victim-foreigner, victim-criminal, victimization of citizens, protection of citizens, cyber bullying, human trafficking.

Впервые термин *виктимология* был употреблен В. Mendelsohn [10, с. 239] на конференции психиатров в 1947 году в Бухаресте (в рапорте «Новые биопсихосоциальные горизонты: виктимология»), после чего последовало указание на необходимость утверждения новой науки о жертве в разделе криминологии.

Научная концепция «*жертвы*» была опубликована в очерке «Преступник и его жертва» в 1948 году ученым Hans von Henting. Позже в 1949 году психолог W. Werthau в работе «The show of violence»/«Образ насилия» также настаивал на необходимости трактовки субъекта преступления – жертвы преступления наряду с преступником.

В установлении виктимологии как учения участвовали и другие криминологи – P. Cornel, H. Ellenberger, S. Schafer, M. Wolfgang, B. Stephen, L. Leszek, J.H. Reiman [12, с. 378-381] и др.

Но считается основоположником *виктимологии* – науки о жертве преступления Л.В. Франк (в 70-х гг.). Исследования, проведенные как зарубежными, так и отечественными учеными в рамках *виктимологического направления криминологии*, убедительно показали, что



без учета роли *жертвы* в ситуации правонарушения невозможно в полной мере понять объективные причины и условия, способствовавшие его совершению. Виктимность (от лат. *victima* – жертва) – склонность, повышенная способность (риск) человека становиться при определенных ситуациях жертвой преступления. *Массовая виктимность* – это исторически изменчивое социальное явление, отражающее состояние общества, связанное с преступностью и совокупностью жертв и актов причинения вреда индивидам на определенной территории и в определенный отрезок времени. В свою очередь, под *виктимизацией* мы понимаем процесс превращения человека и/или общности людей в жертв преступлений.

Преступник, жертва и ситуация столь тесно связаны между собой, что образуют единую *систему*, которая может существовать только при наличии всех названных компонентов. Таким образом, произошла существенная трансформация взглядов на анализ причин преступлений, было четко показано, что совершение преступления – это динамичный процесс, в котором может происходить весьма интенсивное взаимодействие преступника и его жертвы, причем роль жертвы в ходе «криминальной драмы» в данной виктимологической схеме может быть весьма существенной. Названные выше положения привели к тому, что с середины 60-х гг. XX в. началось становление и развитие *виктимологии* как относительно самостоятельной научной дисциплины в рамках криминологии. Речь в данном случае идет не о виктимологии вообще, а о ее криминальном направлении, изучающем только тех, кто стал жертвой в результате совершения преступления, т.е. о криминальной виктимологии.

Самостоятельность *криминальной виктимологии* обусловлена ее специфичными задачами, функциями, ее предметом, включающим: личностные характеристики потерпевших от преступных посягательств; их поведенческие характеристики до, во время и после совершения преступления; виктимность как объективное биофизиологическое и социально-психологическое свойство потерпевших; виктимизацию как процесс превращения лица в жертву преступления; виктимогенные факторы, способствующие становлению жертвы преступления с учетом характеристик ее личности и поведения; отношения и связи между жертвой и преступником; виктимологическую профилактику; прогнозирование *виктимности* и *виктимизации*. Ее основной задачей является изучение личности и поведения жертвы, исследование виктимности, виктимизации и виктимогенных факторов, позволяющее по-новому взглянуть на преступность, ее причины, профилактику преступлений. В результате появляется возможность качественнее и эффективнее раскрывать и расследовать преступления, а также устанавливать их полную картину, объективно оценивать вину преступника с учетом роли личности и поведения жертвы преступления. Рассмотрение тех аспектов личности и поведения потерпевшего, которые играют существенную роль в генезисе преступления и имеют криминологическую значимость, предполагает анализ основных понятий криминальной виктимологии: «*жертва преступления*», «*виктимность*» и «*виктимизация*». В нашем исследовании мы рассматриваем понятие «*жертва-иностранец*», что обозначает *иностранного гражданина, ставшего жертвой различных преступлений уголовного характера (например, торговля людьми, сексуальная эксплуатация, насилие в семье, пытки, геноцид и мн.др.)*.

Долгое время правоохранительные органы были ориентированы односторонне на работу «вокруг» преступления и преступника, без должного внимания к жертве преступления. Как следствие до сих пор нет полного учета потерпевших, а, следовательно, не изучаются их личностные особенности, от случая к случаю проводятся мероприятия виктимологической профилактики, и вообще фигура потерпевшего нередко рассматривается не более как источник информации о преступнике и преступлении, как участник (сторона) уголовно-процессуальных отношений.

Законы многих стран (и отечественное законодательство Республики Молдова здесь не исключение) сформулированы таким образом, что сам факт страдания людей остается как бы незамеченным. Закон говорит о жертвах и потерпевших, которым прямо причинен моральный, физический или материальный вред, однако не признает таковыми пострадавших. Более того,

официально признанные потерпевшими и непризнанные таковыми продолжают страдать после окончания преступления в процессе дознания, следствия, судебного разбирательства из-за несовершенства законов, неправильных действий следственных органов и судов, органов, исполняющих наказания, не говоря уже о случаях прямого нарушения закона и злоупотребления властью.

Неестественность такого положения побудила мировое сообщество в лице стран-участниц Генеральной ассамблеи ООН принять специальную *Декларацию основных принципов правосудия для жертв преступлений и злоупотреблений властью*. В ней впервые на международном уровне сформулировано понятие жертвы преступления. Согласно данной *Декларации жертвами преступлений* признаются лица, которым индивидуально либо коллективно был причинен вред, включая телесные повреждения или моральный ущерб или существенное ущемление их основных прав, в результате действия или бездействия, нарушающего национальные уголовные законы государств-участников, а также законы, запрещающие злоупотребление властью.

Жертвой преступления может считаться то или иное лицо, независимо от родственных отношений между преступником и жертвой. В соответствующих случаях термин «жертва» включает и близких родственников или иждивенцев непосредственной жертвы, а также лиц, которым был причинен ущерб при попытке оказать помощь жертве.

Личность жертв *миграционных преступлений (миграционная преступность)* изучила Mariska N.J. van der Linden [9, с. 55-60].

Большую практическую помощь в познании личности жертв преступлений оказывает разработанная в *криминальной виктимологии* классификация жертв и потерпевших в зависимости от характера преступлений, причинивших вред. В основу этой классификации, как правило, положены составы преступлений, объединенные общим объектом (например, потерпевшие от преступлений против собственности). Вместе с тем целесообразно было провести исследования потерпевших и жертв от конкретных видов преступлений – карманных краж, грабежей и разбойных нападений, мошенничества, изнасилований, убийств. Важное значение имеет также классификация потерпевших в зависимости от особенностей их личности (психофизических, нравственно-психологических, социально-ролевых).

Итак, с учетом психофизических особенностей исследование потерпевших и *жертв-иностранцев* позволило нам выделить четыре группы: *несовершеннолетние дети, женщины и девушки, лица пожилого возраста, мужчины*.

Существует множество классификаций и типологий жертв [12, с.388]. Рассмотрим несколько основных *критериев классификации жертв*:

- *жертвы по преступной категории,*
- *жертвы по уровню соучастия и ответственности,*
- *жертвы по психологическому, биологическому, социальному критерию.*

По *преступной категории* все жертвы условно делятся на:

- *жертв преступлений телесного повреждения,*
- *жертв преступлений изнасилований,*
- *жертв разбойных преступлений.*

По *уровню вовлечения и ответственности жертв (роли в уголовной паре/виктимологической схеме)*, выделяются следующие типологии и классификации (согласно Mendelsohn, Fattah, Lamborn, Shely):

- *активный преступник – пассивная жертва,*
- *активный преступник – полуактивная жертва,*
- *активный преступник – активная жертва,*
- *полупассивный преступник – активная жертва,*
- *пассивный преступник – активная жертва.*

«Отец» виктимологии Hans von Henting сделал следующую классификацию:

- *малолетние жертвы (пример, изнасилование),*



- жертвы-женщины (преступления половой сферы, торговля людьми),
- взрослые жертвы (мошенничество, разбой, убийство),
- жертвы, употребляющие наркотики и алкоголь (соответствующие статьи уголовного закона),
- трудящиеся-мигранты, иммигранты, этнические и национальные меньшинства, беженцы (они также часто виктимизированы по причине вынужденного нахождения в чужой стране, отсутствия необходимого уровня дохода, невозможности доступа к ресурсам/денежным потокам, недостатка финансов на новой родине, незнания государственного языка, традиций коренного населения, вооруженных конфликтов, враждебной обстановки со стороны определенной нации, этнической группы, др.),
- лица со сниженной интеллигенцией (проблема врожденная, но связана и с воспитанием, наивность, чрезмерная доверчивость, несознательность),
- временно подавленные лица (одинокие люди, «с разбитым сердцем», после кризиса, развода, это жертвы мошенников, воров, насильников),
- лица, склонные к постоянному приобретению благ (жадность, алчность, корыстолюбие, отсюда коррупцирование как пассивное, так и активное, отмывание денег, неуплата налогов, сутенерство, устраивание пари, др.),
- развращенные, распущенные лица (сами подвергаются часто опасности физической расправы, сексуальных домогательств, изнасилования, др.),
- лица, заблокированные долгами (деловитые руководители/должностные лица и лжебанкиры, нередко становятся жертвами мошенничества).

Анализ статистических данных свидетельствует о том, что дерзкое, девиантное, провокационно-преступное и аморальное поведение потерпевших лиц и жертв достаточно часто способствуют совершению преступлений против жертв-иностранцев. Так, например, после наплыва украинских граждан, беженцев из Украины на территорию Молдовы, после масштабного вторжения России в Украину в феврале 2022 года, в органы полиции участились обращения молдавских граждан с жалобами на особую дерзость, наглость, грубость, хулиганские действия украинцев наряду с национальной пропагандой и неоднозначными призывами к окружающим. В данной связи мы рекомендуем местным жителям быть намного добрее и терпимее к представителям другой нации и культуры, в особенности к украинским беженцам (их психологическое состояние на грани обусловлено тем шоком и ужасом, который они испытали в утро 24 февраля 2022 года, а также потерей имущества и лишением экономических средств к существованию, смертью близких и родных из-за войны, разлукой с мужьями-сыновьями по причине мобилизации, фактов мародерства российских военных на украинских землях, вынужденной эвакуацией и бегством, общей нестабильностью, незащищенностью и бесперспективностью своего положения как гражданина в своей стране, так и в других регионах Европы). Следует толерантно относиться друг к другу, к представителям всем национальных меньшинств и этнических групп, проживающих на территории РМ, не допускать умышленных действий, публичных призывов, в том числе через печатные и электронные средства массовой информации, направленные на разжигание национальной, этнической, расовой и/или религиозной вражды, дифференциации или розни, на унижение национальной чести и достоинства, а равно прямого или косвенного ограничения прав либо установления прямых или косвенных преимуществ граждан в зависимости от национальной, этнической, расовой или религиозной принадлежности (ст. 346 УК РМ). Также следует принять срочные меры по устранению любых видов дискриминации иностранных граждан на территории нашего государства, явлений кибербуллинга [13, с. 183-186], сталкинга, моббинга [14, с. 399-407], боссинга и др.

Так, вносят ясность современные изыскания молдавского юриста, специализирующегося в области уголовного права и криминологии, Л. Гырлы. Речь идет об исследовании таких современных негативных феноменов как *военная пропаганда, деструктивная пропаганда идей экстремистского толка, медиапропаганда, словесный экстремизм в*



*медиапространстве и влияние Интернета на ориентацию молодежи, вербовка новых сторонников [15, с. 278-288], пропаганда войны (ст. 140 УК РМ), нарушение прав граждан пропагандой фашизма, расизма и ксенофобии и отрицанием Холокоста (ст.176.1 УК РМ); подстрекательство в террористических целях или публичное оправдание терроризма [16, с. 98] (ст.279.2 УК РМ) фанатизм, экстремизм и терроризм, др. К преступлениям экстремистского, военного и, следовательно, террористического характера, совершаемых посредством активной пропаганды, Л.Г. Гырла относит лишь небольшой список статей уголовного закона. Но мы посчитали, что целесообразно дополнить и расширить данный перечень преступлений, предусмотренных ст.140, ст.176.1, ст.278, ст.279, ст. 279.2, ст.280, ст.281, ст. 282-284, ст.287, ст.295.2, ст.341, ст.346-347 УК РМ [17, с. 18]. С другой стороны, важно рассмотреть и научные статьи наших авторов касаясь беженцев – это работа юриста Чебан К. [3, с. 160-165] и др., касательно вопроса отношений *жертва-агрессор* – это статья Морару В. и Самойленко В. [11, с. 171-177].*

Велико виктимологическое и криминологическое значение, экспертная оценка экспертов-психологов способов манипулирования, пропаганды (например, пропаганда войны, добровольной сдачи в плен), а также всех разновидностей экстремизма, в том числе распространенного «словесного экстремизма» как целенаправленного акта публичного воздействия и передачи негативной информации гражданам [16, с. 91-101].

Высокая *виктимогенность* наблюдается в преступлениях против жизни и здоровья личности, против мира и безопасности человечества, военных преступлениях, преступлениях, относящихся к половой сфере, а также в автотранспортных преступлениях. Особенно часто виктимогенность проявлена в мошенничествах, в бытовых преступлениях против семьи и несовершеннолетних, против личности в целом.

Виктимогенность классифицируется следующим образом:

- а) по возрасту,
- б) по полу,
- в) по профессиональной деятельности,
- г) по психическому здоровью,
- д) по причине алкоголизма,
- е) по объективным истокам,
- ж) по субъективным истокам.

Данные феномены рассмотрены и подробно изложены в исследованиях и учебниках современных молдавских авторов, криминологов – И. Чобану и И. Запорожан [12, с. 382-389].

Смотря сквозь призму словарей и уголовного законодательства РМ, мы констатируем, что до настоящего времени нет четкой формулировки понятия «жертва» [24, с. 156]. Те толкования, которые приводятся в словарях, затрагивают ту сторону понятия «жертва», которая отражает различные ритуалы жертвоприношения. Это понятие используется довольно широко – в быту, в *виктимологии*, в юриспруденции. Однако до сих пор не выработано единого толкования этого термина. В различных отраслях знаний, научных школах в этот термин вкладывается не совсем одинаковый смысл. Имеется ряд определений этого понятия в юриспруденции, выделяют *жертвы автомобильной катастрофы, мести, преступления, инвентуальную, латентную жертву, потенциальную жертву* и др. Существуют также понятия *религиозной жертвы, жертвы политической, идеологической борьбы, экономической жертвы, жертвы обмана, шантажа* и т.д. И это далеко не полный список конкретных частных определений понятия «жертва». Нельзя говорить, что имеющиеся понятия жертвы неверны. Но базовые понятия, на которых строится содержание данного термина, различны. Это понятие неоднозначно, оно многокомпонентно, и в каждом конкретном случае в качестве основных признаков обычно берется тот или иной компонент, зачастую при этом не учитывая все признаки вместе. Именно в этом и состоят основные противоречия в толковании различных понятий жертвы. А это, в свою очередь, создает



серьезную путаницу в понимании семантики термина. Не всегда было так, что в любом случае пострадавший приобретал *статус жертвы*.

Интересный подход к объяснению причин неудач людей изложен американскими психологами М. Джеймсом и Д. Джонгвардом. Согласно этой теории все люди условно разбиты на два класса – 1) *выигрывающих* и 2) *проигрывающих*.

Дж. Рейнуотер считает, что каждый человек в своей жизни занимается самопрограммированием. Иными словами, человек вполне сознательно и самостоятельно повышает свою *виктимность*, по причине своей мнительности, а также из-за неудач и проблем в школе, на фоне неблагополучной семьи и трудного детства. Для более глубокого понимания семантики термина «жертва» необходимо выделить основные базовые положения, на основе которых и описать возможные варианты самого понятия «жертвы». Во всех случаях, когда употребляется термин «жертва» или жертвование чем-либо, всегда имеется в виду потеря. *Жертва*, как известно, всегда связана с потерей чего-либо важного, ценного, личного (это могут быть материальные, физические, духовные и другие ценности). Человек всегда взаимодействует со средой его пребывания, природой, другими людьми.

Понятие «*агрессия*» обычно употребляется для описания каких-либо активных, атакующих, разрушающих действий человека, а «*агрессивность*», как справедливо отмечает Ю.М. Антонян, присутствует во всех сферах жизни и функционирует на различных общественных и психологических уровнях, принимая при этом самые различные формы, представляя идеологические и социально-психологические аспекты.

К биологическому относятся подходы, разработанные криминологами Ч.Лаброзо, Э.Ферри, Р.Гарофалло. суть этого подхода заключается в том, что *агрессивность* изначально (врожденно, генетически) присуща отдельным категориям людей и проявляется в их поведении с большей степенью вероятности.

Созданная З.Фрейдом теория влечения к смерти [25, с. 78] как противоположность влечения к Эросу [26, с. 125], к жизни предполагает, что инстинкт смерти направлен против самого живого организма и потому является инстинктом либо саморазрушения, либо разрушения другого индивида. К социальному подходу относятся теория социального научения, предложенная Бандурой. Например, в юриспруденции, международном праве, социологии *агрессия* – это понятие, которое охватывает любое незаконное, с точки зрения Устава ООН, применение вооруженной силы одним государством против суверенитета, территориальной неприкосновенности или политической независимости другого государства или народа/нации [6, с. 10]. Рассматривая жертву как часть общественных отношений, можно отметить, что существует определенный уровень защищенности пострадавшей стороны, который носит конкретное социально – средовое наполнение. Жертва имеет какие-либо психические, физические возможности для своей защиты. Кроме этого, общество стремится всеми законными способами защитить своих граждан от всевозможных преступных посягательств. Таким образом, обхват защищенности личности (взаимодействующей стороны) можно разделить на 2 следующих вида:



Таблица 1. Ортогональные параметры (независимые характеристики) защищенности личности от возможного проявления преступного феномена в поле системообразующих отношений [24, с.65]

Социальная (общественно-государственная) защищенность от преступных посягательств	Психофизическая (индивидуальная, личностная) защищенность от преступных посягательств	Соотношение степени (%) противостояния личности преступным посягательствам
Профессиональная, правовая и юридическая защита граждан (институт адвокатуры, полиция, другие экстренные органы защиты и правовые институты) от преступных посягательств и природных катаклизмов, наносящих непоправимый вред	Инстинкты самосохранения человека, врожденные механизмы адаптации к внешней среде, защиты от негативных влияний и воздействий извне. Физическое здоровье, спортивная подготовка, свойства нервной системы	Примерно у 70 % населения нет ярко выраженных отклонений в системе защищенности от преступных посягательств, у 15 % - отмечается повышенный уровень защищенности по двум параметрам, лишь у 2 % - Максимально повышен уровень внутренней и внешней защиты, остальные 13 % - не в состоянии успешно и быстро реагировать и противостоять вовлечению в различные акты преступления

Психологические и медицинские исследования при анализе статистики показали, что в общем наблюдается естественный закон распределения параметров личности по психическим и физическим возможностям (см. таблицу выше). Часто индивиды намеренно искажают информацию о себе и окружающих, чтоб чувствовать себя более защищено и выше по статусу, в социальной иерархии. Так, например, мы зачастую наблюдаем, что преступник «повышает уровень своей защищенности» в целях сокрытия факта преступления, возможного разоблачения и во избежание наказания, с помощью обмана, актерской игры, искажения информации о себе и неточных биографических данных, иное. Хотелось бы остановиться еще на исследовании пяти известных форм *отношений «жертва-преступник»*. Данные изыскания представлены в таблице ниже.

Таблица 2. Основные формы отношений «жертва-преступник»

Тип формы отношений	Описание формы	Степень вины и провокационного поведения жертвы	Примеры преступлений
1. Коменсальные отношения	Одна сторона получает пользу, другая – абсолютно безразлична	Присутствует преднамеренное поведение и доля вины со стороны жертвы. Например, провокация на сексуальную близость. Преступник не всегда озабочен исходом отношений, возможными последствиями	Вымогательство, шантаж, сексуальные домогательства, изнасилование



2.Конкурентные отношения	Обе стороны одинаково наносят вред друг другу	Подтверждается степень провокации жертвы. Взаимная неприязнь, агрессия с обеих сторон, непосредственное взаимодействие сторон. Как результат, агрессивная оборона жертвы, словесная перепалка жертвы с преступником может спровоцировать немедленное уничтожение одной из сторон (чаще, самой жертвы)	Убийство, грабеж, разбой, изнасилование, захват заложника, террористический акт
3.Аменсальные отношения.	Одна сторона наносит вред, другая – абсолютно безразлична. Иногда вред наносит жертва, а не преступник (по причине перенесенного акта насилия, свежих воспоминаний изнасилования)	Часто наблюдается у женщин – жертв насилия. Наблюдается степень повышенной агрессии к потенциальному преступнику при стремлении к насилию/обладанию женщиной (например, мужчина просто спросил женщину можно ли с ней познакомиться либо провести до дома). Либо жертва соглашается на условия преступника в обмен на жизнь, отдает все ценности, деньги, покорно, только бы сохранить свою жизнь	Грабеж, разбой, хулиганство, сексуальные домогательства
4.Паразитические отношения.	Одна сторона (преступник) ощутимо наносит вред жертве, а другая – лишь приносит пользу	Обман и злоупотребление доверием (доверчивостью, наивностью в силу возраста) жертвы. Например, сильный всегда в состоянии отобрать доход у	Сутенерство, мошенничество, взяточничество, (пассивное) коррумпирование, принудительный труд, Причинение имущественного ущерба путем обмана



		слабого доход и другие ценности («наставник» требует весь доход от зависящей от него жертвы, «попрошайки»)	или злоупотребления доверием
5.Нейтральные отношения	Обе стороны при взаимодействии безразличны и не агрессивны друг к другу	Весьма редко можно пронаблюдать данную форму	Наблюдается при нормальных человеческих отношениях

Поведение жертв преступлений, особенно насильственных, обусловлено довольно высоким уровнем эмоционального напряжения потерпевшего [7, с. 83]. Т.е. для установления адекватности восприятия жертвой необходимо определить: ценностные ориентиры жертвы/потерпевшей, мотивационную сферу потерпевшей стороны [24, с. 256].

Анализ виктимизации жертв-иностранцев может обеспечить возможность проведения ряда исследований, сравнений, в этой области по данной проблеме на международном уровне.

Действенная система уголовного правосудия в РМ – это система, в которой уважаются основные права жертв, в нашем случае, *жертв преступлений* [19] – *иностранцев*. Задачи судебной системы определяются необходимостью предотвращать *виктимизацию*, предоставлять защиту и помощь всем жертвам, а также относиться к ним с состраданием и уважать их достоинство. Необходимо, кроме того, обеспечивать доступ потерпевших к судебным и другим механизмам для обращения в случае причинения им вреда и для получения своевременного возмещения. Все государства и даже отдельные граждане могут обращаться в ЕСПЧ в случаях явного нарушения их прав. *Жертвы преступлений* также должны иметь доступ к специализированной помощи, необходимой для преодоления последствий эмоциональной травмы и для решения других проблем, обусловливаемых *виктимизацией* [8, с.59-60].

В ноябре 1985 года *Генеральная Ассамблея Организации Объединенных Наций* приняла *Декларацию основных принципов правосудия для жертв преступлений и злоупотребления властью* (резолюция 40/34, приложение), рекомендуя меры, которые следует принимать на национальном, региональном и международном уровнях в целях улучшения доступа к правосудию и обеспечения справедливого обращения, реституции, компенсации, защиты и помощи для жертв преступлений и злоупотребления властью.

В 1988 году *Экономический и Социальный Совет* рекомендовал членам-государствам предпринять необходимые шаги для осуществления положений Декларации (резолюция 1989/57). Наконец, в 1998 году *Экономический и Социальный Совет* утвердил *План действий по осуществлению Декларации основных принципов правосудия для жертв преступлений и злоупотребления властью* (резолюция 1998/21, приложение). Другие резолюции обеспечивают также руководство по порядку функционирования систем правосудия в отношении различных конкретных групп жертв преступлений.

В 1997 году *Генеральная Ассамблея* приняла резолюцию 52/86 о необходимости пересмотра практики ведения уголовного судопроизводства в целях повышения эффективности предупреждения насилия в отношении женщин, а также поддержки и помощи, предоставляемой женщинам – жертвам гендерного насилия.

В *Типовых стратегиях* предлагается ряд мер, которые могут быть приняты в различных областях для предупреждения насилия в отношении женщин и совершенствования законодательства и процессов, связанных с этой распространенной формой *виктимизации*.

В отношении детей-жертв и несовершеннолетних граждан, *Экономической и Социальный Совет* в 2005 году принял *Руководящие принципы, касающиеся правосудия в*



вопросах, связанных с участием детей-жертв и свидетелей преступлений (резолюция 2005/20). Одной из задач *Руководящих принципов* является содействие в пересмотре национальных законов, процедур и практики, и анализ того, в какой степени они уважают права детей-жертв и свидетелей преступлений. Далее, *Конвенция Организации Объединенных Наций против транснациональной организованной преступности* (2000 г.) и дополняющий ее *Протокол о предупреждении и пресечении торговли людьми, особенно женщинами и детьми, и наказании за нее*, а также *Конвенция Организации Объединенных Наций против коррупции* (2003 г.) содержат различные обязывающие положения для государств-участников относительно защиты жертв и помощи жертвам преступлений. Кроме того, ввиду международного характера деятельности преступных групп, масштаб угрозы, которую они представляют для потерпевших, не ограничивается территорией одного государства.

Зачастую *виктимизация* жертв-иностранцев имеет трансграничный характер, так же как и физическое и психологическое запугивание потерпевших и их родственников. *Жертвам торговли людьми*, например, может потребоваться помощь для возвращения в страну происхождения в период до слушаний или разбирательства дела, в ходе которых они должны давать показания [20, с. 38].

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НОРМОТВОРЧЕСКАЯ ДЕЯТЕЛЬНОСТЬ МОТ В УСЛОВИЯХ ЭКОНОМИЧЕСКОЙ НЕСТАБИЛЬНОСТИ

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Abstract. The article is devoted to some aspects of standard-setting activity of the International Labor Organization taking into account the current socio-economic situation in the world, in the member states of the organization. Serious challenges of the last 2-3 years, coronavirus pandemic, post-pandemic period of economic recovery, territorial conflicts, military conflicts and



economic crises, are those situations in which the threat of violation of rights in the sphere of labor and social security is the most serious. The paper analyzes these conditions from the point of view of their influence on the process of standard setting. The article draws a number of conclusions concerning the prospects of the ILO as a fundamental international actor in the field of standard setting on the issues of human rights in the sphere of labor and social protection.

Keywords: International Labor Organization; human rights at work place; social protection; effectiveness of legal norms; standard-setting process.

Международная организация труда в 2024 году отметит 105 годовщину своей деятельности. На протяжении этого периода времени деятельность МОТ, как отмечается в уставных документах организации, была и остается направленной на установление прочного мира, основанного на социальной справедливости [12] и действий по улучшению условий труда. Будучи специализированной организацией в структуре ООН, Международная организация труда выполняет важную функцию по разработке и принятию международных трудовых норм, которые являются, для государств-членов МОТ, основой правового регулирования в трудовом и социальной сферах.

Универсальный характер норм конвенций и рекомендаций МОТ позволяет государствам-членам единообразно и унифицировано подходить к вопросам установления условий труда, оплаты труда, установления основ социального партнерства, обеспечения минимальных стандартов в социальной сфере. Таким образом, формируемая на основе нормативных актов МОТ, глобальная стратегия социально-экономического развития, определяется как базовая составляющая для направлений экономической и социальной политики и создания условий для широкомасштабного и устойчивого развития [5].

Несмотря на многочисленные катаклизмы в мире на протяжении последних ста лет, наблюдалась относительная стабильность в нормотворческом процессе органов МОТ. Сравнительно небольшое количество принятых конвенций (189 конвенций) и рекомендаций (около 200) [9] свидетельствует о сохранении актуальности принятых международных норм, многие из которых были пересмотрены с учетом меняющихся социально-экономических реалий. Говоря о значении актов МОТ, «...регламентирующих социально-экономические права человека и определяющих перспективы внутригосударственного регулирования...», следует согласиться с мнением об их особом значении в этом процессе, как «...правовых императивов и основных положений...» [8, с.285]. Универсальный характер норм МОТ сегодня подтверждается тем, что Декларация МОТ об основополагающих принципах и правах в сфере труда [5] провозгласила готовность государств-членов следовать во внутригосударственном процессе правового регулирования трудовых и социально-обеспечительных отношений положениям конвенций МОТ независимо от того, ратифицировали они соответствующие конвенции или нет. Речь идет о нормах, касающихся основных прав человека, которые с принятием вышеуказанной декларации рассматриваются как основа концепции достойного труда и содержатся в восьми конвенциях, которые были определены самой МОТ как «основополагающие», имеющие «особое значение как для прав человека, так и для создания благоприятных условий для достижения других стратегических целей МОТ, а также для создания достойных рабочих мест» [11].

Однако, серьезным вызовом для нормотворческого процесса на уровне МОТ стала пандемия COVID-19. Практически все страны-члены организации столкнулись с объективной невозможностью сохранения уровня гарантий в сфере труда, провозглашенного в актах МОТ. Как нами было отмечено, «...помимо необходимости непосредственной защиты от инфекции, многие страны мира в экстренном порядке вынуждены были разрабатывать меры по минимизации экономического и социального удара по населению и экономике» [2, с. 368]. Локдаун и последовавшие массовые сокращения рабочих мест, существенный спад во многих отраслях экономики, привели, в первую очередь, к серьезным угрозам нарушения социальных прав человека. Исходя из понимания этой группы прав человека как прав человека второго



поколения, гарантирующие достойный уровень жизни и социальную защиту, закрепленные в законодательстве на национальном и международном уровнях [13, с. 75], очевидно, даже при принятии на национальном и международном уровнях ограничительных мер, должны сохраниться гарантии их соблюдения.

По данным МОТ, восстановление мировой экономики после пандемии происходит достаточно медленно, и многие процессы на мировом рынке подвергаются воздействию новых вызовов и угроз, в том числе, сохраняющейся геополитической напряженности, а также постоянно растущей инфляции. Эксперты МОТ приходят к выводу, что «...постпандемический экономический рост и социальное восстановление остается незавершенным, и возникают новые уязвимости, которые подрывают прогресс в области социальной справедливости» [4]. Говоря о перспективах развития отношений на рынке труда, отмечается, что безработица и дефицит рабочих мест на сегодняшний день уже сократились до более низкого уровня, чем до начала пандемии, но уровень безработицы в мире в 2024 году вырастет [7].

Анализ современной ситуации на рынке труда показывает, что зачастую, меры, принимаемые МОТ в пределах своей компетенции и возможностей как международной организации, не вполне достаточны для установления прежнего баланса и укрепления социальной сплоченности для достижения социальной справедливости. Как отмечают исследователи, «...мы являемся свидетелями как институциональных, так и нормативных изменений на рынке труда, которые способствуют децентрализации коллективных переговоров. Вся инфраструктура трудовых отношений изменилась, что затронуло правовые и институциональные структуры. Тем временем транснациональное измерение трудового права развивается, обеспечивая новую нормативную основу для транснациональных трудовых отношений и трансграничных коллективных договоров» [1, с. 458].

Указанные тенденции вызывают озабоченность с позиции эффективности нормотворческого процесса на уровне МОТ. Процесс принятия решений, в том числе, нормативного характера – принятие конвенций и рекомендаций, строится на достижении согласованной позиции всех участников трехсторонних отношений. На сегодняшний день многие государства-члены МОТ принимают на национальном уровне нормативные акты, которые, к сожалению, не нацелены на укрепление прав человека в социально-трудовой сфере. Типичными за последние 2-3 года стали инициативы по увеличению пенсионного возраста, росту процента удержаний из заработной платы во внебюджетные фонды, сокращению социальных гарантий, децентрализации правового регулирования отношений в сфере труда, введению дополнительных оснований прекращения трудовых договоров по инициативе работодателя и др. Один из основных вопросов в сфере правового регулирования трудовых прав работников это вопрос обеспечение охраны труда. В этом направлении наблюдается устойчивая тенденция, как на национальном уровне, так и на уровне МОТ, к ссылкам и применению «необязательных стандартов, чтобы сделать охрану труда более приемлемой». [3]

Несмотря на сложности и трудности, связанные с сложившейся социально-экономической ситуацией в мире, деятельность Международной организации труда можно назвать успешной главным образом, в сфере мониторинга соблюдения прав человека в социально-трудовой сфере. Анализ полученных в результате изучения докладов государств и обзоров специалистов МОТ по вопросам соблюдения конвенций остается одним из основных источников для обсуждения инициатив по принятию новых и изменению действующих конвенций и рекомендаций. Тем не менее, важным является вопрос сохранения трехсторонней основы принятия решений органами МОТ. Целесообразность сотрудничества с субъектами, не являющимися участниками процесса выработки решений на уровне МОТ, безусловно, присутствует. Есть примеры продуктивного сотрудничества в целях повышения уровня защиты прав отдельных категорий работающих (например, Международной ассоциацией социального обеспечения, Международным альянсом лиц с ограниченными возможностями, Всемирным банком и др.). Перспективным направлением является экспертная деятельность по



оценке национального законодательства и консультирования по вопросам выработки законопроектов в сфере труда и социальной защиты. МОТ продолжает нормотворческую деятельность, принимая базовые международные акты, нацеленные на обеспечение достойных условий труда и социальной справедливости. Одним из недавних таких актов стала Декларация столетия о будущем сферы труда, принятая 21 июня 2019 года [6] и Конвенция № 190 и Рекомендацию № 206 «Об искоренении насилия и домогательств в сфере труда» [10].

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СОВРЕМЕННЫЕ МОДЕЛИ КОРПОРАТИВНЫХ СТРУКТУР В ЗАРУБЕЖНЫХ СТРАНАХ

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Abstract. Interest in this topic is due to the need to clarify the meaning, essence and features of the creation of modern corporate associations, as well as the fact that in the modern science of corporate law there is no specialized research devoted to the creation of such corporate associations. Thus, the need for scientific understanding of the theoretical foundations of legislative regulation of the process of creating and characterizing modern corporate associations, its problematic aspects that arose during many years of practice, determined the relevance of the topic of the scientific article.

Keywords: corporations, transnational corporations, legal entities, foreign countries, financial and industrial groups.

В общем понимании корпорация (корпоративная структура) – это объединение лиц и капиталов[7, с.4]. Однако такое определение не отражает всей сути термина. Корпоративная структура (КС) - это совокупность лиц с юридическим статусом, объединяющих свой капитал под управлением, в том числе на правах общей собственности, и осуществляющих предпринимательскую и экономическую деятельность в рамках локальной экономической системы с учетом согласования интересов при их взаимодействии для достижения основной цели - максимизации прибыли и положительно или отрицательно влияющих на предпринимательскую или экономическую деятельность.

Корпоративные структуры США. С середины XX века американская корпорация является одним из основных участников политической, экономической и социальной жизни США, а в последние десятилетия превратилась в важный ресурс обеспечения информационной безопасности страны и ее среды. Можно сказать, что в ее основе лежит корпоративная организация. Государство довольствуется контролем над важнейшими корпорациями страны, которые, в свою очередь, тесно связаны с военной промышленностью. Фактически американская корпорация стала отдельной и обособленной частью экономики, деятельность которой осуществляется в рамках, разрешенных законом, но в то же время не контролируется государством. Крупные корпорации ориентированы на расширение своего капитала и придают большое значение своей свободе.

Как уже говорилось выше, политика бизнес - организаций и региональная политика государства имеют общую цель - повышение качества жизни общества. В США правительства штатов накопили богатый опыт по привлечению отечественных и иностранных инвесторов. Для стимулирования капиталовложений предлагаются налоговые льготы, гранты, кредиты, профессиональное обучение, содействие занятости и многие другие бюджетные и фискальные меры[1, 185].

В то же время правительство США добилось значительных успехов в расширении сферы деятельности КС и в проведении политики стимулирования сбыта американской



продукции в другие страны. За последние пять лет интересы бизнеса значительно разошлись с интересами государственных лидеров. Так, например, различные санкции, введенные правительством США против ряда государств, не только серьезно ограничили возможности компаний по ведению бизнеса в этих странах, но и показали, что компании, даже международные, далеко не безошибочны.

Из годового отчета за 2017 год Международный валютный фонд (МВФ) отмечает, что рост производительности труда в США быстро замедляется. Аналитики называют такие причины, как нехватка квалифицированных работников, демографические проблемы, исчерпание положительного влияния коммуникаций и информационных технологий на экономику, а также сокращение мировой торговли из-за расхождения интересов между США и Китаем[4, с.9]. Сложившаяся на мировой арене ситуация поставила американскую структуру крупного бизнеса в экономические рамки и иллюстрирует зависимость американской структуры крупного бизнеса от мирового правопорядка в результате изменения социальных, политических и иных факторов.

Отличительной особенностью американских корпораций является их организационная структура, которая прописана в уставе практически всех корпораций и состоит из трех уровней управления: менеджеры (должностные лица), совет директоров и акционеры. На законодательном уровне закреплена акционерная структура корпорации, при этом акционеры имеют право распоряжаться, владеть и передавать свои акции другим акционерам или третьим лицам. Акционеры некрупных компаний обязаны созывать общее собрание акционеров для обсуждения и решения возникающих вопросов; руководство КК занимается исполнением обязанностей и решает менее сложные вопросы, такие как управление персоналом, планирование производства, юридическая и аудиторская работа. Крупные компании обычно имеют совет директоров для правильного баланса интересов менеджмента и собственников (акционеров). Совет директоров отвечает за стратегические вопросы, такие как планирование производства, развитие и финансирование, и руководит выполнением обязанностей менеджмента. В принципе, такая структура управления считается эффективной и позволяет обеспечить бесперебойную работу менеджмента.

Важные стратегические вопросы, касающиеся деятельности компаний, решаются исключительно акционерами. Однако только в случае неплатежеспособности компании государство может вмешаться для защиты интересов собственников.

Кроме того, банки и другие организации не имеют никакого влияния на деятельность компаний. Американские компании привлекают средства путем продажи акций или различных облигаций. Большим преимуществом этого метода является то, что он привлекает неограниченное количество крупных и мелких инвесторов и позволяет реализовывать масштабные проекты.

Поддержка развития малого бизнеса является одной из основных задач правительства США. По состоянию на 2017 г. доля малого бизнеса в ВВП страны составляла примерно 60 %, слегка выросла в 2018 г. и по прогнозам на 2019г.также незначительно возрастет. Остальные 40 % принадлежат корпорациям, однако по соотношению деятельности 78,6 % корпораций представляют сферу услуг, промышленность 20,4 % и сельское хозяйство 0,9 %[9, с.79-80] Из данного соотношения видно, что число корпоративных структур производственного характера незначительно, но при этом США остаются ведущей страной по промышленному производству.

Способность американских корпораций добиваться значительных успехов даже при недостаточно благоприятных условиях хорошо демонстрирует опыт компании «Apple Incorporate», которая согласно данным по состоянию на 2 августа 2018 г. увеличила свою капитализацию до одного триллиона долларов[11]. Это явление практически уникально в практике американского бизнеса. Рост прибыли предприятий происходит за счет дифференциации их деловых услуг. Предприятия достигли больших успехов, разрабатывая и применяя инновационные разработки, полученные в стране и за рубежом. При этом в



уникальные разработки вкладываются большие средства, выделяются гранты на экспериментальные разработки, создается система профессиональной подготовки кадров.

Это связано с тем, что сохранение экономического лидерства требует систематического предоставления новых продуктов, достойно конкурирующих с продукцией других компаний.

КК является важным фактором не только для страны в целом, но и для экономики отдельных регионов (штатов). Проводимая в США политика переноса производств крупных компаний в районы, отстающие в экономическом развитии, является приоритетной и предлагает множество вариантов решения социальных проблем этих регионов и штатов. Одним из наиболее эффективных способов привлечения компаний в "отсталые" регионы являются налоговые льготы. Другой важной особенностью американских компаний является добровольная корпоративная социальная ответственность (КСО). Это означает создание комфортных социальных условий для сотрудников, жителей региона, в котором расположена компания, различных общественных организаций и малого бизнеса. КСО в США поощряется, но не регулируется государством, и компании вольны выбирать способы выполнения своих социальных обязательств.

Таким образом, корпоративная структура является системообразующим элементом местной экономики и может оказывать существенное влияние на ее состояние.

Корпоративные структуры Европы. Формирование предпринимательской структуры в европейских странах происходило гораздо раньше, чем в США, и, как следствие, сформировались особенности развития и функционирования предприятий за прошедшие годы. Поскольку на европейском континенте много стран, как с развивающейся, так и с менее развитой экономикой, для изучения особенностей европейской модели корпоративной структуры необходимо проанализировать все страны ЕС, учитывая преобладание на континенте стран с развитой экономикой, где сформировались крупные, хорошо капитализированные компании среди этих стран стоит отметить Германию и Францию. Среди этих стран следует выделить Германию и Францию, где большое количество компаний входит в различные рейтинги компаний (Forbes Global 2000 и Fortune Global 500) и для которых характерно формирование и функционирование корпоративных структур по образцу других европейских стран.

Германия. На основе данных МВФ за 2017 год. На долю Европейского союза (далее - ЕС) приходится около 15% мирового уровня валового внутреннего продукта (ВВП) после США и Китая. Германия является крупнейшей страной ЕС и в конечном итоге занимает четвертое место в мировом рейтинге ВВП. Лидирующие позиции немецкой экономики обусловлены экспортными продажами продукции машиностроения, автомобилестроения, электротехники и розничной торговли. В последние два-три десятилетия экономика Германии тесно зависит от деятельности крупных компаний, прежде всего машиностроительных (Deutsche Fahr, Arkite, Berstorff) и автомобильных (BMW, Audi, Mercedes-Benz, Volkswagen). Эти компании являются крупнейшими представителями немецкой промышленности и входят в рейтинг Forbes Global 2000.

Доля малого бизнеса Германии стремится к 50 % ВВП страны. Большинство малых и средних предприятий занимаются экспортной или розничной деятельностью, но основное производство возлагается на крупные корпорации [10]. На долю промышленности приходится около 45,9% ВВП (на долю услуг - 54%, сельского хозяйства - 0,1%), что свидетельствует об ориентации экономики на реальный сектор. Причиной сложившейся ситуации является формирование крупных корпоративных структур за счет интеграции банковского (финансового) и промышленного капитала в так называемые финансово-промышленные конгломераты. Влияние банковского сектора на финансовую устойчивость компаний очевидно, поскольку большинство акций крупных компаний принадлежит крупнейшим банкам страны.

Банковский капитал в промышленности открывает неограниченные возможности для разработки новых технологий и подготовки новых квалифицированных кадров. Однако мы



считаем, что правительство Германии не так четко ориентировано на инновации, как, например, в США или Японии, и поэтому целью предпринимательской деятельности является удовлетворение насущных потребностей потребителей, а не создание совершенно новых достижений и инновационных продуктов.

Важно отметить влияние КС Германии на социальную жизнь страны, что особенно отражается на трудоустроенной части граждан. Известно, что оплата труда среднестатистического жителя страны в 2017 г. составляла 3 771 евро[12], включающий в себя социальный пакет и страховые выплаты. Кроме того, корпорации всё чаще приглашают на работу граждан соседних стран – членов ЕС (как правило, на должность менеджера) и граждан иных стран, не входящих в ЕС, которым есть возможность платить намного меньше, тем самым, поощряется миграционная политика.

Управление СС Germany состоит из трех сторон: Наблюдательного совета, члены которого представляют интересы контролирующих владельцев или менеджеров, а также интересы наемных работников, Правления (бизнес-менеджеров) и Общего собрания акционеров, которое формируется из владельцев, владеющих не менее чем 5% акций.

Объединение капиталов банковского и промышленного сектора позволило КС Германии достойно конкурировать с американскими и азиатскими компаниями.

Франция. Франция является одной из ведущих европейских стран и занимает второе место в экономическом рейтинге Европейского союза. Основными отраслями французской экономики являются энергетика, машиностроение, химическая, автомобильная и аэрокосмическая промышленность, на долю которых приходится 70% ВВП, сельское хозяйство - 2,5% и промышленность - 27,5%. На долю французской промышленности приходится около 80% экспорта.

В рейтингах крупнейших компаний мира Forbes Global 2000 и Fortune Global 500 Франция доминирует в сфере финансов, страхования и розничной торговли (AXA, BNP Paribas, Carrefour, Société Générale). Что касается промышленных компаний, то лишь некоторые из них (Total, Renault, Peugeot, Saint-Gobain) входят в эти рейтинги.

Большое количество фирм, занимающихся финансовыми операциями, свидетельствует о чрезмерной концентрации финансового капитала по отношению к промышленному. Такая ситуация вынуждает банковский сектор приобретать промышленные фирмы и развивать их под своим управлением. Таким образом, приобретая компании в разных отраслях, банки становятся "портфельными компаниями", способными поглощать друг друга. Такая модель развития способствует консолидации, что отрицательно сказывается на конкурентоспособности фирм, но делает государство зависимым от деятельности и стратегии этих фирм.

Корпоративное управление во Франции осуществляется в соответствии с традиционной моделью управления или немецкой моделью. Традиционная модель управления предполагает избрание советом директоров президента, который отвечает за решение ключевых стратегических вопросов и реализацию решений, принятых наемными менеджерами.

AFCC, работающая в стратегически важных отраслях экономики (энергетика, авионавигация, космос, транспорт и телекоммуникации), контролируется государством. Поскольку Франция остается крупнейшим экспортером электроэнергии (80% электроэнергии поступает с атомных электростанций), государство является основным акционером энергетической компании Electricite de France, а также владеет 37% акций компании Engie S.A. Государство является основным акционером энергетической компании EDF. Аналогичная ситуация складывается в телекоммуникациях (государству принадлежит 27% акций France Telecom) и автомобилестроении (государству принадлежит 15% акций Renault). Важно отметить, что французское правительство не пытается вмешиваться в деятельность коммерческих организаций, а выступает в роли контролирующего и надзирающего органа.



Таким образом, можно сделать вывод, что главной особенностью развития и функционирования французской корпоративной структуры стала интеграция банковского, промышленного и государственного капитала в единый портфельный холдинг.

Европейский союз. Приоритетность экономического развития ЕС заложено в региональных программах развития, в которых описываются методики денежного и не денежного стимулирования РЭС. Приоритетность регионов определяется по уровню ВВП на душу населения[5, с.20] В этом контексте механизм предпринимательства стал одним из основных двигателей регионального экономического развития.

Европейское сообщество может действовать в своих интересах до тех пор, пока не нарушает закон: в рамках ЕС и его соглашений компании могут свободно продавать свою продукцию на территории стран-членов ЕС, размещать там свои предприятия и беспрепятственно выходить на новые рынки. Мы считаем, что ценным уроком Европы является то, что во многих европейских странах социальное партнерство государства, труда и капитала исторически воплотилось в самой структуре корпоративного управления и в законах, регулирующих экономическую деятельность.[8, с.189]. Страны ЕС не только получают материальные выгоды от соглашений с ЕС, но и обладают солидным научным и человеческим потенциалом благодаря свободному перемещению рабочей силы внутри континента. Однако существуют и недостатки. Например, переток рабочей силы в промышленно развитые страны и вытеснение мелких местных производителей. Обеспокоенные этими проблемами, правительства стран ЕС находят пути их решения, в основном путем регулирования поведения бизнес-организаций, связанных с РЭС.

Эти действия включают:

- стимулирование корпорации региона, чтобы они могли конкурировать с иностранными компаниями;
- развитие транспортной инфраструктуры, охватывающей весь регион;
- разработка мер по повышению инвестиционной привлекательности местных производств;
- строительство социальных объектов в сельской местности.

Важной является также практика размещения средств компаний в фондах регионального развития, что позволяет местным администрациям использовать их для решения целого ряда неотложных задач.

Корпоративные структуры в Азии. Азия считается одним из наиболее быстро развивающихся регионов мира, где организации, операции и культура бизнеса сильно отличаются от европейских и американских моделей. В Азии есть три развитые страны - Китай и Япония. К ним относятся соответственно стран имеет свои особенности в развитии и функционировании корпоративных структур.

КНР. Развивающаяся экономика Китайской Народной Республики по темпам развития находится на одном уровне с ведущими экономиками мира, а по рейтингу ВВП практически сравнялась с ними: в 2018 году ВВП китайской экономики вырос на 6,5%, но страна по-прежнему занимает второе место, все еще уступая Соединенным Штатам Америки. Высоким темпам роста китайской экономики способствовало позитивное развитие корпоративной структуры в добывающих отраслях, в частности в обрабатывающей промышленности, ИТ - и телекоммуникационном секторах. В последнее время этим предприятиям удалось выйти на мировой рынок.

Политическая система КНР предполагает сильное влияние государства на бизнес, однако в целях развития экономики правительство предприняло ряд шагов по приватизации государственных предприятий: в 2017 году Госсовет КНР передал в частный сектор около 100 обремененных долгами государственных предприятий. Тем не менее китайское государство имеет контрольные пакеты акций практически во всех отраслях. Следует отметить, что все это негативно сказывается на свободе деятельности предприятий. Жесткий контроль со стороны государства продолжает оказывать негативное влияние на экономику страны, требуя от



предприятий следовать политике партии, которая не всегда совпадает с интересами владельцев предприятий.

Экономика Китая привлекла иностранный капитал, что привело к росту числа иностранных компаний на рынке и, как следствие, к ликвидации местных производств. В результате правительство Китая приняло меры по ограничению привлечения иностранного капитала и созданию равных условий для частного и государственного капитала. Это затрудняет конкуренцию иностранных компаний с местными бизнес-структурами в китайской экономике.

Финансовый сектор также зависит от государства: в 2014 году постановлением правительства было предписано создать четыре частных банка, которые впоследствии начали наращивать свой капитал и выходить на мировой финансовый рынок (Bank of China, China Construction Bank, Agricultural Bank of China и Industrial and Commercial Bank of China).

Основными направлениями деятельности китайских компаний, входящих в список Fortune 500, являются добыча полезных ископаемых и обрабатывающая промышленность (например, занимающая второе место корпорация Sinopac Group). Прогресс, достигнут также в электротехнической, автомобильной и телекоммуникационной отраслях. Бизнес-структуры начали активно осваивать новые технологии, однако сами принципы и методы работы с ними зачастую схожи с теми, что применяются в других странах.

Управление китайскими бизнес-структурами заимствовано из западных стран. Во многих случаях была принята программа управления, основанная на опыте немецких предприятий. Однако в Китае эта программа дополняется контролем со стороны партийных организаций. В итоге аналитики отмечают, что заимствование западного опыта корпоративного управления не позволило полностью избавиться от "прежних элементов корпоративного управления и контроля". Эти элементы по-прежнему включают в себя партийные комитеты компаний, советы трудовых коллективов и профсоюзные комитеты" [6, с.53].

В результате структура китайских фирм по-прежнему в значительной степени характеризуется зависимостью от государственных инвестиций и государственной политики. Взвешенная политика расширения производства говорит о том, что большинство предприятий имеют промышленную направленность (около 50% ВВП приходится на обрабатывающий сектор).

Китайская экономика переживает бурное региональное развитие. В связи с возрастающей необходимостью перераспределения производительности труда в пользу различных регионов активно развиваются региональные экономические центры Китая. Наличие предприятий городского типа и размещение производственных мощностей предприятий с иностранными инвестициями позволяет увеличить занятость населения и обеспечить стабильные налоговые поступления в региональные бюджеты.

Япония. В такой высокотехнологичной стране, как Япония, интересно отметить влияние предприятий на развитие местной экономической системы. Японские фирмы сосредоточены в отраслях производства электроники, автомобилей и компьютерного оборудования. На долю малых и средних предприятий (МСП) приходится почти 90%, или 80% ВВП, и они заняты в основном в легкой промышленности, строительстве, сфере услуг и производстве комплектующих. Остальные 10% приходятся на крупные фирмы, занятые в наукоемком производстве.

Акцент на научно-исследовательские и опытно-конструкторские работы (НИОКР) крупных компаний давно стал предметом внимания японского корпоративного развития и менеджмента. На НИОКР и венчурный капитал тратятся огромные средства. Кроме того, японское правительство поощряет компании инвестировать в высокотехнологичные НИОКР с целью создания конкурентных условий для инновационных малых предприятий. Японское правительство также выделяет значительные средства на обучение и подготовку сотрудников. Выделяя гранты на обучение и НИОКР и поощряя инновации, фирмы оказывают



положительное влияние на социальную жизнь страны и обеспечивают занятость большей части трудоспособного населения.

Во многих вопросах, влияющих на развитие страны в целом и региона в частности, бизнес является объектом поддержания социальной стабильности. Это финансирование социальной инфраструктуры, настойчивые меры по поддержанию экологически чистой окружающей среды, финансирование благотворительных организаций и социальных фондов и т.д. Принципы воздействия японских компаний на РПС схожи с принципами КСО в США, однако их реализация в большей степени основана на гуманизме и тесно связана с религиозно-нравственными устоями общества.

Японское правительство активно стимулирует экономическое развитие страны. «Государство разрабатывает стратегии развития, определяет отраслевые приоритеты и применяет на практике меры стимулирования экспорта и защиты от зарубежных конкурентов» [3, с.75]. А также проводит «...развернутое региональное планирование: в национальном плане страны представлены разделы посвященные каждому региону, концепции их развития» [2, с.12]. Корпоративные структуры Японии не имеют акций государства и поэтому неподвластны ему. Правительство лишь создаёт необходимые условия для развития и расширения производства в корпорациях.

Акционерами японских компаний являются в основном крупные банки. Банковский сектор имеет корпоративную структуру, что приводит к образованию компаний-инвесторов. Отличительной особенностью акционеров японских компаний является взаимное владение акциями. В отрасли существует шесть равнозначных юридических лиц, которые действуют по единым принципам и известны как "шесть единиц". В эту шестерку входят корпоративные структуры Mitsubishi, Sumitomo, Oishi Sangyo, Mitsuwa, Mitsui и Tomie. Это означает, что большинство корпоративных структур в Японии работают на олигополистических рынках, где рынок поделен поровну.

В результате корпоративный сектор экономики оказывает влияние на пространственное развитие стран мирового сообщества. Наиболее ярко эта тенденция проявляется во внедрении инноваций, развитии систем корпоративной социальной ответственности, развитии добросовестной конкуренции, решении экологических проблем и совершенствовании систем государственного и муниципального управления.

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11. <https://www.bbc.com/Russian> (посещен 15.01.2024)
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ФУНДАМЕНТАЛЬНЫЕ ПРИНЦИПЫ ПРАВА КАК ОСНОВА ВСЕГО ПРАВОВОГО РЕГУЛИРОВАНИЯ

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Аннотация. В статье исследованы актуальные вопросы, связанные с фундаментальными, или, по-иному, основополагающими принципами права, в целях обобщения их значения и смысла. Актуальность исследования данного вопроса в молдавском обществе обоснована необходимостью, после 14 декабря 2023 года, когда Республика Молдова получила статус кандидата в ЕС для дальнейшей работы по приведению национального законодательства к европейским стандартам. Наблюдение последних лет за деятельностью молдавского законодателя доказывают факт, что некоторые законодательные акты, принятые Парламентом РМ не совсем соответствуют юридической техники а, иногда, их нормы противоречат основополагающим принципам права. В результате исследования сформулировано определение принципов права и, сделан вывод о том, что фундаментальные принципы права действуют не изолированно от правовой системы, не имеют абстрактного характера, а, наоборот, тесно связаны с нормами отраслевого законодательства. А для ознакомления с правовой системой, всегда необходимо начинать с характеристики ее общих принципов. Поэтому общие принципы права составляют основу всего правового регулирования.

Статья отражает часть результатов исследования научной подпрограммы «Securitatea națională a Republicii Moldova în contextul aderării la Uniunea Europeană: abordări juridice, politologice și sociologice» - «Национальная безопасность Республики Молдова в свете присоединения к Европейскому Союзу: юридические, политологические и социологические аспекты» - код: 01.05.01 при Институте юридических, политических и социологических исследований Государственного университета Молдовы, в рамках институционального проекта (2024-2027).

Ключевые слова: законность, правосудие, свобода, свобода человека, категорий принципов, фундаментальные, основные, общие отраслевые и межотраслевые принципы.

Abstract. The article examines topical issues related to the fundamental, or, in another way, the fundamental principles of law, in order to generalize their meaning and meaning. The relevance of the study of this issue in Moldovan society is justified by the need, after December 14, 2023, when the Republic of Moldova received the status of an EU candidate for further work on bringing national legislation to European standards. The observation of the Moldovan legislator's activities in recent years proves the fact that some legislative acts adopted by the Parliament of the Republic of Moldova do not fully comply with legal techniques and, sometimes, their norms contradict the fundamental principles of law. As a result of the research, the definition of the principles of law is formulated and it is concluded that the fundamental principles of law do not operate in isolation from the legal system, do not have an abstract character, but, on the contrary, are closely related to the norms of sectoral legislation. And in order to get acquainted with the legal system, it is always necessary to begin with



a description of its general principles. Therefore, the general principles of law form the basis of all legal regulation.

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Keywords: legality, justice, freedom, human freedom, categories of principles, fundamental, basic, general sectoral and intersectoral principles.

Понятие и значимость принципов права.

Происхождение и природа принципов права, сложные и противоречивые вопросы философии права и правовой доктрины [16, p.104-105; 4, p. 347], как правило, связывались с божественной волей, человеческим разумом, коллективным сознанием или социальной реальностью, и до сих пор сохраняются в качестве важнейших проблем для различных юридических школ и их направлений. Как мы видели, в сознании первых социальных образований нормы появляются как божественные заповеди, навязанные людям. «*Никто не знает, откуда берутся законы: они вечны*», - писал Софокл в *Антигоне*. Слово принцип происходит от латинского *principium*, который означает «начало», «первоначало», «основу», имеет значение фундаментального элемента [8, p.34]. Как философское понятие оно обладает: а) *метафизическим смыслом, что подразумевает первичный объект, из которого были получены и развиты иные объекты*; б) *гносеологическим и этическим смыслом – в качестве фундаментальных начал мысли, знания и действия. В обычном смысле слово «принцип» используется для обозначения*; в) *фундаментального элемента, идеи, основного закона, на котором основывается научная теория, политическая система и т. д.; предположение, признанное истинным, и которое служит для вывода предложений в рамках дедуктивной системы*; г) *фундаментальный закон науки, искусства, дисциплины* [5; 7, p.114; 1, p.119].

У Канта принципы - это либо чистый интеллект (аксиомы, предчувствие, постулаты), либо чистый разум (идеи). По своей концепции разум является высшим принципом, а принципы - это априорные синтетические суждения, которые не вытекают из более общих знаний и не составляют основу других суждений. «Для того, чтобы можно было говорить об определенном методе, - отмечает Кант, - он должен основываться на определенных принципах» [9, p.631; 15, p.67].

В юридическом смысле термин «принцип» означает «базовая идея», «фундаментальный тезис». В литературе существует несколько значений принципов права, в том числе:

✓ *Принципы права - это основные идеи, которые содержатся во всем законодательстве правового государства, в качестве консолидирующих идей.*

✓ *Принципы права - это ведущие идеи содержания всех правовых норм.*

✓ *Принципы права «... соответствуют духу и идее справедливости и ... выражают самое важное в содержании закона».*

✓ *Основопологающими принципами права Республики Молдова являются руководящие идеи, возникающие в результате взаимосвязи между Основным Законом и другими законами, в основном из Конституции РМ, которые закреплены и должны быть закреплены во всей нашей системе права и изучаться в учебных заведениях* [7, p.114].

✓ *Принципы права - это те общие идеи, руководящие постулаты или руководящие предписания, которые лежат в основе всей системы права страны, которым должны соответствовать правовое регулирование и правоприменение.*

✓ *Принципы права - это основные начала, фундаментальные идеи, которые обладают универсальностью, императивностью, высшей силой и важностью, которые*



составляют основное содержание права, отражают закономерности социально-экономического развития и которые органически связаны с сущностью конкретного типа права. Другими словами, принципы права называются началами (идеями) права, которые в концентрированной форме характеризуют его сущность и содержание [22, с.219; 18, с.134-136].

✓ Под правовыми принципами понимаются основные начала, наиболее общие руководящие положения права, имеющие в силу их законодательного закрепления общеобязательный характер [8, р.34].

✓ Принципы права определяются социальными отношениями, являющимися выражением ценностей, продвигаемых и защищаемых правом. Они имеют силу и значение высших общих норм, которые могут быть сформулированы в текстах нормативных актов, как правило, в конституциях, или, если они не сформулированы явно, быть выведены в свете пропагандируемых социальных ценностей. Некоторые из них выражаются в форме максим, особенно тех, которые сформулированы в римском праве. Например, принцип «*neto censetur ignorare legem*». Древнеримский юрист Ульпиан в Первой Книге Права стремился определить закон, сформулировав свои принципы: „*iuris praecepta sunt haec: honeste vivere; alterum non laedere; suum cuique tribuere*”- жить честно, не навредить другим и дать всем то, что им причитается [3, р.25].

Вышеупомянутая формулировка концентрирует в себе всю сущность права, а именно необходимость реализации идеи должного поведения, уважения ближнего и распределения прав, предоставляя каждому то, что ему причитается. Эти принципы образуют подлинную правовую константу - «чистое право» [10, р. 48; 12, р.66], по мнению Эдмонда Пикарда, которые прошли через века, стали частью юридических постулатов или, с некоторых пор, в систему определения особенностей прав человека.

В целом, можно отметить тот факт, что независимо от того, на каких позициях стояли юристы: позитивистских, естественно-правовых или исторических; независимо от различий во взглядах Ф. Жени и Ж. Дабин про то, что «дано» и «построено» в праве, однако, обоснование основ права, его фундамента, общих руководящих принципов права всегда рассматривались как инструмент обеспечения свободы и равенства людей, их отношений с государством, независимо от исторических различий, системы гарантий и практической реализации свободы и равенства. Такие модификации не обходятся без научного осмысления, в рамках которого, учитывая право на обеспечение порядка, безопасности, гражданского мира поднимается вопрос: «Какой мир, какой порядок и какая безопасность? Или: порядок, безопасность, мир для кого, ради кого?» [16, 104-105] Современная концепция права превозносит тот факт, что то, что находится за пределами существования принципов в человеческом сознании, их исследование также должно быть сосредоточено на признании того, что право не может быть отделено от социальной материи. Каково бы ни было своеобразие правовых систем, существуют определенные их принципы, которые, в свою очередь, зависят от общих принципов в других сферах деятельности человеческого общества.

Говоря о принципах, мы рассматриваем нормативный аспект, поскольку, в конечном счете, они являются правовыми нормами большого обобщения, которые должны учитываться как при разработке закона, так и в его применении. Можно сказать, что самые общие и основополагающие принципы права совпадают с социальными ценностями, которые пропагандируются правом. Это лишь усиливает роль ценностей, придавая им нормативную силу. Существование принципов права сегодня общепризнанно в юридической науке, хотя существуют различия в отношении их названия или классификации. Иногда они упоминаются в законодательстве и договорной практике. Так, например, в Уставе Организации Объединенных Наций в качестве источника права упоминаются «общие принципы права, признанные цивилизованными нациями», а Гражданский кодекс Италии, предписывает судье в случае пробела в законе принимать решение на основе общих принципов права [3, р.25-26]. Для сравнения, Гражданский кодекс РМ в части (2) статье 6, предписывает, что «При



невозможности использования аналогии закона права и обязанности сторон определяются исходя из *принципов гражданского законодательства и справедливости* (аналогия права)». Как видим, в этом вопросе молдавский законодатель ограничивался только принципами гражданского законодательства и справедливости, а не вообще - общеправовыми.

Отмечая важность принципов правовой системы, Eugeniu Speranția утверждает: «Если право выступает как совокупность обязательных социальных норм, единство этой совокупности обусловлено согласованностью всех норм с общеобязательным минимумом фундаментальных принципов, которые сами демонстрируют максимальную логическую связь между собой» [17, p.100].

В то же время, принципы права имеют особое значение как теоретическом, так и в практическом плане. Теоретическая значимость заключается в их воздействии и вкладе в создание и применение закона, которые позволяют рассматривать право как в контексте его зависимости от общих социальных условий, структуры общества в целом; которые позволяют обеспечить устойчивость правовых систем и плавную их трансформацию, а также в контексте внутренних отношений, характерных для правовой системы, оказывающих влияние на весь комплекс связей. Поэтому мы можем сказать, что принципы права придают единую направленность всей системе правового регулирования.

Что касается практической значимости принципов права, то она заключается в следующем: а) принципы права учитываются в деятельности по разработке нормативных актов; б) принципы права играют важную роль в отправлении правосудия, поскольку эти принципы представляют собой так называемый «дух» закона; или, те которые используются при его применении, используя не только «букву», но и «дух»; в) если для решения конкретных случаев не существует закона, используются принципы права (аналогия права); г) основополагающие принципы права касаются человека, его свободы и его достоинства, включая защиту его прав, обеспечиваемых государством; д) степень соблюдения основополагающих принципов права определяет и степень соблюдения прав человека; е) тщательное изучение основополагающих принципов права способствует постоянному совершенствованию права, развитию юридической науки, влияет и стимулирует развитие социальных отношений, регулируемых законом и т.д.[7, p. 117-118].

Интенсивность социальных и экономических преобразований, мобильность социальных отношений, оказывают влияние на правовые системы современности, налагают на них черты гибкости и динамизма, что также приводит к переосмыслению руководящих идей. В этом смысле интересно высказывание профессора Е. Сперанца (Eugeniu Speranția): «Если право выступает в качестве набора обязательных социальных норм, то единство этой системы обусловлено согласованностью всех норм на основе основополагающих принципов, которые обеспечивают максимальную логическую связь между ними» [16, p.100, 104-105; 4, p. 347].

Классификация принципов права.

Говоря о классификации принципов права, необходимо отметить, что в юридической литературе по данному вопросу нет единого мнения. В частности, говорят о том, что существует 5 категорий принципов: [17, p.8].

✓ позитивные принципы права, определяемые как «четко сформулированные правила в позитивных правовых текстах или, по крайней мере, построенные на основе элементов, содержащихся в этих положениях»;

✓ подразумеваемые принципы права, т. е. те правила, которые рассматриваются как предпосылки или последствия положений позитивного права, без четкого их закрепления;

✓ внесистемные принципы права, т. е. те правила, которые рассматриваются как принципы, но которые не могут быть включены во вторую категорию, поскольку они находятся вне пределов позитивного права;

✓ принципы-наименования: наименования, не закрепляемые нормами права, которые характеризуют существенные особенности определенного юридического института;



✓ принципы-конструкции права: концептуальные инструменты, которые способствуют окончательной разработке права или его применению, толкованию.

Последние две категории принципов не являются нормативными, это всего лишь описательная типология [11, p.724].

Большинство авторов [18, с.136-138] считают, что всю систему принципов права можно разделить на две группы: а) общие принципы (фундаментальные) и б) отраслевые принципы. Профессор В.В. Лазарев предлагает четыре группы принципов, а именно: а) общие; б) отраслевые; в) межотраслевые; г) принципы, относящиеся к некоторым правовым институтам. Существует еще одно мнение, которое встречается реже, но, которое, однако, мы разделяем, согласно которому все принципы права можно разделить на три группы, а именно:

- а) фундаментальные или общие принципы;
- б) отраслевые принципы (отрасли);
- в) межотраслевые.

Еще в одной классификации [14, p.9], принципы делят на:

✓ общие принципы права в качестве метанорм, функция которых состоит в том, чтобы знать позитивное право;

✓ общие принципы права в качестве норм, которые являются частью правила поведения;

✓ общие принципы права – понятия оценочного характера, т. е. этические постулаты, несущие основные ценности (справедливость, общее благо, общие интересы и т. д.).

Фундаментальные или общие принципы часто также называются конституционными, поскольку они обычно закрепляются конституцией или вытекают из ее смысла. Они вытекают из тех правовых норм, которые регулируют общественные отношения, имеющие первостепенное значение в государстве и на которых строится любая национальная правовая система. Фундаментальные принципы лежат в основе отраслевых и межотраслевых принципов, и, в свою очередь, должны им соответствовать и, одновременно, развивать их.

Основные принципы права очень подвижны, характеризуются логической взаимосвязью и осуществляются на основе общей теории права. Общие принципы ограничиваются правовыми нормами, их можно рассматривать как наиболее общие предписания, регулирующие отношения между людьми.

Правовые нормы соотносятся с принципами права в двух смыслах:

1) принципы права реализуются путем практического применения в поведении, предусмотренном правовыми нормами;

2) правовые нормы содержат и описывают большинство принципов права, в том числе фундаментальных.

Наряду с общими принципами выделяются принципы конкретной отрасли права, называемые *отраслевыми* и закрепляемые в кодексах и других законах. К этой категории могут быть отнесены, например, такие: принцип персонализации уголовного наказания или принцип неотвратимости наказания за совершенное преступление; принцип презумпции невиновности в уголовно-процессуальном праве; принцип свободы договора или добросовестности в гражданском праве и т. д.

В отличие от фундаментальных принципов, характерных для всей системы права (для всех отраслей права) или отраслевых отраслей, которые характерны для одной отрасли права, межотраслевые принципы [13, p.241] относятся к двум или нескольким отраслям права, но далеко не к всем. К ним относятся, например, принципы гласности в уголовно-процессуальном праве, гражданском процессуальном праве и ряде других отраслей.

Очевидно, что граница между фундаментальными, отраслевыми и межотраслевыми принципами является примерной, подвижной, нечеткой, проникающей в том смысле, что они переплетаются, дополняют друг друга и взаимодействуют друг с другом. В последние годы особое внимание уделяется международному праву, принципы которого кристаллизовались в ходе международных отношений. Так, можно в качестве примеров привести принцип добросовестного соблюдения договоров - *pacta sunt servanda*, принцип добрососедства, принцип



разрешения международных конфликтов мирными средствами, принцип взаимности и т. д. [3, p.26].

Характеристика отдельных принципов права.

1. Принцип законности или обеспечения правовой основы функционирования государства. Этот принцип лежит в основе демократического правового государства. Фундаментальная характеристика правового государства состоит в том, что государственная власть структурируется и функционирует в рамках закона, на основании требований закона. Поэтому в правовом государстве право выполняет свою миссию как посредник между моральными, философскими идеалами и реальными силами, между правопорядком и жизнью (в терминологии Поля Рубера) [15, p.73].

Поскольку в правовом государстве суверенная воля народа реализуется на демократических началах, органы государственной власти и местного публичного управления, должны осуществлять свои полномочия строго определенный период времени, на который они были избраны, на основе конституционного принципа разделения власти народа на законодательную, исполнительную и судебную, поскольку только такая власть будет осуществляться в соответствии с требованиями законности в качестве основополагающего принципа и способа управления обществом [7, p.119].

Принцип законности подразумевает демократичность власти, проявляемую посредством суверенитета народа, осуществляемого через избирательную систему, основанную на всеобщем, свободном, равном, прямом избирательном праве при тайном голосовании, формируя, таким образом, парламент, осуществляющий свои законотворческие полномочия и полномочия по контролю над исполнительной властью.

В то же время, этот принцип требует такой системы правопорядка, где Конституция занимает высшее место и признается Основным законом государства, обязывая всех - государственные органы, социальные органы и граждан соблюдать закон. В рамках такого правопорядка законность - это соответствие правовым нормам, принципам и процедурам, установленным законом, соблюдение основных прав и свобод граждан на уровне международных стандартов.

Только таким образом действие принципа законности можно рассматривать как одно из предпосылок правового государства.

2. Принцип свободы и равенства. В современном языке, термин «свобода» означает:

а) возможность определенной личности действовать по своей воле или желанию; возможность сознательного поведения людей в условиях познания (и владения) законов природы и развития общества; б) статус свободной личности, которая пользуется полным объемом политических и гражданских прав в государстве; отсутствие эксплуатации и угнетения; положение того, кто не подчиняется хозяину; положение лица, не ограниченного в действиях или находящегося в заключении; в) независимость, нейтралитет (одного государства по отношению иностранному государству); г) права граждан; индивидуальная свобода - права, гарантирующее неприкосновенность личности; свобода совести, свобода мысли или свобода слова - право каждого гражданина на собственное мнение в любой сфере деятельности, включая отношение к религии и выбор религиозных убеждений; - право высказывать устно или письменно собственные убеждения [6, p.498].

Слово «равенство» также имеет несколько значений, а именно: а) состояние двух или более равных между собой предметов; ситуация, когда несколько участников получают одинаковую оценку в рамках одного соревнования; б) принцип, согласно которому все люди и все государства или нации имеют одинаковые права и подчиняются тем же обязанностям, вытекающим из норм права; ситуация, при которой люди пользуются одинаковыми правами и несут одинаковые обязанности; в) отношения между равными двумя или более субъектами, элементами, понятиями и т. д.; выражение этого отношения путем применения знака равенства [6, p.292].



Рассмотренные нами понятия дают возможность раскрыть содержание основополагающего правового принципа жизни общества – принцип свободы и равенства который зиждется на двух главных опорах - свободе и равенстве. «Каждый человек имеет право на жизнь, свободу и личную безопасность», - говорится в статье 3 Всеобщей декларации прав человека. Такие основы социальной жизни как свобода и равенство, должны быть выражены в праве. Эти концептуальные понятия становятся правовыми принципами, действующими в их тесном единстве, которое связано с диалектикой самой общественной жизни.

В связи с этим принципом Ion Dogaru предлагает следующие выводы: а) свобода, как основа общественной жизни и компонент настоящего принципа, реализуется в отраслях права в двух формах: – *в форме индивидуальных свобод (связанных с деятельностью и участием человека) и, – в виде общих свобод (те, которые предполагают определенную защиту);* б) свобода, как основа жизни общества и как определенное измерение, определяется публичной властью в соответствии с целями правового государства; в) взаимосвязь между свободой и системой права состоит в том, что система права, как представляется, олицетворяет уровень достигнутой свободы, а свобода характеризует существо права; г) в плане социальной свободы, право является своего рода ограничителем склонности некоторых групп общества отказывать другим в осуществлении прав, которые не входят в зону их собственных интересов; д) свобода едина, но способы ее выражения разнообразны; е) свобода человека рассматривается на трех уровнях: - *свобода человека в отношениях с природой;* - *свобода человека в общественных отношениях и, - свобода человека в отношении самого себя;* ж) равенство - это одна из основ социальной жизни, которая предполагает равенство всех перед законом, но также в рамках отдельных отраслей права; з) содержание отношений свободы и равенства состоит в том, что существует равенство только между свободными людьми и нет свободы между людьми, чье равенство только юридически санкционировано [7, p.120-121].

✓ 3. Принцип ответственности. Слово ответственность (из латинского – *respondere* [8, p.108] и, позже, из французского *responsabilite* - ответственность) подразумевает необходимость, во-первых, быть ответственным за свои решения, действия и поступки и, во - вторых, обязанность отвечать за них.

Ответственность - это социальный феномен, поскольку оно выражает акт привлечения индивида в контексте социальных отношений; ответственность устанавливается и определяется не абстрактно, а для определения оценки поведения индивида по отношению к другим, к обществу и, наоборот, общества - к нему. Это подразумевает ответственность за последствия социальных действий человека, понимая социальные действия как прямой контекст ответственности. Возникновение социальной ответственности было обусловлено необходимостью поддержания устойчивого взаимодействия индивидов, оптимального функционирования конкретного сообщества людей, связанных между собой определенными требованиями, обязанностями, долгом и т.п.

Как отмечает профессор Николай Попа, ответственность, позволяющая отразить некое соответствие между идеями, чувствами, поведением личности и требованиями социальных норм, бесспорно, находится в области морали и нравственности. В правовой сфере также установлены меры ответственности в качестве одной из разновидностей ответственности, налагаемой извне. Примечательно, однако, что ответственность, подразумевающая определенную ее величину и способная воздействовать на поведение субъекта, не может быть уменьшена только до морального уровня; существует соотношение всех форм ответственности (моральной, политической, правовой) [15, p.75].

Он также обращает внимание на тот факт, что право не следует рассматривать и оценивать только с точки зрения его возможности воздействия *post factum*, после наступления негативных последствий, когда налагается санкция; на основе правовых предписаний возможно внести вклад в формирование правосознания и правовой культуры человека, его уважительное отношение к закону и общепризнанным ценностям, охраняемых государством,



в том числе и посредством установления юридической ответственности [15, p.75]. Юридическую ответственность трактуют как правовое состояние, поддерживаемое правовыми средствами и инструментами, блокирующее противоправное поведение и стимулирующее общественно-полезное социально-правовое действие.

В заключение можно сказать, что ответственность как фундаментальный правовой принцип предполагает необходимость привлечения индивида в процесс социального взаимодействия и должна пониматься как сознательное информирование индивида о ценностях и нормах общества, о добровольном соблюдении правовых норм, поскольку в конечном итоге, степень ответственности показывает состояние законности в государстве и тесно связана с общим прогрессом общества

4. Принцип справедливости. В переводе с французского *equite* и с латинского *aequitas, -atis, echitate* означает беспристрастность, терпимость, соответствие. В концепции Аристотеля, греческое слово *epieieia* подчеркивала ценность социальной справедливости, которая стремилась исправить закон, где из-за наличия обобщений он не соответствовал этому критерию. Слово *Dike*, означающее справедливость, греки кричали после деления жертвы, а слово *Nike*, означающее победу, кричали после победы на войне, в результате чего *Dike* - Дике - станет именем богини гармонии, правды, понимаемой как единый закон мироустройства. и гражданского мира, в то время как Фемида – богиня правосудия, а Немезида - крылатая богиня возмездия, карающая за нарушение общественных и нравственных порядков тот, кто следил за уважением тех, кто соизволяет каждому (богиня мести и наказания), но управляется в совершенном равенстве [7, p.122].

У римлян слово *aequitas* приобретает смысл, близкий к закону. Для Цицерона *aequitas* одно и то же, что и *ius civil* (гражданское право), и Цельс определял право, как *ars boni et aequi* (искусство хорошего и справедливого).

Действие принципа справедливости, в современном его понимании, связано как законодательной деятельностью при разработке нормативных актов, так и деятельностью по толкованию и применению права органами, которые реализуют законы.

Слово «справедливость» происходит от латинского *iustitia*, которая имеет несколько значений, например: все юрисдикционные органы государства; все законы и суды; деятельность системы судов; одна из основных форм деятельности государства, заключающаяся в рассмотрении гражданских или уголовных дел и назначении наказаний, предусмотренных законом.

Правосудие - это деятельность, рассматриваемая как общее и идеальное состояние общества, которое достигается путем обеспечения законных прав и интересов для всех людей вместе и для каждого человека отдельно.

Как отмечает П. Герин (Pierre Guerin), идея справедливости («имманентная справедливость») является результатом общественной и религиозной мысли, которая затем накладывалась на философские и правовые конструкции. В итоге, справедливость является одним из основных факторов консолидации важнейших общественных сил, поскольку она воплощает фундаментальную моральную добродетель, предназначенную для обеспечения гармонии и социального мира, достижение которой способствует как религиозным, моральным, так и правовым нормам [15, 7-79].

Как принцип права, рациональность идеи справедливости доминирует над позитивными законами: *Lex iniusta non est lex* – «несправедливый закон - не закон». Законы могут быть несправедливыми, и тогда возникает необходимость изменить их или даже существующий правопорядок, если они окажутся препятствием для реализации справедливости.

5. Принцип демократизма. В демократическом и правовом государстве этот принцип пронизывает и проходит красной нитью через всю систему права. Происхождение слова «демократия» связано с двумя терминами - *demos* и *cratos*, что в переводе с древнегреческого означает власть народа. Согласно положениям статьи 5 Конституции Республики Молдова, демократия осуществляется в условиях политического плюрализма, который несовместим с



диктатурой и тоталитаризмом. Никакая идеология не может быть установлена в качестве официальной идеологии государства (как, например, коммунистическая идеология в советский период).

Этот принцип находит прямое выражение в правовых нормах, особенно в тех, которые регулируют организацию и деятельность органов государственной власти, правовой статус личности, характер их взаимоотношений с государством и т. д. Таким образом, каждый гражданин Республики Молдова, достигший 18-летнего возраста, имеет право избирать и быть избранным в представительные органы государственной власти.

Принцип демократизма можно привести в жизнь двумя способами или, другими словами, есть две формы демократии: прямая, непосредственная - когда каждый гражданин может лично реализовать это право, и, косвенно – посредством представительной демократии, - когда воля избирателей, народа выражается через избираемые им органы, то есть граждане участвуют в управлении государством через своих представителей.

6. Свободный доступ к правосудию. В 1948 году Генеральная Ассамблея ООН приняла Всеобщую декларацию прав человека, в которой говорится, что каждый человек имеет право на жизнь, свободу и безопасность, а также право эффективно обращаться к компетентным судебным органам в отношении действий, которые нарушают основополагающие права, признанные Конституцией или законом. На региональном уровне в Европе после Декларации последовало принятие в 1950 году Европейской конвенции о защите прав человека и основных свобод, в которой подтверждается ее приверженность к основным свободам, которые составляют основу справедливости и мира. Республика Молдова присоединилась к этим важным актам и ратифицировала их [2, p.41-52].

Для современной судебной системы свободный доступ к правосудию означает как минимум три элемента: функциональный, организационный и юридическую помощь. Согласно статье 20 Основного закона любое лицо имеет право на эффективное восстановление в правах компетентными судами в случае нарушения его прав, свобод и законных интересов. Ни один закон не может ограничить доступ к правосудию. Этот принцип лежит в основе организации новой судебной системы и применения новых судебных процедур в уголовном, гражданском и административном судопроизводстве.

Следует также отметить, что в соответствии с требованиями действующего законодательства (статья 114 Конституции) правосудие в Республике Молдова осуществляется только судами. Хотя наша страна находится в переходном периоде, и в повседневной жизни действуют многие старые законы, новые законы создали судебные механизмы для обеспечения свободного доступа к правосудию.

Так, например, в рамках гражданского процесса, каждый, кто считает свои законные права нарушенными, могут использовать общие и специальные процедуры, административный порядок, чтобы защитить или восстановить их. Аналогичным образом, если соответствующие права были нарушены преступными деяниями, лицо может обратиться с заявлением в полицию, прокуратуру или другой компетентный орган для проведения расследования с целью определения обстоятельств дела, преследования виновных лиц и восстановление нанесенного ущерба. В случае установления наличия состава правонарушения или преступления, прокурор направляет дело в суд первой инстанции.

7. Принцип гуманизма. Этот принцип характерен практически для всех цивилизованных правовых систем [21, с. 7-28]. Его сущность раскрывает одну из самых важных ценностей права. Как уже упоминалось выше, закон регулирует, закрепляет и гарантирует основные права и свободы человека: право на жизнь, здоровье, неприкосновенность личности, неприкосновенность жилища, защиту чести и достоинства человека и т. д.

Даже в случае правонарушений или других противоправных действий лицо не может быть задержано, арестовано произвольно, а только в случаях и в порядке, предусмотренных законом, по решению суда. При этом каждый человек имеет право на защиту, справедливое и



открытое рассмотрение дела компетентным, независимым и беспристрастным судом. И все арестованные, задержанные, имеют право на гуманное отношение, запрещено унижать их достоинство, подвергать пыткам и бесчеловечным действиям со стороны органов, компетентных расследовать соответствующие дела.

В заключение, принимая во внимание вышесказанное, предлагаем сформулировать определение принципов права. Под принципами права необходимо понимать идеи, фундаментальные тезисы, которые лежат в основе всей системы права, predeterminedены социальными отношениями и являются концентрированным выражением ценностей, пропагандируемых и защищаемых правом, - это руководящие идеи содержания всех правовых норм, которые направляют, ориентируют правовое регулирование и применение права.

В целях обобщения значения и смысла основополагающих принципов права, необходимо сделать вывод о том, что они действуют не изолированно от правовой системы, не имеют абстрактного характера, а, наоборот, тесно связаны с нормами отраслевого законодательства. Для ознакомления с правовой системой, всегда необходимо начинать с характеристики ее общих принципов. Поэтому общие принципы права составляют основу всего правового регулирования.

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«ОСЬ СОПРОТИВЛЕНИЯ» КАК СИСТЕМА КОЛЛЕКТИВНОЙ БЕЗОПАСНОСТИ НА БЛИЖНЕМ ВОСТОКЕ

Abstract. In this article, the author presents the results of a study on the evolution of the regional alliance created by Iran, known as the 'Axis of Resistance,' which plays a crucial role in resisting the Israeli occupation of Palestinian, Syrian, and Lebanese territories. In recent years, this alliance has rapidly transformed into a de facto military bloc adhering to the principles of collective defense. This represents a unique example of collaboration between state and non-state actors in ensuring regional security and resisting foreign military aggression in the Middle East region.

Keywords: Iran, Axis of Resistance, Middle East, Palestine, regional security

«Ось сопротивления» это название неофициального регионального альянса, созданного на Ближнем Востоке мусульманскими государствами и военно-политическими организациями. В него входят Иран, Сирия, Ирак, ливанское шиитское движение «Хезболла», проправительственные вооруженные группировки действующие в Сирии (но не являющиеся частью вооруженных сил этой страны), иракские шиитские группировки входящие в состав «Сил народной мобилизации» (Хашд аш-Шааби), иракское шиитское движение «Катаиб Хезболла», йеменское движение хуситов «Ансар Аллах», а также палестинские суннитские военно-политические организации ХАМАС и «Исламский джихад» [10].

Члены «Оси сопротивления» не имеют общего идеологического фундамента. Одни придерживаются идей Исламской революции и шиитской религиозной доктрины (Иран, «Хезболла», «Катаиб Хезболла», хуситы), а другие — светского национализма (правящая в Сирии «Партия Баас») и идей панисламского движения «Братья-мусульмане» (ХАМАС и «Исламской джихад») [5, 6, 10]. Однако их объединяет противостояние политике США и Израиля на Ближнем Востоке, а также отстаивание прав палестинского народа на создание суверенного и независимого национального государства в границах 1947 года. Кроме того общими противниками «Оси сопротивления» в регионе являются Саудовская Аравия и террористическая организация «Исламское государство» (другие названия — ИГИЛ, ИГИШ, ДАЕШ, ИГ), враждующие как с шиитами, так и с «Братьями-мусульманами» и баасистским режимом Башара Асада [4, 10].

Термин «Ось сопротивления» появился после событий 11 сентября 2001 года, когда США, после нападений «Аль-Каиды», объявили о начале «войны с международным терроризмом» и атаковали Исламский Эмират Афганистан, одновременно расширив свое военное присутствие на Ближнем Востоке. Впервые он был использован ливийской газетой «Аз-Захф аль-Ахдар» в 2002 году, которая, в ответ на слова президента США Джорджа Буша-младшего о том, что Иран, Ирак и Северная Корея образовали «Ось зла», выпустила статью под названием «Ось зла или ось сопротивления?», в которой утверждалось, что «единственным общим знаменателем между Ираном, Ираком и Северной Кореей является их сопротивление гегемонии США» [10]. В 2004 году иранская газета «Джомхури-йе Эслами» использовала



термин «Ось сопротивления» для обозначения вооруженного шиитского восстания (возглавляемого организацией «Армия Махди») против американо-британской оккупации Ирака [1].

В современной научной литературе часто подчеркивается, что за созданием «Оси сопротивления» стоит Исламская Республика Иран. Важно, однако, отметить, что формирование данного альянса началось задолго до Исламской революции 1979 года и создания Исламской республики в Иране — а именно в 60-е годы XX столетия, когда сторонники иранской исламской оппозиции были вынуждены скрываться от репрессивного шахского режима за границы (в Ливане, Сирии, Ираке и других странах). Именно в этот период между иранской исламской оппозицией (которая после Исламской революции 1979 года возглавит Иран) и режимом Хафеза Асада в Сирии установились прочные политические связи, которые со временем трансформировались в полноценные союзнические отношения между Ираном и Сирией (которые сохраняются по сей день). В 80-е годы XX столетия к ирано-сирийскому альянсу присоединились силы исламского сопротивления Ливана (во главе с шиитским движением «Хезболла»), которые противостояли израильской агрессии и оккупации Южного Ливана [9, 10]. Со временем ряды «Оси сопротивления» пополнились военно-политическими движениями представляющими интересы народов Палестины, Ирака и Йемена.

Расширению данного альянса и его военной интеграции способствовали следующие факторы:

- продолжающаяся незаконная израильская оккупация палестинских территорий;
- незаконная израильская поселенческая активность на оккупированных палестинских территориях, включая Восточный Иерусалим, которая противоречит международному праву;
- продолжающаяся незаконная израильская оккупация сирийских Голанских высот;
- строительство незаконных еврейских поселений на оккупированных сирийских Голанских высотах;
- продолжающаяся незаконная израильская оккупация ливанских территорий (Ферм Шебаа);
- неспособность международного сообщества (в том числе Совета Безопасности ООН) принудить Израиль к прекращению оккупации и колонизации палестинских, сирийских и ливанских территорий (Западного берега реки Иордан, Восточного Иерусалима, сектора Газа, Голанских высот и Ферм Шебаа);
- неспособность международного сообщества (в том числе Совета Безопасности ООН и Международного уголовного суда) привлечь Израиль к ответственности за военные преступления и преступления против человечности, совершенные израильскими войсками во время боевых действий на территориях Палестины, Сирии и Ливана (в том числе за массовые убийства гражданского населения в лагерях для беженцев Сабра и Шатила, за этнические чистки и другие виды преступлений против гражданского населения, запрещенные международными конвенциями);
- незаконная американо-британская военная агрессия против Ирака в 2003 году (которая противоречила нормам международного права и была осуждена международным сообществом, в том числе ООН);
- начало «арабской весны» на Ближнем Востоке и гражданских войн в Йемене и Сирии в 2011 году;
- появление и военная экспансия террористической группировки «Исламское государство» (которая в 2013-2014 гг. захватила обширные территории в Сирии и Ираке, в непосредственной близости от границ Ирана);
- создание «арабской коалиции» во главе с Саудовской Аравией и Объединенными Арабскими Эмиратами для свержения движения «Ансар Аллах», захватившего власть в Йемене и вмешательство этой коалиции в гражданскую войну в Йемене;



- вмешательство США и НАТО в гражданскую войну в Сирии (в результате которого на территорию Сирии были введены американские и турецкие войска, присутствие которых международно признанное сирийское правительство считает незаконной оккупацией);
- усиление американского военного присутствия на Ближнем Востоке (в частности в таких странах как Кувейт, Катар, Саудовская Аравия, Ирак, Турция);
- нормализация отношений между Израилем и рядом арабских стран (Египтом, Иорданией, ОАЭ, Бахрейном, Суданом и Марокко) без учета интересов палестинцев (как проживающих на оккупированных Израилем территориях, так и в лагерях беженцев в соседних с Палестиной странах — Сирии, Ливане, Иордании).

Члены «Оси сопротивления» активно критикуют политику США и Израиля на Ближнем Востоке, считают их главной угрозой для региональной безопасности и выступают за уменьшение вмешательства внерегиональных акторов (в первую очередь США) в региональные процессы. Одновременно они осуждают милитаризацию Израиля, которая происходит за счет американской и европейской военной и финансовой помощи, отказ Израиля от ядерного разоружения и его политику в отношении Палестины [3, 7, 9, 10]. Продолжающаяся оккупация палестинских территорий рассматривается «Осью сопротивления» как «колонизация», целью которой является выселение коренного (арабского) народа Палестины с родной земли и заселение ее еврейскими иммигрантами (в том числе посредством стимулирования иммиграции еврейского населения из стран бывшего СССР, таких как Россия и Украина) [3, 8].

«Ось сопротивления» не является официальным военным блоком и ее деятельность в качестве военного альянса юридически не оформлена, однако за годы своего существования ее члены создали де-факто полноценную систему коллективной обороны на Ближнем Востоке. В рамках этой системы государственные и негосударственные акторы, входящие в состав «Оси сопротивления», оказывают политическую, финансовую и военную помощь друг другу в случае иностранной военной агрессии.

Начиная с 1985 года (когда Израиль совершил акт военной агрессии против Ливана, добиваясь вывода с территории этой страны вооруженных формирований Организации Освобождения Палестины) «Ось сопротивления» неоднократно оказывала помощь своим членам, вмешиваясь в конфликты на Ближнем Востоке. Так было в Ливане (1985-2000 гг.), где Иран и Сирия оказывали помощь «Хезбалле», сражавшейся против израильской оккупации Южного Ливана; в Палестине (во время второй интифады и последующих сражений в секторе Газа, в которых принимали участие ХАМАС и «Исламский джихад»); в Сирии (с начала гражданской войны в этой стране в 2011 году); в Ираке (с 2014 года, де-факто в составе международной коалиции по борьбе с «Исламским государством»); в Йемене (с 2014 года на стороне движения «Ансар Аллах», которое противостояло «арабской коалиции» во главе с Саудовской Аравией и ОАЭ, которые пытались вернуть к власти свергнутого президента Абд-Раббу Мансура Хади) [2, 7].

Анализ интервенций «Оси сопротивления» позволяет сделать вывод, что в большинстве случаев они заканчивались достижением поставленных военных и политических целей (что Ираном и его союзниками расценивается как победа над врагами в данных конфликтах). Например, благодаря поддержке со стороны Ирана и Сирии, ливанское движение «Хезболла» в 2000-м году сумело освободить от израильской оккупации Южный Ливан, а в 2006 году — отразить повторную агрессию Израиля в отношении Ливана. Военная и финансовая помощь со стороны стран «Оси сопротивления» сыграла важную роль и во время второй интифады в Палестине, которая в 2005 году закончилась выводом израильских оккупационных сил и еврейских поселенцев из сектора Газа [10].

Важно, однако, отметить, что в своей истории «Ось сопротивления» переживала также кризисы, которые ставили под угрозу единство альянса. Самым серьезным из них можно считать кризис 2011 года, связанный с началом гражданской войны в Сирии. Тогда суннитский член «Оси», а именно палестинское движение ХАМАС, выступило в поддержку вооруженной



сирийской оппозиции (фундаментом которой являлась идеология «Братьев-мусульман»), в то время как остальные члены — в поддержку правящей Партии Баас. Вмешательство Ирана, «Хезболлы» и шиитских добровольцев из других мусульманских стран (в том числе из Ирака, Афганистана и Пакистана) помогли Башару Асаду сохранить власть и вернуть контроль над большей частью территории Сирии, что подтолкнуло ХАМАС к нормализации отношений с его режимом.

Фактическая победа Асада в гражданской войне в Сирии доказала эффективность сотрудничества государств и негосударственных субъектов в рамках «Оси сопротивления» и помогла Ирану укрепить свое влияние на Ближнем Востоке.

О том, насколько это влияние сегодня значимое, свидетельствуют, например, события октября 2023 года, когда находящийся в блокаде сектор Газа подвергся нападению со стороны Израиля, которое привело к многочисленным жертвами среди гражданского населения и к масштабными разрушениями гражданской инфраструктуры: жилых домов, больниц, мечетей, школ, представительств ООН. Чтобы остановить израильское вторжение и принудить Израиль и его союзников к прекращению огня в Палестине члены «Оси сопротивления» предприняли ряд мер политического и военного характера. Так, Иран и Сирия сосредоточились на мерах политического принуждения, активизировав критику Израиля и вооружающих его стран (в первую очередь США) в ООН, Организации исламского сотрудничества, Шанхайской организации сотрудничества, Лиге арабских государств и на др. международных площадках, в то время как ливанская «Хезболла» и иракская «Катаиб Хезболла» подключились к вооруженной борьбе палестинских движений ХАМАС и «Исламский джихад», направленной на оборону сектора Газа. Пока бойцы «Хезболлы» наносят ракетные и артиллерийские удары по израильским военным объектам на севере оккупированной Палестины (в Западной Галилее), а также на оккупированных Голанских высотах и Фермах Шебаа, бойцы «Катаиб Хезболла» сосредоточились на атаках на американские военные базы в Ираке и Сирии и периодически наносят удары беспилотниками по израильским целям на оккупированных Голанских высотах. Важную роль в операции по принуждению Израиля к миру играет также йеменское движение «Ансар Аллах», бойцы которого наносят удары по израильским объектам в районе Эйлата (используя баллистические ракеты и БПЛА), а также атакуют израильские и иностранные коммерческие суда (которые направляются в израильские порты) в Красном море и Баб-эль-Мандебском проливе.

В западной научной и академической среде «Ось сопротивления» часто представляется как объединение «государств-изгоев» (Ирана и Сирии) и поддерживаемых ими «террористических группировок» с целью «дестабилизации Ближнего Востока» и продвижения «агрессивных политических целей исламских фундаменталистов». Однако такое представление о ней можно считать неверным, поскольку «Ось сопротивления» является оборонительной инициативой и не преследует агрессивных целей в регионе, таких как захват чужой территории, расширение границ стран-членов альянса, свержение неудобных политических режимов в соседних государствах, экспансия за пределы региона и т. д.

По мнению автора данный альянс является уникальным явлением для ближневосточного региона, в котором исторически слабо развиты интеграционные процессы, в том числе связанные с созданием оборонительных союзов. В то время как Саудовская Аравия и другие страны Персидского залива в своей политике безопасности делают акцент на билатеральном сотрудничестве с США, размещая на своей территории американские военные базы, а Турция находится под «зонтиком безопасности» НАТО (как полноправный член данного военного альянса) Иран стал единственной региональной державой, которая смогла создать на Ближнем Востоке эффективный военно-политический альянс, который пытается решать проблемы связанные с региональной безопасностью без привлечения внерегиональных акторов (США, НАТО и др.). Хотя сегодня данный альянс является неформальным, нельзя исключать его трансформацию в официальный военный блок в будущем, который станет своего рода «ближневосточным НАТО» и сможет эффективно отражать иностранную военную агрессию



против стран-членов. Созданию такого блока могут способствовать внутривосточные изменения в таких странах как Ливан (например приход к власти «Хезболлы»), Ирак (приход к власти проиранских сил и отказ нового правительства от многовекторной внешней политики) и Йемен (победа движения хуситов в гражданской войне и международное признание созданного им правительства).

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АФГАНИСТАН И МЕЖДУНАРОДНОЕ СОТРУДНИЧЕСТВО В ОБЛАСТИ ВОДНОЙ БЕЗОПАСНОСТИ В СРЕДНЕЙ АЗИИ

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Abstract. This article presents the findings of a study focusing on the analysis of the hydropolitics of the Islamic Emirate of Afghanistan and its collaboration with neighboring countries in the Central Asian region concerning the distribution of water resources. The author also examines the legal aspects of water cooperation among the region's countries and the operations of regional institutions responsible for overseeing Central Asia's water resources.

Keywords: Afghanistan, Taliban, Central Asia, regional security, water crisis



В августе 2021 года в результате вывода войск США и НАТО из Афганистана международно признанное прозападное афганское правительство во главе с А. Гани было свергнуто, а к власти в Афганистане вернулось ультраконсервативное исламское движение «Талибан», которое сформировало временное правительство. Это правительство не было признано на международной арене, а в отношении талибов были ужесточены западные санкции, которые привели к существенному ухудшению экономической ситуации в Афганистане [3].

Отсутствие международного признания временного афганского правительства и западные санкции стали двумя основными факторами, которые углубили международную изоляцию Афганистана, имеющую как политическое, так и экономическое измерение и оказывающую влияние на уровень жизни населения этой страны. В обмен на признание западные государства и их союзники требуют от правительства талибов создание так называемого «инклюзивного правительства», в котором были бы представлены все этнические и религиозные группы населения Афганистана, а также женщины. Кроме того от талибов требуют соблюдение прав человека, в том числе прав женщин, в их западном понимании [10].

Со своей стороны временное афганское правительство старается продемонстрировать афганским гражданам, соседним государствам и всему международному сообществу, что его члены являются самоотверженными патриотами Афганистана и что они стараются решить все главные проблемы страны, связанные не только с безопасностью, но и с борьбой с бедностью и безработицей. В этом месте следует отметить, что с возвращением талибов к власти ситуация с безопасностью в Афганистане значительно улучшилась — война в стране закончилась и это положительно сказывается на региональной и международной безопасности [3]. Кроме того, талибы добились больших успехов в деле борьбы с выращиванием опийного мака и производством наркотиков, и благодаря их бескомпромиссной борьбе Афганистан перестал быть наркогосударством, которым стал сразу после свержения первого правительства талибов американскими войсками в 2001 году [17, 24].

Основной же проблемой послевоенного Афганистана является крайняя бедность, безработица и массовая эмиграция афганцев за границу [3, 10]. Чтобы решить эти проблемы временное правительство принимает ряд мер, которые включают в себя: поиск инвесторов для развития горнодобывающей отрасли, поиск инвесторов для строительства транспортной инфраструктуры (в том числе железнодорожной и трубопроводной), которая превратила бы Афганистан в важное транзитное государство, углубление сотрудничества с соседними странами в области энергетики, а также начало реализации важных для развития сельского хозяйства ирригационных проектов. Последнее имеет особое значение, поскольку Афганистан является аграрным государством и большинство его жителей живет в сельской местности, где занимается земледелием и скотоводством. Для реализации этой цели временное правительство преступило к строительству канала Кош-Тепа, который К. Адылбекова называет «одним из самых амбициозных ирригационных проектов в Средней Азии за последнее десятилетие» [2].

Длина канала составит 285 км, ширина 100 метров и глубина 8 метров и ожидается, что он позволит орошать более 550 тысяч гектаров сельскохозяйственных угодий в засушливых северных провинциях Афганистана, таких как Балх, Джаузджан и Фарьяб, а также (в будущем) обеспечит работой по меньшей мере 250 тысяч человек [2, 5, 7].

Первый вице-премьер временного правительства Афганистана мулла Абдул Гани Барадар считает, что благодаря эксплуатации канала Афганистан станет «самодостаточной страной в сфере сельского хозяйства», что значительно улучшит продовольственную безопасность страны [25].

Продовольственная безопасность имеет для Афганистана важное значение, потому, что не смотря на высокие темпы эмиграции население страны стремительно увеличивается за счет высокой рождаемости. А. Моджумдар утверждает, что в ближайшие десятилетия демографический вопрос превратится в серьезный источник нестабильности в Афганистане [19].



Проект строительства канала Кош-Тева реализует Национальная компания развития Афганистана, а строительство ведется за государственный счет. На строительство канала правительство талибов выделило из бюджета страны около 700 млн долларов США. По данным Адылбековой в период с марта 2022 года по 19 мая 2023 года талибы построили около 100 км канала [2, 21].

Строительство канала на севере Афганистана вызывает озабоченность соседних с Афганистаном стран, в первую очередь Узбекистана и, в меньшей степени — Туркменистана. Это связано с тем, что Средняя Азия является регионом, где водная безопасность неразрывно связана с энергетикой, продовольственной безопасностью, окружающей средой, уровнем безработицы, а также политической стабильностью и военной безопасностью.

Например соперничество за доступ к водным ресурсам неоднократно приводило к конфликтам в отношениях между Узбекистаном и Таджикистаном (из-за строительства таджикским режимом Рогунской ГЭС), а также к вооруженным столкновениям на границе между Таджикистаном и Кыргызстаном (из-за доступа к водоразделу «Головной») [9, 11]. Эти конфликты сопровождались гибелью солдат и гражданских лиц, а также разрушением приграничных населенных пунктов и массовым исходом беженцев. А в начале 2023 года решение Кыргызстана передать под суверенитет Узбекистана приграничное Кэмпир-Абадское водохранилище привело к серьезному политическому кризису в Кыргызстане, который едва не закончился новой революцией в этой стране [1].

Афганистан никогда раньше не вступал в соперничество за водные ресурсы приграничных рек, поэтому избегал конфликтов со среднеазиатскими странами, однако строительство канала Кош-Тева может изменить ситуацию с безопасностью на северной границе Афганистана и заставить соседние постсоветские государства рассматривать водную политику афганского правительства как угрозу их национальным интересам и национальной безопасности.

Как отмечает Д. Ахроров начало эксплуатации канала Кош-Тева приведет к снижению количества воды поступающей в Узбекистан на 14%. Это, в свою очередь, приведет к серьезным экономическим последствиям для Хорезмской, Бухарской, Сурхандарьинской и Навоийской областей Узбекистана [5]. Отвод воды из Амударьи может усугубить сложившуюся неблагоприятную экономическую и экологическую ситуацию также в северных районах Узбекистана, где в результате снижения уровня воды в Аральском море ухудшились условия жизни людей, пришла в упадок местная экономика (в том числе такие ее сектора, как рыболовство и туризм), увеличилась эмиграция населения (в том числе за границу), что оказывает негативное влияние на демографию автономной Республики Каракалпакстан. По мнению Ахророва уменьшение воды в Амударье непременно усугубит эти проблемы [5].

На фоне работ по строительству канала в СМИ Узбекистана, Таджикистана и России появляется много критических статей, авторы которых обвиняют талибов в «воровстве воды» и попытке «дестабилизировать регион Средней Азии» и все «мягкое подбрюшье России». Некоторые авторы даже обвиняют правительство талибов в «сговоре с ЦРУ», целью которого является «открытие второго фронта против России», которая с 2014 года ведет войну против Украины [14, 18, 22].

Одним из таких авторов является Р. Масалиев, который в своей статье утверждает, что 12 мая 2023 года на юге Афганистана, «в городе Кандагар», состоялись «секретные переговоры» премьер-министра Катара Мохаммеда бин Абдуль-Рахмана аль-Тани с верховным духовным лидером Исламского Эмирата Афганистан Хайбатуллою Ахундзадой, на которых «присутствовали представители ЦРУ» [18]. На этих переговорах, как пишет Масалиев, помимо обсуждения проблем, связанных с гуманитарным, финансовым и социально-экономическим кризисом в Афганистане, затрагивался также вопрос «о динамичном строительстве» на севере Афганистана канала Кош-Тева, который является «американским инструментом» для «дестабилизации Средней Азии с целью давления на Россию». Кроме того Масалиев



описывает талибов как преступников, которые пытаются себе присвоить то, на что у них нет законного права, а именно воду из Амударьи [18].

По мнению А. Князева такого рода обвинения являются совершенно необоснованными, так как Афганистан «имеет полное право пользоваться водными ресурсами Амударьи» и данное право «должно быть учтено и закреплено в новых международно-правовых документах» регулирующих использование вод приграничных рек, в том числе Амударьи [14]. Князев считает, что «соответствующее понимание» есть у всех стран региона, в том числе у Узбекистана и Туркменистана, которые имеют непосредственную границу с Афганистаном и являются наиболее уязвимыми к любым изменениям водного статус-кво в Средней Азии [14]. В этом месте следует отметить, что последний раз Афганистан принимал участие в переговорах по водопользованию водой реки Амударья в 1946 году, когда имел общую границу с СССР, однако все достигнутые тогда соглашения утратили силу вместе с распадом Советского Союза.

В 1992 году получившие независимость Казахстан, Кыргызстан, Узбекистан, Таджикистан и Туркменистан подписали так называемое Алматинское соглашение (*Соглашение между Республикой Казахстан, Республикой Кыргызстан, Республикой Узбекистан, Республикой Таджикистан и Туркменистаном «О сотрудничестве в сфере совместного управления использованием и охраной водных ресурсов межгосударственных источников»*), которое заложило основы для создания Межгосударственной координационной водохозяйственной комиссии Центральной Азии (*Interstate Commission for Water Coordination of Central Asia*) [4, 12].

Межгосударственная координационная водохозяйственная комиссия Центральной Азии является единственным межгосударственным органом, созданным и уполномоченным главами постсоветских государств Средней Азии принимать обязательные к исполнению решения по текущим и перспективным вопросам межгосударственного вододелия и водопользования. В частности на комиссию возложено: определение водохозяйственной политики в регионе, разработка ее направлений с учетом нужд всех отраслей народного хозяйства, комплексного и рационального использования водных ресурсов, перспективной программы водообеспечения региона и мер по его реализации; разработка и утверждение лимитов водопотребления ежегодно для каждой из стран и региона в целом, соответствующих графиков режимов работы водохранилищ, корректировка их по уточненным прогнозам в зависимости от фактической водности и складывающейся водохозяйственной обстановки [12].

Главной целью создания Межгосударственной координационной водохозяйственной комиссии Центральной Азии является утверждение принципов коллегиальности принятия решений по общим водохозяйственным вопросам, а также мер по реализации совместно намеченных программ на основе взаимного уважения интересов сторон.

Основными задачами данного органа являются: определение единой водохозяйственной политики и разработка ее основных направлений; разработка и утверждение лимитов водопотребления, режимов работы крупных водохранилищ и управление водораспределением; разработка и осуществление экологических программ; разработка рекомендаций по выработке единой ценовой политики и компенсации возможных потерь, а также по правовым основам водопользования; координация выполнения крупных водохозяйственных работ и совместное использование имеющегося потенциала водного хозяйства государств; создание единой информационной базы по использованию водных ресурсов, мониторинга орошаемых земель и прилегающих районов, общего гидрометеорологического обеспечения, а также координация совместных исследований по научно-техническому обеспечению региональных водохозяйственных проблем и выполнение схемных проработок; содействие в развитии кооперативных связей по внедрению водосберегающих технологий и других передовых мер по совершенствованию водопользования; разработка совместных программ предупреждения и ликвидации чрезвычайных происшествий и стихийных бедствий [12].



Отсутствие в 1992 году в Афганистане жизнеспособного центрального правительства и продолжавшаяся в то время гражданская война сделали участие этой страны в переговорах в Алматы невозможным. Поэтому Афганистан не присоединился к Межгосударственной координационной водохозяйственной комиссии Центральной Азии и в работе данного органа не участвует. Сейчас такое присоединение тоже невозможно по политическим причинам — движение талибов считается в странах Средней Азии «террористической организацией» и созданное им временное афганское правительство не рассматривается странами региона как легитимное [20].

Еще одним важным международным договором регулирующим отношения между странами региона в области использования вод Амударьи является Конвенция ООН по охране и использованию трансграничных водотоков и международных озер [16]. В ней закреплены принципы управления трансграничными реками и озерами, определены понятия «трансграничного воздействия», которые определяют экологические, социальные, экономические последствия от управления водными ресурсами и регламентированы принципы бассейновых соглашений на квотирование водных ресурсов. Эта конвенция была ратифицирована Узбекистаном, Туркменистаном и Казахстаном, но Афганистан ее не подписывал и не ратифицировал, а сейчас не может этого сделать все по той же причине — отсутствие международного признания Исламского Эмирата Афганистан [16].

Не смотря на это Абдул Гани Барадар считает, что Афганистан имеет право на водные ресурсы «в соответствии с нормами международного права» и утверждает, что Афганистан открыт к сотрудничеству с соседними странами в этом вопросе [15, 25]. Некоторые исследователи (в том числе Д. Ахроров, И. Кармазин, А. Казанцев), однако, не верят в возможность такого сотрудничества и предсказывают региону «войну за воду» [5, 14].

В свою очередь Д. Триллинг считает главной угрозой водной безопасности Средней Азии не строящийся талибами канал на севере Афганистана, а неэффективное водопользование, практикуемое в постсоветских государствах региона, а также то, что он называет «водным расточительством». По его мнению сегодня экономика самой густонаселенной страны региона (Узбекистана) сильно зависит от выращивания хлопка, который в этой стране называют «белым золотом» [23]. По данным Немецкого агентства по развитию (GIZ), в хлопковой отрасли, начиная от стадии обработки семян до производства текстиля, занято около 30% трудоспособного населения Узбекистана, а хлопок – одна из самых водоемких культур в мире, для полива которой требуется в среднем в три-шесть раз больше воды, чем для риса [26].

В Узбекистане эта цифра, по мнению Триллинга, намного выше, а все потому, что прежде чем вода попадает на поля, до 37% ее теряется в следствии утечки из обветшалых каналов, большинство из которых были построены еще во времена СССР. Триллинг считает, что большинство узбекских фермеров при наличии воды используют полив по бороздам, открывая шлюзы и затапливая поля, в то время как это приводит к повышению уровня грунтовых вод и вытягиванию солей естественного происхождения на поверхность, в результате чего поля покрываются белой коркой и снижается урожайность. Именно это, по оценке Триллинга, привело к тому, что ныне грунтовые воды в Узбекистане полны пестицидов, дефолиантов и других химикатов [23]. Все это в совокупности снижает ВВП Узбекистана на 8%.

Обращает на себя внимание факт, что в Узбекистане 90% потребления пресной воды приходится на сельское хозяйство, урожайность остается довольно низкой, хотя, согласно подсчетам Всемирного банка, Узбекистан использует в три раза больше воды, чем Египет на производство единицы ВВП, в пять раз больше, чем Казахстан, и в 74 раза больше, чем Австралия [27].

Чтобы изменить данную ситуацию соседним с Афганистаном странам необходимо менять методы работы, покончить с расточительным использованием воды, которое только усугубляет водный кризис в Средней Азии и делает целые области непригодными для жизни [23].



Анализируя водную политику Афганистана можно прийти к выводу, что временное афганское правительство посредством реализации важного ирригационного проекта, каким является канал Кош-Тева, ищет возможность защитить национальные интересы своей страны. Развивая сельское хозяйство в засушливых северных регионах Афганистан может добиться существенного прогресса в деле снижения своей зависимости от международной продовольственной помощи, уменьшить риск голода, сократить уровень безработицы среди афганцев, а также создать благоприятные условия для возвращения части афганских беженцев и трудовых мигрантов, миллионы которых все еще проживают в соседних Иране, Пакистане и в других странах. В то же время новое афганское правительство рассматривает сотрудничество с соседними странами в области совместного использования вод приграничных рек как возможность для развития региональных отношений и улучшения водообеспечения всех заинтересованных сторон о чем свидетельствует его открытость к диалогу по водной проблематике с бывшими постсоветскими республиками Средней Азии.

Следует, однако, отметить, что важным шагом для сотрудничества в этой области должно стать искреннее политическое и дипломатическое взаимодействие между правительствами Узбекистана, Туркменистана и Афганистана. Эти страны должны выработать долгосрочную стратегию совместного использования водных ресурсов, учитывая как собственные национальные интересы, так и интересы всех стран зависящих от вод реки Амударья. При этом важно уделять внимание также экологическим аспектам и устойчивому использованию рек для предотвращения негативного воздействия изменения климата и дефицита водных ресурсов на окружающую среду в среднеазиатском регионе. Кроме того, правительства этих государств должны усовершенствовать существующие в рамках Межгосударственной координационной водохозяйственной комиссии Центральной Азии механизмы для обмена информацией друг с другом о состоянии водных ресурсов, расходе воды и гидрометеорологических данных, что позволит более эффективно планировать и координировать использование воды на границах.

Для более эффективной работы данной Комиссии ее страны-члены должны рассмотреть вопрос о принятии Афганистана в свои ряды, поскольку эта страна является одной из стран бассейна Аральского моря и имеет законные основания участвовать в механизмах управления водными ресурсами Амударьи и других приграничных рек. Наконец, странам региона следовало бы инициировать создание совместных инфраструктурных проектов, таких как дамбы, ирригационные системы и водохранилища, которые могут предоставить возможность для партнерского сотрудничества и обмена опытом, а также привести к взаимной выгоде и укреплению доверия между сторонами.

По мнению автора сотрудничество между Афганистаном и его соседями по вопросам совместного использования вод приграничных рек может способствовать укреплению мирных отношений, стабильности и безопасности в регионе, а также обеспечению устойчивого развития всех заинтересованных сторон. В этом контексте важным, однако, является международное признание нового афганского правительства и установление с ним полноценных дипломатических отношений. Это сделает возможным присоединение Афганистана к региональным договорам, регулирующим пользование водами трансграничных рек, а также к существующим объединениям занимающимся урегулированием водных вопросов в Средней Азии, таким как Межгосударственная координационная водохозяйственная комиссия Центральной Азии.

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ПРАВОВЫЕ ОСОБЕННОСТИ ПОЛОЖЕНИЯ ПРОКУРОРА В КАССАЦИОННОМ ОБЖАЛОВАНИИ

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Abstract. Proceedings in the court of cassation instance is a form of judicial control over the validity of acts rendered in a lower court, the purpose and objectives of which is to protect the rights, freedoms and legitimate interests of the participants of judicial proceedings, by verifying the legality, validity and motivation of the appealed court decisions and the reasoned response of the higher court on the merits of the claimed claims. We believe that the cassation instance, based on the results of the verification of judicial decisions, does not resolve the case on the merits, but verifies the legality and validity of the lower court's verdict, which decides the guilt or innocence of the defendant and the measure of his responsibility for the act committed, as well as the adoption, in the course of justice, of another decision provided for by the Code of Criminal Procedure of the Republic of Moldova [1].

Keywords: criminal procedure, cassation appeal, prosecutor, legal position.



В уголовном судопроизводстве, при обжаловании судебных решений, в определениях вышестоящих инстанций, дается ответ, по существу, заявленных требований, во-вторых, этими судами могут быть внесены существенные изменения в приговор, либо он может быть вовсе отменен, соответственно имеет место разрешение дела по существу. Это не единственное мнение, существовавшее ранее о том, что в кассационной и надзорной инстанциях дела рассматриваются и разрешаются. Считается, наиболее правильно, что дела рассматриваются, но не разрешаются и тем более не пересматриваются. Наиболее правильно именовать стадию кассационного судопроизводства не стадией пересмотра приговоров и иных судебных решений, тем более пересмотра дел, а стадией проверочной, «ибо утверждение, что проверка решения суда вышестоящим судом в каждом случае является пересмотром, может исказить суть проблемы и создать видимость отсутствия какой-либо стабильности решений нижестоящих судов, что противоречит как теории, так и практике уголовного процесса» [2, 75-78; 3, 22-25; 4, с.98-101; 5, с.68-71; 6, с.128-129].

При этом надо учитывать и удельный вес приговоров, рассматриваемых в кассационном порядке [7, с.85-87; 8, с.83-85].

В кассационном обжаловании, прокурор лишь сторона процесса и выступает по доводам кассационной жалобы и (или) высказывает свое мнение относительно обоснованности кассационных жалоб других его участников [2, с.71-72; 9, с.116-117].

Действующий уголовно-процессуальный закон отошел от понятия процессуальной роли прокурора как лица, осуществляющего надзорные функции в судебных стадиях производства, хотя процессуальное положение прокурора в суде кассационной инстанции, как и в целом на протяжении всего уголовного судопроизводства, остается неизменным в одном: он по-прежнему представляет сторону обвинения. Означает ли это, что он продолжает осуществлять от имени государства уголовное преследование или представляет государственное обвинение, и может ли прокурор в кассационном обжаловании (если был вынесен обвинительный приговор) отказаться от обвинения? Повлечет ли за собой такой отказ обязательное и безусловное прекращение уголовного процесса или вынесения оправдательного решения по делу, как это предусмотрено в ч. (5) ст. 320 УПК РМ [1]?

Строгович М. считал, что участвующий в заседании кассационной инстанции прокурор, „не является стороной, обвинителем, в отличие от прокурора, выступающего в суде первой инстанции, поскольку его участие в заседании кассационной инстанции вовсе не преследует обвинительной цели, в отличие от участия прокурора в судебном разбирательстве в суде первой инстанции. В суд первой инстанции прокурор идет именно для того, чтобы поддерживать обвинение в отношении подсудимого, так как прокурор составляет обвинительное заключение и направляет дело в суд для предания обвиняемому суду только в тех случаях, когда следует, что деяние существует, что установлен его исполнитель и он несет уголовную ответственность, результаты уголовного преследования убедили прокурора в виновности обвиняемого. Конечно, это убеждение на суде может измениться в результате судебного следствия. В этом случае прокурор отказывается от обвинения; но идет в суд прокурор для того, чтобы обвинять. В заседании же кассационной инстанции прокурор участвует вовсе не для обвинения подсудимого. Прокурор в кассационной инстанции может возражать против кассационной жалобы, может поддержать ее, может предложить кассационной инстанции отменить или изменить приговор по иным мотивам и в других пределах, чем это предложено в кассационных жалобах. Но прокурор не может предложить отменить приговор за мягкостью наказания, если дело не рассматривается, по кассационному протесту прокурора. Не является обвинителем выступающий в кассационной инстанции прокурор и тогда, когда дело рассматривается по кассационному протесту прокурора, в этих случаях прокурор в кассационной инстанции высказывается в пользу удовлетворения кассационного протеста ввиду незаконности или необоснованности приговора, а не обвиняет как сторона» [10, с.515].



Шифманом М., считал, что прокурор в кассационной инстанции всегда является стороной - обвинителем. Гродзинский М. полагал, что прокурор в кассационной инстанции является стороной в тех случаях, когда дело рассматривается по кассационному протесту прокурора [10, с.515-516].

Как следует из положений п. 37) ст. 6 УПК РМ, *прокурор* – официальное лицо, назначаемое в установленном законом порядке для осуществления уголовного преследования или руководства им, а также для представления в суде обвинения от имени государства. В соответствии с **ч. (1) ст. 51 УПК РМ** - *Прокурор является лицом, осуществляющим в пределах своей компетенции от имени государства уголовное преследование или, по обстоятельствам, руководящим им, представляющим обвинение в суде и выполняющим другие обязанности, предусмотренные настоящим кодексом. Прокурор, участвующий в уголовном судопроизводстве, выполняет функции государственного обвинителя* [1].

Однако, при рассмотрении уголовного дела судебной инстанцией прокурор имеет определенные полномочия, установленные ст. 53 и 320 УПК РМ, без указания *функций государственного обвинителя*.

В соответствии с п. 5 ст. 6 УПК РМ, под *уголовным делом* понимается „уголовное судопроизводство, осуществляемое органом уголовного преследования и судебной инстанцией в отдельном конкретном случае в отношении одного или нескольких совершенных, или предположительно совершенных преступлений”. А также, „предметом уголовного преследования является сбор необходимых доказательств, осуществленный прокурором и органами, созданными в соответствии с законом, о наличии преступления, идентификации исполнителя деяния для определения наличия основания направления или ненаправления уголовного дела в суд в соответствии с законом и установления ответственности, которую должен понести исполнитель деяния” [1, ст.252 и ст.253 ч.(1)]. Таким образом, *уголовное преследование* - это основное направление деятельности прокурора как стороны обвинения, оно является как бы векторным на протяжении всех стадий уголовного судопроизводства.

Деятельность прокурора, в том числе в судебном заседании суда кассационной инстанции, многофункциональна и не сводится лишь к уголовному преследованию.

Правозащитная функция прокурора гармонично дополняет его обвинительную деятельность. Наиболее ярко это выражено на примере института отказа от обвинения. „Если в процессе судебного разбирательства рассмотренные судебной инстанцией доказательства в совокупности не подтверждают предъявленного подсудимому обвинения, прокурор обязан частично или полностью отказаться от обвинения” [1, ст. 320 ч. (5)].

Кроме того, исходя из статей 1 и 2 Закона о Прокуратуре, прокурор является ответственным должностным лицом, осуществляющим полномочия Прокуратуры, предусмотренные Конституцией [11], Законом о Прокуратуре, иными законодательными актами и международными соглашениями, в уголовном и иных предусмотренных законом производствах содействует соблюдению правопорядка, осуществлению правосудия, защите прав и законных интересов личности и общества; и обязан, в соответствии со ст. 6 ч. (3) п. с) - обеспечивать при осуществлении своих полномочий соблюдение прав и основных свобод человека [12].

Деятельность прокурора в апелляционной, кассационной инстанциях и в **исключительном порядке обжалования** является одной из форм непосредственного участия в обеспечении законного порядка, она служит для восстановления прав, свобод и охраняемых законом интересов, нарушенных неправосудными решениями судами первой и второй инстанции; направлена на обеспечение выявления судом вышестоящей инстанции нарушений норм законодательства в деятельности уже не столько следственных, сколько судебных органов, рассмотревших уголовное дело по существу и вынесших в пределах своих полномочий приговор или иное судебное решение; или, напротив, на убеждение в том, что



судебные решения являются законными и обоснованными и не подлежат изменению или отмене [13, с.39-41; 14; 15; 16].

Прокурор обжалует приговоры и иные судебные решения в случаях нарушения закона, причем: как закона процессуального в связи с нарушением процедур расследования дела и рассмотрения судом, так и нарушения норм материального права, при применении судом статей Уголовного закона при квалификации действий подсудимых и установлении им наказания. В связи с иницированием апелляционного или кассационного обжалования производства путем реализации права обжалования активизируются не только средства защиты интереса стороны обвинения, а, значит, уголовного преследования, но и гарантии обеспечения законности для всех участников уголовного судопроизводства, в том числе и со стороны защиты [16; 17; 18].

Действия прокурора при обжаловании незаконного и необоснованного решения суда, являются важным средством укрепления законности [12]. Кассационное обжалование судебных решений является продолжением уже начатого на других, более ранних этапах уголовного процесса пути обеспечения защиты прав и законных интересов, однако в новых процессуальных условиях. Наличие права на кассационное обжалование судебных решений и его осуществление способствуют выявлению и устранению нарушений прав и законных интересов на всех этапах рассмотрения дела вплоть до постановления итогового судебного решения, который аккумулирует результаты всего производства по делу. Данное право содействует наиболее оперативному выявлению и устранению допущенных по делу нарушений закона еще до вступления в законную силу итогового судебного решения, предотвращению исполнения неправосудных приговоров [19 – 23].

В соответствии с действующим уголовно-процессуальным законом государственный обвинитель вправе лишь просить суд о проверке законности, обоснованности и мотивирования не вступившего в законную силу судебного решения и принятии мер для устранения нарушений закона и их отрицательных последствий с приведением доводов и указанием на соответствующие кассационные основания, предусмотренные законом. Государственный обвинитель, являясь стороной в деле, обжалует решение нижестоящего суда.

Прокурор, осуществляя свою деятельность, всегда выступает в качестве представителя государства, то, что выделяет его из участников судебного процесса. Обжалование судебного решения по уголовному делу не зависит от „усмотрения” прокурора, это его профессиональный долг, вытекающий из заинтересованности государства в том, чтобы ни одно судебное решение не расходилось с законом.

Однако, в настоящее время, в статьях 421 и 438 УПК РМ речь идет лишь о праве, предоставленном сторонам уголовного судопроизводства, а не об обязанности обжалования судебного решения прокурором, присущие состязательной форме процесса.

Таким образом, содержащиеся УПК РМ единые условия для инициативы по проверке приговора и иного судебного решения в кассационном порядке обжалования приведены в соответствие с закрепленным в ст. 20 и ст.119 Конституции РМ [11] принципами доступа к правосудию и равноправия сторон при осуществлении судопроизводства, состязательность сторон, которые максимально расширены в уголовном процессе.

Деятельность участников процесса по обжалованию судебных решений, независимо от того, какой интерес ими преследуется - частный или публичный, состоит в выявлении допущенных нижестоящим судом нарушений закона, обращении внимания кассационной инстанции на их наличие и необходимость устранения и направлении в адрес кассационной инстанции особого процессуального документа, фиксирующего аргументированную жалобу о проверке не вступившего в законную силу судебного решения с точки зрения его правосудности и о принятии мер по устранению допущенных по уголовному делу нарушений закона, а также об устранении их отрицательных последствий.



Основная задача прокурора в суде кассационной инстанции убедить судебную коллегия, в зависимости от занимаемой им позиции по уголовному делу, в том, что приговор или иное судебное решение следует оставить без изменения, изменить либо отменить. Это существенно иная задача, нежели в суде первой инстанции, где прокурор, давая оценку обоснованности предъявленного подсудимому обвинения, поддерживает его, а в предусмотренных законом случаях [1, часть (5) статьи 320] отказывается от обвинения, и этот отказ без каких-либо условий обязателен для суда.

Как правило, выступающий в кассационной инстанции прокурор, по рассматриваемому в кассационной инстанции делу, никакого убеждения не имел и иметь не мог, он обвинительного заключения не утверждал, в суде первой инстанции обвинения не поддерживал. Свое мнение по вопросу о законности и обоснованности приговора прокурор составляет, исходя исключительно и только из материалов дела, вне всякой зависимости от той точки зрения, которой придерживался выступавший в суде государственный обвинитель, либо вышестоящий прокурор, отреагировавший на незаконное и необоснованное судебное решение посредством внесения кассационной жалобы.

Строгович М. высказался о том, что прокурор в кассационной инстанции, при высказывании своего мнения по кассационной жалобе, сам становится не только обвинителем, подобно тому, как он не становится только защитником в тех случаях, когда высказывается в пользу удовлетворения кассационной жалобы подсудимого [10, с.515].

Мнение прокурора в суде кассационной инстанции, может быть отличным от позиции стороны обвинения, предложенной суду первой или апелляционной инстанции.

В соответствии со статьями 429 – 430, и 435, статьями 445 и 449 УПК РМ, не следует забывать о том, что закон не предусматривает изменение либо дополнение жалобы новыми доводами, и лицо, подавшее жалобу, не может поставить вопрос об ухудшении положения осужденного.

Если в применении материального права допущена ошибка, требующая разрешение дела по существу, вынесения приговора, что отнесено к компетенции суда первой или апелляционной инстанции и выходит за пределы судебного разбирательства суда кассационной инстанции, прокурор в суде кассационной инстанции предлагает обжалуемый приговор или иное судебное решение отменить и направить уголовное дело на новое судебное разбирательство в суд первой или апелляционной инстанции.

В случае выявления оснований для прекращения уголовного дела, в том числе и в результате представления дополнительных доказательств, в суде кассационной инстанции прокурор предлагает приговор отменить и дело прекратить [1, ст. 435 ч. (1) п.2) лит. б) или ст. 449 ч. (1) п. 2) лит. а)]. Это решение с изложением мотивов прокурор в суде кассационной инстанции принимает и в случае, если придет к убеждению, что представленные доказательства не подтверждают предъявленное подсудимому обвинение [24], например, имеющееся в материалах свидетельство о рождении исследованное судом первой инстанции и получившее ошибочную оценку, содержит сведения, не требующие дополнительной проверки, о том, что лицо не достигло к моменту совершения преступления возраста, с которого наступает уголовная ответственность. Или, в случае истечения срока давности привлечения к уголовной ответственности [25]. В последнем случае обвинение уже нашло свое отражение в приговоре суда, речь идет о прекращении уголовного преследования не в отношении подозреваемого, обвиняемого (основания в статье 285 УПК РМ) или подсудимого (часть (5) статьи 320 УПК РМ), а в отношении осужденного лица.

Отказ от обвинения в суде кассационной инстанции не возможен, должно следовать предложение прокурора об отмене приговора и прекращении производства по делу или уголовного преследования полностью или в соответствующей его части, но и эта позиция прокурора в суде кассационной инстанции является законной и обязательна для суда только с учетом требований частей (5) статьи 320 УПК РМ [1], то есть, если она мотивирована на основе непосредственно исследованных судом первой, апелляционной инстанций



доказательств [13, с.121-144; 26 – 29] или на основе дополнительных материалов, представленных в суд кассационной инстанции, которые не могут быть получены путем производства следственных действий и не требуют дополнительной проверки и оценки нижестоящей инстанции [3, с.26-28; 4, с.114].

Как следует из ч. (6) ст.435 УПК РМ если обжалование в кассационном порядке допустимо, в случае если обжалуемое решение является произвольным или определенно основанным на заведомо неразумной оценке доказательств, состав суда может вынести частное определение, которое направляется в судебную инспекцию.

Такое положение, на наш взгляд, подлежит изменению путем замены словосочетания „может вынести” на „должен вынести”. Такой подход к деятельности судей повысит личную ответственность судей нижестоящих инстанций и позволит улучшить эффективность их деятельности, направленной на обеспечение законности и обоснованности приговоров.

Таким же образом следует поступать и Апелляционным Палатам после рассмотрения кассационных жалоб, которые вправе вынести определение и частное определение, в соответствии с положениями статей 449 ч. (2) и 417 ч. (3) УПК РМ [1].

По результатам рассмотрения дела прокурору, принимавшему участие в судебном разбирательстве суда второй инстанции, необходимо составить соответствующее заключение [30, Titlul II, Capitolul II, lit.f.].

Когда определение суда кассационной инстанции уже состоялось, приговор или иное судебное решение вступает в законную силу и подлежит исполнению [1, ст. 466].

Деятельность прокурора, участвующего в суде кассационной инстанции характеризуется также тем, что, зная материалы уголовного дела и результаты проверки законности и обоснованности приговора или иного судебного решения в кассационном порядке, он имеет возможность оценить не только качество работы органов уголовного преследования, но и государственного обвинителя. Выводы прокурора очень важны для объективного анализа результатов деятельности соответствующих органов и прокурора на всех этапах судопроизводства, начиная со стадии возбуждения уголовного дела и заканчивая подготовкой кассационной жалобы либо отзыва на кассационную жалобу. Недостатки этой работы должны быть доведены до сведения руководителя соответствующей прокуратуры и уголовно-судебного отдела Генеральной Прокуратуры, и стать предметом обсуждения, особенно если они проявляются систематически, указывают на отсутствие должной организации работы или низкий профессиональный уровень прокуроров или офицеров по уголовному преследованию [31, pct.80 lit. o), p)]. Такой подход к деятельности прокурора в суде кассационной инстанции повысит личную ответственность прокуроров и позволит улучшить эффективность их деятельности, направленной на обеспечение законности и обоснованности приговоров.

Подводя итог рассуждениям о том, каковы правовые особенности положения прокурора в кассационном обжаловании в уголовном процессе, скажем о том, что прокурор должен обеспечить эффективное устранение кассационной инстанцией ошибок, допущенных судами первой или апелляционной инстанций, способствовать восстановлению законных прав, свобод и интересов участников уголовного процесса, нарушенных нижестоящими инстанциями, а также содействовать кассационной инстанции в вынесении законного и обоснованного определения, в свою очередь, также не содержащего ошибок. Задачей прокурора в кассационном обжаловании в уголовном процессе следует считать и способствование суду в установлении единой судебной практики, в повышении качества судебной деятельности.

Правовое положение прокурора в кассационной инстанции напрямую зависит от возложенных на него задач и обязанностей, выполнение которых определяется предметом судебного разбирательства в кассационной инстанции, согласующимся с предметом деятельности прокурора в кассационном обжаловании, но полностью с ним не совпадающим.



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ПОТЕНЦИАЛ «КЛИПОВОГО МЫШЛЕНИЯ» В ПОВЫШЕНИИ ЭФФЕКТИВНОСТИ ОБРАЗОВАТЕЛЬНОГО ПРОЦЕССА В ВУЗЕ

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Abstract. This article describes the contemporary phenomenon of "clip thinking," elucidating the essence of the concept. Clip thinking is explored as a process reflecting a multitude of diverse object properties without considering their interconnections, characterized by the fragmentary nature of the information flow. In the context of clip thinking, a reevaluation of the substantive components of educational material is necessary. It involves structuring information in the form of clips, modifying the presentation format, and utilizing vivid, clear, and visual presentations with understandable and memorable formulations. The application of established teaching methods alongside new developments, including e-learning technologies, will enhance the efficiency of the learning process and significantly improve the level of students' professional preparation.

Keywords: clip, "clip thinking," cognitive style, differentiation, integrality, fragmentariness, alogicality, electronic textbook.

Современные ученики и студенты оказываются в постоянно меняющемся информационном пространстве, где клипы становятся одной из самых популярных форм передачи и восприятия информации. Однако, клиповое мышление обучающихся остается малоизученной областью, требующей дальнейших исследований. Что же означает это понятие?

Слово «clip» в переводе с английского означает «фрагмент», «вырезка», «отрезок», «отрывок». Таким образом, этот феномен представляет собой такой тип мышления, при котором человек воспринимает окружающий мир, как набор фрагментарных, разрозненных, мало связанных между собой образов [1].

Такая непопулярная у подрастающего поколения умственная операция, как «думанье», больше свойственна людям постарше с понятийным мышлением, позволяющим смотреть на мир вдумчиво и целостно. Это прерогатива интеллектуально развитой личности. Чем больше развито понятийное мышление, тем более успешен человек и тем лучше справляется с трудностями. Есть мнение, что с ростом технического прогресса оно постепенно превращается в рудимент и уходит в прошлое [2].

Какова история происхождения этого явления? Американские психологи Г. Смолл и Г. Ворган в своей монографии «Мозг онлайн. Человек в эпоху интернета» пишут, что новое поколение «Next», будет обладать совсем другой психикой и образом мышления по сравнению с людьми старшего поколения. Мало того, весьма вероятно, что сама структура организации головного мозга у людей нового поколения будет отличаться от той, которая существует в настоящее время [3].

Клиповое мышление – особенность современного человека образно воспринимать информацию через короткую трансляцию, послания, промелькнувшие в новостях СМИ, интернета. В Европе и США на данный феномен было обращено внимание еще в середине прошлого века. Первое упоминание в качестве «клиповой культуры» описывается в книге американского футуролога Э. Тоффлера «Шок будущего» как бесконечное мелькание информационных отрезков. «...На личностном уровне нас осаждают и ослепляют



противоречивыми и не относящимися к нам фрагментами образного ряда, которые выбивают почву из-под ног наших старых идей, обстреливают нас разорванными, лишёнными смысла «клипами», мгновенными кадрами» [4, с.23].

Одним из первых исследователей данного феномена стал М. Маклюэн. В своей книге вышедшей в 1964 г., в период создания компьютеров третьего поколения (1959-1971 гг.) он писал, что «...общество, находясь на современном этапе развития, трансформируется в «электронное общество» или «глобальную деревню» и задает, посредством электронных средств коммуникации, многомерное восприятие мира. Развитие электронных средств коммуникации возвращает человеческое мышление к дотекстовой эпохе, и линейная последовательность знаков перестаёт быть базой культуры» [5].

В начале 1980-ых заговорили о порождении этой проблемы. В 1987-м году психолог Ларри Розен в своей статье один из первых заявил, что человек, слишком долго работающий с персональным компьютером, утрачивает способность к общению с людьми, ухудшается его коммуникабельность [6].

А.Б. Фельдман [7] считает клиповое мышление, приобретенным видом мышления, при котором человек оперирует только смыслами фиксированной длины и не может работать с семиотическими структурами произвольной сложности. Внешне это проявляется в том, что человек не может длительное время сосредотачиваться на какой-либо информации, и у него снижена способность к анализу.

К.Г. Фрумкин [8] определяет клиповое мышление, как вектор в развитии отношений человека с информацией, способность быстро переключаться между разрозненными смысловыми фрагментами, но неспособность к восприятию длительной линейной последовательности — однородной и одностильной информации. Он выделяет пять факторов, породивших феномен «клипового мышления»: 1) ускорение темпов жизни и напрямую связанное с ним возрастание объема информационного потока, что порождает проблематику отбора и сокращения информации, выделения главного и фильтрации лишнего; 2) потребность в большей актуальности информации и скорости ее поступления; 3) увеличение разнообразия поступающей информации; 4) увеличение количества дел, которыми один человек занимается одновременно; 5) рост демократии и диалогичности на разных уровнях социальной системы.

Проанализировав междисциплинарные работы в области философии, культурологии и психологии, посвященные феномену клипового мышления, нам удалось выявить противоречие, связанное с сущностью традиционной, образовательной парадигмы, которая, будучи устойчивым, сложившимся явлением, крайне медленно реагирует на стремительные изменения современного общества, где информация является главным ресурсом. В результате этого обозначается явное несоответствие, обновленных внутренних ожиданий обладателей клипового мышления, размеренному ритму образовательных устоев.

Клиповое мышление, становясь массовым явлением в современном обществе, является своеобразной защитой от информационных перегрузок, человек, испытывая потребность быстрого усвоения информации на разнообразные темы, не имеет другой альтернативы кроме восприятия по образцам. Клиповое мышление — это новый вектор в развитии отношений человека с информацией, поэтому сетевые коммуникации оказываются не менее важными для современного человека, чем обычные. На наш взгляд, основными характеристиками клипового мышления являются: конкретность мышления; фрагментарность (отсутствие целостного восприятия); ориентация на понятия меньшей степени общности; алогичность; лабильность.

В последнее время в среде педагогов, психологов появилось устойчивое мнение о том, что современная молодежь не имеет свойства глубоко задумываться и воспринимает окружающий мир слишком поверхностно. Вышеописанные изменения детерминировали возникновение такого феномена, как «клиповое мышление» и повлекли за собой потребность изменения подхода к обучению молодежи. Способствует ли клиповое мышление



эффективному усвоению информации в учебном процессе? Однозначного ответа на этот вопрос нет. Применение клипового мышления в обучении позволяет человеку запоминать большие объемы информации без восприятия ее содержательности, то есть быстрое и простое запоминание набора слов, фраз или чисел в определенной последовательности на основе некоторых образов, которые соответствуют запоминаемой информации [9].

Классической (традиционной) формой организации обучения в высшей школе является лекция. Система образов, о которой говорилось выше — наиболее эффективный способ запоминания материала на лекции. Причем, запоминание происходит целенаправленно, то есть в содержании рассматриваемой на занятиях темы и по продолжительности, на длительный период. Наиболее эффективным средством запоминания лекционной информации является применение современных мультимедийных технологий. В последнее время много литературы и статей посвящено правилам составления и компоновки так называемых электронных учебников. Однако, до сих пор не выработано четкой позиции по данному вопросу, но мало у кого вызывает сомнение, что электронный учебник не должен повторять обычный бумажный вариант, то есть не являться простой перепечаткой текста. Электронный учебник должен содержать отдельные разделы по изучаемым темам, анимирование. Формирование в процессе обучения образов с использованием современной компьютерной техники не представляет большой сложности. Эти образы могут быть представлены в виде слайдов или короткометражных анимационных картинок. Такой способ подачи информации — представляет собой клип. Важно помнить, что последовательность клипов должна быть не очень объемной и достаточно хорошо ассоциироваться у студентов с вполне определенными образами, т.е. не иметь абстрактного содержания. Предложенный способ применения дозированной (клиповой) подачи информации позволяет только лишь запоминать ее, но не усваивать осознанно и в должной мере [9].

Помимо всего прочего, важным является то, что феномен клипового мышления по своей сущности во многом соприкасается с понятием когнитивного стиля, поэтому необходимо учитывать рекомендации по ведению учебного процесса в зависимости от когнитивного стиля учащихся, так как эти утверждения будут справедливы и для аудитории с клиповым мышлением.

Необходимо сконцентрировать усилия на исследовании лекционного материала с обязательной функцией наблюдений, предельно краткое обобщение которых представит своеобразную словесную формулу. Использование технологии развития критического мышления позволяет человеку решить множество интеллектуальных проблем. Прежде всего таких, как умение установить проблему, определение значимости информации для решения проблемы, а также оценка и поиск альтернативных решений. Вместе с развитием критического мышления формируется новый стиль интеллектуальной работы, который включает в себя осознание многозначности различных точек зрения и альтернативности принимаемых решений. Глубоко и последовательно мыслить также учат также такие активные методы обучения, как: дискуссия, мозговой штурм, дебаты, форум, круглый стол, семинар-дискуссия (групповая дискуссия).

Один из самых универсальных и простых приемов для повышения эффективности умственной деятельности с применением образов – это интеллектуальные карты, mindmapping (ментальные карты) - это удобная и эффективная техника визуализации мышления и альтернативной записи.

Использование в учебном процессе метода зеркальной аудитории (flipped classroom). Слово «зеркальный» в названии метода означает, что аудиторные и домашние задания «поменялись местами»: лекции студенты смотрят дома по видео, а в аудитории делают то, чем раньше занимались дома, - обдумывают проблемы и ставят вопросы.

Составление синквейнов (пястишие, построенное по определенным правилам). 1 строка – название темы, 2 строка – это определение темы в двух прилагательных, 3 строка – это 3 глагола, показывающие действия в рамках темы, 4 строка – фраза из 4 слов, сказывающая



отношение автора к теме, 5 строка – завершение темы, синоним первого слова, выраженной любой частью речи. Данный метод активизирует умственную деятельность студентов, через чтение и письмо.

Новый этап работы – составление предположительной цепочки, которая фиксирует ход мысли и требует обобщения, вывода. Что даёт такая работа? Прежде всего, она способствует осознанному восприятию текста и развитию монологической речи, так как формула, записанная студентами, содержит план высказывания, по которому можно судить о целостном восприятии информации, студенты аргументируют свои доводы.

Схемы-визуализаторы, приём кластера позволяет эффективно совместить визуальный символ и логику, графические схемы «Фишбоун». Данная графическая техника помогает структурировать процесс более глубоко, поставить цели, показать внутренние связи между разными частями проблемы.

Очень важное умение – компактно представлять изученный материал. Развивать это умение помогает приём «кластеры», который представляет собой выделение смысловых единиц текста и графическое оформление в определённом порядке в виде грозди. Система кластеров охватывает большее количество информации, чем можно получить при обычной письменной работе. Кластер – педагогический метод, который развивает вариантность мышления, способность устанавливать всесторонние связи и отношения изучаемой темы (понятие, явление, событие). Кластер – один из приёмов развития критического мышления.

Кластер (от англ. Cluster — «скопление», «пучок», «созвездие») — это способ графической организации материала, позволяющий сделать наглядными те мыслительные процессы, которые происходят при погружении в ту или иную тему, свободно и открыто думать по поводу какой-либо темы. Кластер предполагает выделение смысловых единиц текста и графическое оформление их в виде схемы. Кластер является отражением нелинейной формы мышления, позволяет показать смысловые поля того или иного понятия. Иногда такой способ называют «наглядным мозговым штурмом».

Приём кластера близок по своей специфике опорному конспекту. «Кластер — это графический систематизатор, который показывает несколько различных типов связей между объектами или явлениями. Кластер охватывает большее количество информации, чем при обычной письменной работе, помогает систематизировать информацию в виде заголовков смысловых блоков» [10].

Приём «Инсерт» - чтение с пометками: «v» - уже знал, «+» - новое, «?» - не понял, есть вопросы; маркировочные таблицы «Знаю, хочу узнать, узнал», составление сравнительных таблиц.

Комплексные подходы к учету когнитивного стиля в обучении представлены в работах Г.А. Берулавы [11]. В них сделана попытка представить комплекс методических рекомендаций по организации работы на уроке с учетом когнитивных стилей, который позволил бы не только помочь студенту с любым стилем полностью освоить материал, но и развить его возможности. Исходя из этого Г.А. Берулава выделила интегральный когнитивный стиль «дифференциальность – интегральность», который, как и клиповое мышление связан со специфическим восприятием и усвоением учебного материала. Так, например, для студентов с интегральным стилем, приемлемой опорой на технологии обучения, построенные по принципу восхождения от абстрактного к конкретному, от общего к частному, с опорой на собственную познавательную активность, с использованием дискуссий. Для студентов же дифференциального стиля, обучение строится, наоборот, от частного к общему, направлено на обобщенное, логико-формализованное освоение материала, либо на основе его целостного познания, либо на основе ступенчатого, последовательного познания.

Резюмируя сказанное выше, заключаем, что современным педагогам, психологам необходимо учитывать существенные особенности феномена «клиповое мышление» при построении образовательного процесса, в учебной и внеучебной деятельности студентов. Необходимо пересмотреть содержательную составляющую учебного материала. С учетом



индивидуально-психологических особенностей студентов потребуются структурировать информацию в виде клипов, видоизменять формат изложения - приоритетными станут яркие, четкие и наглядные презентации с понятными и образными, запоминающимися формулировками. Актуальной задачей станет создание узко-тематических фильмов (видеороликов) с наглядными примерами, экспериментами. Применение известных методов обучения совместно с новыми разработками, в том числе и e-learning технологиями повысит эффективность процесса обучения и значительно улучшит уровень профессиональной подготовки студентов.

Итак, в результате междисциплинарного анализа исследований по проблеме клипового мышления нами было выявлено следующее: клиповое мышление - это процесс отражения множества разнообразных свойств объектов, без учета связей между ними, характеризующийся фрагментарностью информационного потока, алогичностью, полной разнородностью поступающей информации, высокой скоростью переключения между клипами информации, отсутствием целостной картины восприятия окружающего мира. Феномен клипового мышления по своей сущности во многом соприкасается с понятием когнитивного стиля. Когнитивные стили «дифференциальность-интегральность» связаны с индивидуальными особенностями понимания учебного материала.

Таким образом, клиповое мышление предлагает новые возможности для преподавателей и студентов, позволяя переводить процесс обучения на более интерактивный и эстетически привлекательный уровень. Использование мультимедийных клипов в образовательном процессе способствует улучшению понимания и запоминания материала, развитию критического мышления и творческого мышления студентов. Кроме того, такой подход стимулирует их активное участие в процессе обучения и создает комфортную атмосферу для обмена знаниями между преподавателем и студентами. В целом, реализация клипового мышления в вузе позволяет повысить эффективность образовательного процесса и сделать его более увлекательным и результативным для всех участников.

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ОСНОВНЫЕ ПРОБЛЕМЫ В ДЕЯТЕЛЬНОСТИ МУЛЬТИДИСЦИПЛИНАРНЫХ ГРУПП

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Аннотация. В статье рассматриваются основные проблемы деятельности многопрофильных групп при местных органах власти в Республике Молдова.

Ключевые слова: насилие в семье, дети, многопрофильная группа.

Abstract. the article discusses the main problems of the activities of multidisciplinary groups under local authorities in the Republic of Moldova.

Keywords: domestic violence, children, multidisciplinary team.

Закон о предотвращении и борьбе с насилием в семье № 45-XVI от 01.03.2007 [1] в последнее время часто модифицируется в соответствии с запросами общества и правоприменительной деятельности различных учреждений, занимающихся профилактикой и борьбой с домашним насилием. На данный момент необходимо отметить повышение информированности граждан и представителей различных государственных институтов по вопросу наличия насилия в семье.

Во-вторых, сотрудники полиции стали более активно расследовать случаи домашнего насилия. Если несколько лет назад полицейские отказывались защищать жертв домашнего насилия под предлогом невмешательства в семейную жизнь, то сегодня на помощь первыми приходят полицейские.

Основная проблема, стоящая как перед полицией, так и перед местными властями, заключается в неэффективной работе многодисциплинарных групп, которые- либо вообще не созданы, либо группе трудно собраться и принять решение.

Приказом министра труда и социальной защиты, министра внутренних дел, министра здравоохранения, министра юстиции и председателя Национального совета по юридической помощи, гарантируемой государством № 48/298/610/162/5 от 22 июня 2022 г. была утверждена Инструкция о механизме межсекторального сотрудничества по случаям насилия в семье [2].

В данном приказе установлено, что в соответствии со статьями 7 и 8 Закона 45/2007 о предотвращении и пресечении насилия в семье органам местного публичного управления рекомендуется принять необходимые меры для обеспечения применения Инструкции о механизме межсекторального сотрудничества по случаям насилия в семье.



Механизм межсекторального сотрудничества по случаям насилия в семье устанавливает процесс взаимодействия между представителями органов публичного управления, уполномоченных в данной области, с целью создания эффективной межсекторальной системы сотрудничества по случаям домашнего насилия.

Целью предпринятых действий является повышение эффективности процесса межсекторального сотрудничества между учреждениями, обладающими компетенциями, в целях обеспечения защиты, безопасности и реализации прав жертв насилия в семье, а также рост эффективности механизма мониторинга семейных агрессоров, включая сокращение их агрессивного поведения.

На местном уровне органом, функции координирования внедрения настоящей Инструкции возлагаются на органы местного публичного управления первого и второго уровня в соответствии с положениями ст.7 и 8 Закона № 45/2007 о предупреждении и пресечении насилия в семье, при посредстве территориальных структур социальной помощи.

На операционном уровне межсекторального сотрудничества, учреждениями, ответственными за защиту и помощь жертвам насилия в семье, являются:

- 1) Полиция;
- 2) Территориальные структуры социальной помощи;
- 3) Публичные медико-санитарные учреждения всех типов и уровней, включая общинные центры психического здоровья;
- 4) Судебные инстанции;
- 5) Территориальные бюро юридической помощи, гарантируемой государством;
- 6) Территориальные структуры занятости населения;
- 7) Бюро пробации;
- 8) Другие службы/органы/организации (для обеспечения размещения или социальной реинтеграции жертвы и консультирования агрессора).

Многопрофильные территориальные группы должны выполнять свои обязанности в соответствии с положениями части (8) и (9) ст.8 Закона № 45/2007 о предупреждении и пресечении насилия в семье и Постановления Правительства № 228/2014 об утверждении Положения о деятельности многопрофильной территориальной группы в рамках Национальной системы перенаправления. На заседаниях многопрофильной группы должны обсуждаться трудности, выявленные в процессе социальной интеграции жертв (в соответствии с пунктом с1) части (2) ст.8 Закона № 45/2007), ресоциализации агрессоров (в соответствии с пунктом f) и h) части (7) ст.8; части (3) ст.10 Закона 45/2007) и должны будут выдвинуты предложения по их решению высокопоставленным должностным лицам органов местного публичного управления.

Тем не менее, в реальности в эти группы, как правило, включают представителя местного публичного управления (примар/заместитель или секретарь совета), советников, социального ассистента или социального работника, представитель полиции, директоров школ, детских садов или просто классных руководителей, психологов, представителей гражданского общества. Учреждения образования данной инструкцией абсолютно не включены в многодисциплинарную группу, но они являются активными участниками общественных отношений и по постановлению Правительства Республики Молдова №270/2014 обязаны реагировать на случаи насилия в семье[3]. Следовательно, необходимо внести изменения в перечень органов / организаций, включаемых в территориальные группы. При этом, представители пробации и агентства занятости не могут участвовать в качестве членов группы во всех группах и комиссиях. Есть необходимость включать их только в комиссии только второго уровня.

В целях улучшения организации действий по предупреждению и пресечению насилия в семье, многопрофильные группы, созданные для вмешательства в эти случаи, в соответствии с Постановлением Правительства № 228/2014 об утверждении Положения о деятельности многопрофильной территориальной группы в рамках Национальной системы



перенаправления, разработают годовые планы деятельности по предупреждению и пресечению насилия в семье на общинном уровне (ознакомительные беседы, рассмотрение и разрешение случаев насилия в семье, сбор, анализ и обсуждение статистических данных и выявленных тенденций), которые будут интегрированы в локальные стратегии развития.

Тем не менее, было выявлено, что **планы практически не разработаны и имеются только у пяти из 26 многопрофильных групп населенных пунктов АТО Гагаузии**. Остальные не имеют четкого плана деятельности и реагируют только по случаю.

Большая часть территориальных групп была создана в 2020-2021 годах как многопрофильная территориальная группа, однако, позже вносились изменения как в состав, так и в названия группы. В некоторых населенных пунктах одновременно продолжают работать и многопрофильная территориальная группа, и мультидисциплинарная комиссия по особой защите детей, находящихся в ситуации риска, и консилиум по защите прав ребенка, и многопрофильная территориальная группа в рамках национальной системы перенаправления, и комиссия по предупреждению насилия в семье и другим видам насилия.

Наличие такого большого количества различных групп и комиссий, выполняющих по сути одну и ту же работу, и состоящих из практически одинаковых составов, создает определенные трудности в работе примэрий. Работу всех этих комиссий необходимо координировать, вести протоколы, исполнять решения комиссий, и как правило, всем этим занимается один и тот же человек – либо социальный ассистент, либо секретарь совета. При небольших человеческих ресурсах в маленьких сельских населенных пунктах порой невозможно качественно выполнить все эти задачи, и в том числе заниматься выявлением семей риска и случаев насилия.

Вследствие этого, работа этих комиссий не является постоянной, носит эпизодический характер и следовательно, отсутствует системность и последовательность, в том числе по профилактике случаев насилия в населенном пункте.

С другой стороны, члены всех типов комиссий не обучены, вследствие этого, возникают ошибки в принимаемых постановлениях и протоколах, особенно в случае срочного размещения жертв насилия в семье.

В третьих, работа в ночное, вечернее время или выходные членов многодисциплинарной группы никак не стимулируется, работодатель не предоставляет свободное время впоследствии. Членам данных групп может быть установлен гибкий график работы, оплата деятельности в нерабочее время и т.д.

Кроме этого, отмечается крайне низкая деятельность местных органов власти, в частности, примаров, по предотвращению насилия в семье. Практически все отмечают, что положения Закона «Об особой защите детей, находящихся в ситуации риска, и детей, разлученных с родителями» № 140 от 14.06.2013 сегодня примарами не выполняются. Примары оправдывают свое бездействие отсутствием финансовых и кадровых ресурсов. Работать некому.

Проблемой также является недостаточная заинтересованность в работе этих комиссий медицинского персонала, которые объясняют свое отсутствие большой загруженностью по месту работы.

Если сравнить количество карточек-уведомлений о случаях насилия в семье, заполненных полицией и всеми остальными службами, то количество уведомлений, составленных полицией, отличается в разы. Как правило, ни учебное, ни медицинские заведения не составляют такие документы и не следят за тем, как будет решен вопрос о применении насилия в семье.

Учебные учреждения не заинтересованы в предотвращении насилия в семье. К примеру, ребенка не было в школе 180 часов, а школа не предприняла никаких действий, чтобы узнать причину отсутствия.



Можно заметить и другую тенденцию, что в основном случаи насилия выявляются в городах, и практически отсутствуют в селах. Здесь можно, конечно, рассуждать о количестве населения, но вряд ли сильно различается эмоционально-психологический настрой людей из города и села. В городе сосредоточено большое количество различных организаций, занимающихся социальной помощью, в селах же находится только социальный ассистент и местные органы власти. В этом контексте, также необходимо усиление активности multidisciplinary групп в сельских населенных пунктах.

Большой проблемой является отсутствие методик по выявлению психологического, духовного, экономического насилия. В итоге, даже если полиция и прокуратура поддерживают заявление жертвы о домашнем насилии, отсутствуют доказательства для суда. Психологов либо мало, либо нет четкой методики, какой именно психолог проводит психологическую экспертизу – школьный психолог, психолог медицинского учреждения или какой-то другой. В итоге, возникает конфликт компетенции и неоднозначные оценки.

Большое разнообразие отмечается в видах помощи, которая оказывается семье, пострадавшей от насилия. Чаще всего оказывается финансовая поддержка в виде социальной помощи. В некоторых группах были приняты решения о проведении разъяснительных бесед со сторонами насилия в семье, оказывалась психологическая поддержка, предоставлялась гуманитарная помощь в виде продуктовых пакетов, дров, детей привлекали в школу по всеобучу, в детский сад, через семейного врача оказывалась медицинская помощь. Однако, чаще можно отметить, что в основном предпринимаются только те меры, которые предусмотрены законом Республики Молдова о предупреждении и пресечении насилия в семье № 45-XVI от 01.03.2007.

Инструкция о механизме межсекторального сотрудничества по случаям насилия в семье, утвержденная Приказом Министра № 48 от 22.06.2022, предусматривает подробно возможности оказания юридической помощи, и лишь частично, оказание медицинской и социальной помощи. Так, в частности, в отношении медицинской помощи в ситуации, если жертве требуется срочная медицинская помощь, после окончания лечения в стационаре, и случае, если жертва насилия в семье или агрессор являются лицами с психическими и поведенческими расстройствами.

Тем не менее, инструкция не определяет четко и конкретно процедуру оказания помощи при прохождении судебно-медицинской экспертизы, в частности, кто и как дает направление на экспертизу для снятия побоев, оказывается ли помощь в транспортировке жертвы на экспертизу (особенно, если нужно добраться в ругой населенный пункт в другом районе и т.д.). Все эти вопросы не решены законодательно и создается угроза как жизни, так и безопасности жертвы. Так, жертва вынуждена была самостоятельно добираться из Комрата в Кантемир, при этом её не предупредили о необходимости наличия всех медицинских документов и в итоге, ей не удалось пройти экспертизу в установленные сроки. Кроме этого, здесь необходимо учитывать и материальную составляющую. Без денег, которых часто нет из-за насилия в семье, жертва не сможет добраться самостоятельно к эксперту, особенно в другом районе.

Следующая проблема состоит в срочном размещении детей-жертв насилия в семье. Проблемой будет временное размещение детей без сопровождения взрослых, т.к. медицинские учреждения района отказываются детей и жертв насилия размещать в больнице, а действующие центры по оказанию помощи жертвам насилия принимают только женщин с детьми. Ребенок постарше может быть размещен в социальные центры в Кишиневе, что находится достаточно далеко от, например, сел Вулканештского района и не будет возможности проводить мониторинг состояния ребенка. Кроме этого, крайне трудно разместить ребенка-жертву в выходные и праздничные дни, в вечернее и в ночное время, когда администрация центров размещения отсутствует на работе.

Многие местные органы власти отмечают проблему тяжелого социально-экономического положения многих семей, увеличение случаев алкогольной зависимости в



семьях, что делает проблематичным процесс оказания помощи семье пострадавшей от насилия.

На основании указанного, можно сделать следующие выводы:

1. Необходимо объединение всех комиссий через принятие изменений в законодательстве, созданных при местных органах власти в один, но функциональный орган – многопрофильная территориальная группа, которая будет заниматься и случаями насилия в семье, и детьми, и жертвами торговли людьми и другими острыми случаями.
2. Провести обучение всех представителей многопрофильных территориальных групп.
3. Предусмотреть внедрение более четких правил в инструкции о механизме межсекторального сотрудничества по случаям насилия в семье, которые будут регламентировать оказание медицинской помощи, в том числе при проведении судебно-медицинской экспертизы (направление, перевозка жертвы и т.д.).

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ИСТОРИЧЕСКОЕ ПРАВО ГОСУДАРСТВА НА ТЕРРИТОРИЮ: ВВЕДЕНИЕ В ПРОБЛЕМУ НА ПРИМЕРАХ ИЗ РИМСКО-ПЕРСИДСКОЙ ДИПЛОМАТИЧЕСКОЙ ПЕРЕПИСКИ ВРЕМЕН ИМПЕРАТОРА КОНСТАНТИНА

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Abstract. This article studies the main terms from the conventional correspondence between the Roman Emperor Constantine the Great (reigned: 306-337) and the Iranian Shahinshah Shapur II (reigned: 308-380). The claims of the Iranian Empire to the ownership of the ancient satrapies of the Achaemenid Dynasty are shown. The ideological significance of the state's historical right to territory is substantiated.

Keywords: historical territory rights, restoration of historical justice, Pax Christiana, Pax Romana, Sasanian Iran, Roman Empire.

Константин Великий ещё в 336 г. заметил, что в Сасанидском Иране происходят притеснения христиан, чье влияние отождествлялось персидскими шахиншахами с формой армянского «ирредентизма». К тому же, шахиншах Шапур II (308-380) поклялся перед

сатрапами пересмотреть условия Нисибисского мирного договора 298 г., по которым Римская империя получала «навек» Месопотамию и Армению, а Эраншахр отказывался от исторических прав Династии Ахеменидов (559-330 гг. до н. э.) на весь Ближний Восток [4, pp. 1-14].

Важно, что Нисибисский мирный договор 298 г., несмотря на распространенное среди историков мнение, не заключался на определенный период. Сорокалетний срок, будто бы оканчивавшийся в 338 г., представляется нам либо выдумкой позднейших хронистов, либо же определенным промежутком, после которого стороны обязывались вернуться к выработке дополнительного соглашения. В 298 г. Династия Сасанидов находилась в очень трудном положении. Август Диоклетиан и цезарь Галерий контролировали столичный Ктесифон, Вавилон, угрожали Центральному Ирану [2, Petrus Patricius, Fragment 13]. Вряд ли Сасаниды в тот момент смогли бы оказать давление на римлян, чтобы установить среди унижительных пунктов договора еще и собственное положение о сорокалетнем сроке окончания действия данного соглашения. Тогда не было бы необходимости вводить термин «навек» относительно признания недействительными исторических прав Эраншахра относительно Армении, Месопотамии, Сирии etc.

За несколько дней до Пасхи, в апреле 337 г. персидские и римские послы встретились в Никомедии. Шапур II (308-380) и Константин Великий (306-337), через послов, заключили тогда дополнительное *соглашение о признании условий Нисибисского мирного договора 298 г.* Кроме того, император Константин добавил условие о прекращении антихристианских гонений в Иране. Однако, несмотря на соглашение о признании правомочности Нисибисского договора, обе стороны продолжали активную и неприкрытую подготовку к масштабным боевым действиям [9, pp. 152-153]. Сразу после смерти Константина, Шапур II (308-380) объявил придворным: все соглашения с Римской империей всегда являлись *частными договоренностями* шахиншахов и императоров. Т. е. смерть императора либо шахиншаха будто бы должна освободить противоположного правителя от ранее данной клятвы. Следовательно, после ухода Диоклетиана с поста императора (в 305 г.) персидские шахиншахи уже могли себя считать свободными от любых обязательств. Согласно такой логике, приключившаяся кстати смерть Константина, открыто готовившего войну с персами, тоже должна была означать прекращение действия Нисибисского мирного договора, поскольку Шапур договаривался с Константином «лично».

Шахиншах Шапур не хотел ограничиться только оккупацией Месопотамии, Сирии и Армении, но действительно желал выйти к Босфорскому проливу на северо-западе и к границам Ливии на юго-западе [3]. Оккупация Египта должна была придать Сасанидскому Эраншахру дополнительные экономические силы. Египет, как основная житница Римской империи, казался официальному Ктесифону вполне достижимой целью, при условии разгрома Констанция Арианина персидскими войсками. Для реализации намеченных геополитических планов Шапур всячески подстрекал к восстанию ближневосточных ортодоксальных христиан, несогласных с открытым арианством Констанция. Конечно, тяжелее всего персидскому шахиншаху было вести пропаганду среди ортодоксальных никейских христиан, лояльных Империи. Однако, в Сирии, Палестине и Египте тогда существовало огромное количество других ответвлений христианства [6]. На эти ответвления, противостоявшие как арианству, так и никейскому тринитаризму, персы и попытались сделать политическую ставку.

Аммиан Марцелин отмечает слова Шапура II, обращенные к Констанцию II в личном письме, возвещавшем об объявлении войны: «О том, что мои предки владели территориями до реки Стримон и границ Македонии, свидетельствуют даже ваши старые записи. Требовать прежних границ подобает мне, так как я – никто не сочтёт высокомерным моё заявление, – превосхожу древних царей блеском и множеством выдающихся подвигов. На сердце у меня прежде всего чувство правды; придерживаясь его, я никогда не сделал ничего такого, в чём бы приходилось каяться. Я должен поэтому вернуть себе Армению и Месопотамию, которые были коварно отняты у моего деда» [1, Amm. Marc. XVII. 5. 5-6]. Итак, для Шапура II (308-



380) историческое право Персии как государства владеть территориями целого римского Востока было оносванием нарушения только что подтвержденного Нисибисского мира 298 г.

Напомню, что Шапур ок. 308 г. «занял» престол как коронованный младенец. Его начальные годы «правления» характеризовались разнообразными распрями придворных, ожесточенной борьбой родственников за шахиншахское достоинство. Первые юношеские шаги Шапура определялись необходимостью сражаться против вражеских арабских племен. Официальному Ктесифону казалось, что все арабские набеги на Персию направлялись исключительно римскими августами и цезарями. Плохая народная память о Нисибисском мире 298 г. ужесточалась непрекращающимися пограничными противостояниями с христианами-армянами и кочевниками-Гассанидами. Поэтому, среди первых шагов Шапура необходимо выделить финансирование проиранской партии в Великой Армении и ряд контратак против аравийских племен. В частности, Иран взял под контроль Бахрейн и начал освоение побережья Аравийского полуострова. Шахиншах Шапур позиционировал себя борцом с пиратством и разбойниками – главной бедой Западного Эраншахра.

В 324 г., несмотря на юный возраст Шапура, ктесифонская канцелярия получила «личное» письмо Константина Великого (306-337), адресованное шахиншаху [7, Eusebius. Vita Constantini, IV, 9-13]. Тогда август-доминус впервые провозглашал себя «защитником всех христиан». Позже, в 330-е гг. Шапур имел возможность прочесть ещё одно послание Константина, в котором император-креститель призывал Персию отказаться от «преследований» христиан. Константин действительно хотел провозгласить себя протектором всего Христианского Мира. Так, в письмах императора Константина шахиншаху Шапуру от 324 и 335 гг. впервые появилось понимание «*Pax Christiana*» [8, pp. 17-44].

Идеологическая конструкция *Pax Christiana* продвигалась Константином Великим в переписке ещё до проведения Первого Никейского Вселенского Церковного Собора 325 г. На самом деле содержание писем Константина Шапуру II приблизительно одинаково. Константин Великий, «с горечью» констатировал факт гонений официального Ктесифона на христианские еkkлезии Ирана и, соответственно, присвоил себе титул «защитника всех христиан Ойкумены». Отдельно Константин указывал Шапуру, будто обязан «принять персидских христиан под защиту». Этим Константин подчеркивал, что все христиане равны в исповедании единой веры. Кроме того, христианство письмами Константина обретает политический смысл и впервые полноценно ассоциируется с римской «государственностью» [5]. Константин высказал желание «защищать всех христиан мира».

В любом случае, первый политический манифест «вселенскости» («ойкумени») христианства появился на свет не в Никее (325 г.), а в никомедийской императорской канцелярии (324 г.). Можно быть уверенными, что письмо, написанное Шапуру ок. 335 г., также имело гораздо большее международно-правовое значение, чем многие решения Вселенского Собора. Как минимум, Константин Святой требовал «прекратить преследования христианских еkkлезий» [8, pp. 17-44]. Требуя (!) от иранского шахиншаха выполнения собственных предписаний в отношении религиозной общины, Константин *de jure* разграничивал светские полномочия императора и духовную должность «Великого понтифика» [10].

Сначала Константин обратился к шахиншаху Шапуру II, как к равному правителю, объявил его своим братом (несмотря на разницу в возрасте), что свидетельствовало о признании римским императором равноправия и равноценности Сасанидского Эраншахра и Римской империи [8, pp. 181-183].

Анализ содержания переписки Константина и Шапура, сделанный по косвенным и некоторым непосредственным свидетельствам, вполне подтверждает важнейший историко-культурный и, что принципиально, юридический тезис: *персы для Константина не являлись варварами*. Именно то, что персы представлялись системе римского государственного управления равноправными и равноценными партнерами, «братьями» по масштабам



завоеваний и военно-политической силе, делало их тождественными римлянам в государственно-правовом смысле [11, с. 16-31].

Очевидно, что персы (иранцы) – цивилизованные участники политико-дипломатического процесса. Большой Иран равен Императорскому Риму. Такой голос равноценности звучал из уст Константина Святого, в первую очередь, относительно т. н. «светских» вопросов – решения торгово-экономических противоречий, возникших из-за функционирования Нисибисского полиса-фактории; пограничных стычек в Армении, Месопотамии, Аравии [6]. Однако, когда Константин переходил в дипломатическом общении к официальному религиозному дискурсу, то его голос звучал повелительно. Ведь Константин действовал перед собственным двором в качестве Верховного Понтифика, позиционировал себя владыкой христиан всего мира. Персидский шахиншах сразу же понял степень оскорбления от изначально «братских» писем римского императора, поскольку юридическая логика гласила: личная *духовная юрисдикция* Константина Святого относительно персидских христиан, для них должна стать более важной, нежели *светская юрисдикция* шахиншаха [8, pp. 125-153].

Косвенно можно предположить, будто в дальнейшем, формулируя пункты *Donatio Constantini* образца IX века, клирики Римского патриархата (т. е. Папства), ссылались в том числе на персидский эпистолярный Константин I Святого 320-330-х гг. В отличие от предусмотренной «Константиновым даром» подложной «передачи» полномочий императора городским епископам Рима, на материале римско-персидских отношений очевидно присвоение тем же Константином принципиальных епископских полномочий в качестве «Верховного понтифика». Хотя многие доктринеры Римско-Католической Церкви потом отстаивали ошибочную точку зрения, будто бы Константин Святой передал все свои полномочия римским епископам в предсмертном завещании, но использованные первоисточники времен самого Константина четко свидетельствуют: император не столько раздавал епископам полномочия, сколько пытался заимствовать их функции в рамках собственной магистратуры «*Pontifex Maximus*».

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**СУБЪЕКТНОСТЬ ВЕСТГОТОВ ДАКИИ В ОТНОШЕНИЯХ С РИМСКОЙ
ИМПЕРИЕЙ: ИСТОРИКО-ЮРИДИЧЕСКИЕ ОСОБЕННОСТИ МИРА И ВОЙНЫ
(365-369 гг.)**

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Abstract. The article is devoted to the legal history of Gothic-Roman contacts in the 4th century AD. The main emphasis is placed on the period of the Goths in the province of Dacia. The war of East Roman Emperor Valens against the Visigoths (365-369 AD) is characterized.

Keywords: Roman Empire, Legal Personality, Emperor Valens, King Athanaric, Lex Foedus.

Император Восточной части Римской империи Валент (364-378), ставший старшим императором после смерти правителя западных провинций и родного брата Валентиниана (364-375) [4, р. 223], еще до этого события уделял постоянное внимание юридическому оформлению федератских договоров с варварскими племенами [9]. Действительно, большую часть собственного правления Римским Востоком он посвятил балканским провинциям (Дакии, Фракии, Элладе), в пределах которых, со времен масштабного общественно-экономического и военно-политического кризиса III века нашей эры, ключевой проблемой оставались набеги восточных германских этносов.

Так, на балканском Подунавье основные неприятности римской администрации провинции Нижняя Мёзия доставляли воинственные готы [28, с. 40-42], обладавшие официальным правовым режимом федератов Империи ещё со времен императоров Аврелиана (270-275) [10, Dexipp. Fr. 23-24] и Константина I Святого (306-337) [7, р. 243].

Понятие «федератского договора», употребляемое по поводу специальных соглашений, заключавшихся между римскими императорами и правителями варварских племен (германских, кельтских, сарматских, кавказских, арабских, африканских etc.), означало установление не только дружественных и союзнических отношений, но и предоставляло варварам особый правовой статус [24, с. 420-429]. Если перевести словосочетание *lex foedus* как «право соглашения» или «право союза», то можно увидеть настоящий юридический смысл термина. Важно, что этот публично-правовой режим римского права произвел современную «федеративную» форму государственного устройства. Чаще всего, *lex foedus* предусматривал соглашение между варварским племенем (конгломератом племен) и персоной римского императора. Условия предоставления правового режима «федератства» варварам обязывали их признать себя подданными Империи (подданными, но не гражданами), предоставлять Риму военную помощь по первому требованию. Однако, если де-юре федераты переходили под верховную власть императоров, то де-факто, они сохраняли политическую независимость. Вот почему правильно переводить термин «федераты» не как «союзники», а как «военнообязанные подданные».



В летние месяцы 365 г. лимесная стража (пограничная охрана) из Нижней Мёзии и Фракии докладывала в константинопольский дворец, что тервинги (самоназвание вестготов) слишком долго жили «мирной жизнью» и теперь хотят совершить грабительский набег в пределы Империи [1, *Amm. Marc. XXVI.6.11*].

Император Валент тогда отреагировал на сообщение должным образом и начал готовить свои малоазиатские легионы к походу в Южную Дакию. Впрочем, планы правителя нарушились осенью 365 г., когда фракийские легионы поддержали узурпацию претендента на императорский престол – двоюродного брата Юлиана Отступника (361-363) по имени Прокопий [5, pp. 850-853].

Предполагаю, что внезапное вторжение западных готов (тервингов), осуществивших мгновенный переход от устья Дуная до Сардики, не было случайностью или простым «варварским» желанием «грабежа». Учитывая тот факт, что узурпатор Прокопий «исчез» на некоторое время из поля зрения современников (исчез в июне 363 г., а появился с хорошо подготовленными войсками в Константинополе около сентября 365 г.), нельзя отбрасывать версию о сговоре Прокопия с частью готских федератов [5, pp. 890-891]. Поскольку Прокопий всячески подчеркивал своё родство с императором Константином I Святым (306-337), почитавшимся в определенных сообществах готов из-за распространения христианства [20, с. 13-14] (хоть и еретически-арианского типа, если говорить о причерноморских или дакийских готах), то и выступление восточногерманских федератов на стороне его узурпации получает некоторое юридическое оправдание. Ведь в отличие от Валента (364-378), получившего волею случая высшую императорскую власть совместно с братом Валентинианом (364-375), Прокопий все-таки представлял Династию Константина.

Интересно, что после разгрома константинопольского бунта и восстановления власти над столицей весной 366 г., законный император Валент без боя пленил почти всех готских воинов во Фракии, предложив им земли для поселения [29, *Eunapius. Fr. 38*]. Федератские подразделения приняли предложение Валента и расположились вдоль течения Дуная [19, *Zosimus. Lib. IV*] (современная румынско-болгарская граница).

Тем не менее, когда узурпатор Прокопий (365-366) захватил Константинополь в сентябре 365 г. [8, с. 316-318], во главе мятежных тервингов-готов находился «*rex*» (т. е. «вождь», «командир», позднее – «король») по имени Атанарих [11, *Chronica regum Visigothorum, I*].

Этот Атанарих управлял западной частью готского племенного союза (тервингами) с 363 по 381 гг. Позже, когда Великое переселение народов III-VII вв. вступило в свою кульминационную стадию, именно он сумел сохранить боеспособность вестготов. Имею в виду решающий для причерноморских степей период гуннского вторжения 370-376 гг. [22, с. 152-158]. В первые годы своего племенного правления Атанарих открыто и официально поддержал Прокопия. Вестготский официальный мотив – оказание помощи родственнику Константина Святого.

О политической позиции соседей тервингов, приднепровских остготов [27, с. 61] (восточных готов или «гревтунгов»), не известно почти ничего. Выскажу лишь свое предположение. Вероятнее всего, остготы больше зависели от торговых связей с греками-христианами, что вынудило их поддержать законно избранного Сенатом августа Валента. Здесь важно, что *rex* Атанарих был известен своей приверженностью древнегерманским вотанистическим верованиям и отказывался принимать христианство [16, *Socrates Scholasticus Historia ecclesiastica, 33*]. Соответственно, ему были близки неоязыческие взгляды Прокопия (в недавнем прошлом, сторонника антихристианской политики Юлиана Отступника).

После того как голова Прокопия отправилась в ставку западноримского правителя Валентиниана, а посланные Атанарихом во Фракию готы осели вдоль Дуная, вестготский *rex* отослал посольство к Валенту с выражением протеста против осуществленного Константинополем поселения западнотских дружин на дунайском лимесе. Он называл готских поселенцев «пленниками» и просил Валента «проявить милость» к готским племенам.



По свидетельствам историков Евнапия, Зосимы и Аммиана Марцеллина, переговоры римлян с западными готами длились в течении всего 366 года. При этом, Атанарих почти что требовал возврата «пленных» Империей готам. Основой дипломатической аргументации стал тезис о «всего лишь» поддержке вестготами претендента на престол из Династии Константина [29, Eunapius. Fr. 38]. То есть, Валент должен был «простить» вестготских бунтовщиков, отпустить их назад в Дакию и Северо-Западное Причерноморье, а всем западным готам подтвердить действие правового режима *lex foedus* от 332 г. [23, с. 153-154].

Из Нового Рима («*Nova Roma*» или «*Νέα Ρώμη*» – официальное название столичного Константинополя) в пределы Дакии был специально послан имперский легат (посланник) – магистр римской конницы Виктор [1, Амт. Марс. XXVII.5.1]. Где-то в пределах современной Добруджи он лично обсудил с «рексом» Атанарихом проблему принудительного поселения южнее Дуная тех западных готам, которые намеревались поддержать Прокопия во время гражданской войны 365-366 гг.

Император Валент, устами посланника, самостоятельно предложил Атанариху возобновление правового режима *lex foedus* на условиях Аврелиана от 271 г. и Константина от 332 г. Но для возврата *status quo* готам необходимо было осуществить несколько существенных политико-юридических действий. Во-первых, готам предлагалось вновь задекларировать верность Империи и, что важнее, принести устную клятву верности братьям-императорам Валенту и Валентиниану. Во-вторых, вестготы обязывались укрепить собственную сторожевую службу в прудо-днестровском междуречье, где Империя больше всего опасалась свободной миграции кочевых ираноязычных народов (сарматов, аланов) в сторону Западной Дакии и Восточной Паннонии. В-третьих, Константинополь ожидал от тервингов отказа от любых территориальных притязаний вне Дакии.

Юридическое словосочетание «территориальные притязания», если говорить о готском союзе племен второй половины IV века нашей эры, нисколько не предусматривало желания завоевать некую территорию и править ею самостоятельно [18, pp. 24-34]. Имелось в виду право на поселение и возделывание земли, сопровождавшее любое императорское пожалование режима *lex foedus* [25, с. 61]. Конечно же, готы Атанариха были вовсе не против поселиться в Мёзии или Фракии, но они хотели сделать это все вместе. Если Императорский Рим решил принудительно поселить около лимеса только часть федератов, то это лишало остальных готам такой возможности. Кроме того, в случае нападения сарматов или других степных кочевников, вестготы имели довольно слабые шансы защитить себя. Во Фракии римляне пленили наиболее боеспособные боевые дружины западных готам [29, Eunapius. Fr. 38]. Так что, в процессе длительных переговоров, изначальный вопрос о мере наказания для бунтовщиков-федератов трансформировался в дискуссию о возможности полного переселения дакийских готам южнее дунайского лимеса (во Фракию и Нижнюю Мёзию) или же о выселении «пленных» вестготам назад в подконтрольную «рексу» Атанариху Дакию.

По сути, вестготы, выказывая желание мигрировать южнее Дуная, преследовали *две основные цели*.

Первая цель – избежать военно-политической угрозы, что успела обозначиться на востоке причерноморских степей (в Приазовье и на Северном Кавказе). В районе античного Танаиса (современный Дон) и Меотиды (Азовское море) гуннская орда уже смяла боевые порядки ираноязычных кочевников-аланов [22, с. 152-153]. Терпя поражения, прикаспийские племена аланов разделились на несколько групп. Одни активно сопротивлялись в пределах Кубани и Донской степи. Многочисленные группы сумели оторваться от преследования гуннов на высоком правом берегу античного Борисфена (современный Днепр). В конце 360-х – начале 370-х гг., степные пространства Юго-Восточной Украины стали ареной кровопролитной войны, постепенно приближавшейся к землям приднепровских остготов и подчиненных им лесных славянских племен [21, с. 20].

Вторая цель – попытка найти безопасные (защищенные римским лимесом и боеспособными римскими легионами) пространства для земледелия. Не надо забывать:

вопреки установившимся историографическим стереотипам, готы, переселившиеся в 150-240 гг. н. э. из «холодного» устья Вислы в украинские степи, были не столько «кровожадными» грабителями, сколько возделывателями земли. Постоянные передвижения кочевых народов (сарматов, аланов, недавно появившихся на востоке гуннов) мешали спокойному устройству восточногерманского уклада в Дакии и на землях, которые позже получают наименование «Бессарабия» (т. е. Пруто-Днестровское междуречье).

Несмотря на взаимные уверения римлян и готов в «союзнничестве» и «дружбе», когда в 366 г. магистр конницы Виктор вернулся с докладом в константинопольский дворец императора Валента, то сообщил о неизбежности вестготского вторжения. Страх перед евразийскими кочевниками и желание обустройства спокойного земледельческого образа жизни усиливались тем, что племена, подчинявшиеся «рексу» Атанариху, были «наслышаны» о богатствах соседних римских Фракии и Нижней Мёзии. Не секрет, что даже во II-III вв. экономический облик названных провинций значительно превосходил дакийско-романские поселения прудо-дунайского междуречья. (Благодаря городу Тира, ситуация в прудо-днестровском междуречье выглядела несколько лучше, но тоже не могла сравниться с городскими поселениями южнее Дуная).

Реагируя на предупреждение магистра Виктора, Валент начал превентивную войну [29, Euparius. Fr. 38]. Современники императора довольно положительно оценили этот упреждающий удар [29, Euparius. Fr. 38]. Греческие авторы, как и в случае с боевыми действиями против готов 230-270-х гг., прозвали новую войну «Скифской» (не готской!). Она продлилась с 367 по 369 гг.

В марте-апреле 367 г. Валент обустроил военный мост через Дунай [23, с. 152]. Для ускорения переправ и защиты старых имперских границ (вдоль Дуная) был создан мощный речной флот [19, Zosimus. Lib. IV. 10]. Одновременно из гавани Константинополя к устью Дуная отбыл морской флот. Вблизи устья восточные римляне спешно укрепили городок-крепости («*castellum*»). Тира, Истрион, Ольвия (предположительно) усилили свои гарнизоны за счёт малоазиатских пополнений, прибывших вместе с морским флотом [19, Zosimus. Lib. IV. 10].

Ход дальнейшей военной кампании, вслед за Аммианом Марцеллином, очень часто называют «безуспешным». Однако, предполагаемый Аммианом «провал» должен был означать военное поражение, чего вовсе не произошло. Как минимум, император Валент сумел организовать масштабное наступление фракийской армии в глубь Дакии, тогда как причерноморские контингенты продвинулись северо-западнее вдоль Днестра. Римляне везде захватывали в плен женщин и детей вестготских воинов. Войско Атанариха, в свою очередь, отошло в Дакийские Карпаты [1, Amm. Marc. XXVII.5.4].

По всей видимости, кампанию 367 г. Аммиан Марцеллин полагает «безуспешной», так как накануне зимы 367-368 гг., римские регулярные войска отступили на исходные позиции [1, Amm. Marc. XXVII.5.4]. Впрочем, весной и летом 367 г. римляне смогли ненадолго вернуть утраченный еще в 271 г. военный контроль над равнинной Дакией. Римские передовые отряды встречались и в Бессарабии – между Днестром и Прутом (так же, как и во время кампаний Траяна или Аврелиана [6, P. 313]). По моему мнению, смысл весенне-летней операции был преимущественно идеологический и пропагандистский. Ведь вышло так, что вестготы «испугались» римской мощи (дружины «рексы» Атанариха действительно бежали к Восточным Карпатам – на западные границы исторической Молдовы).

Римский император «показал» всем племенам Северо-Западного Причерноморья наличие военной возможности в любой момент восстановить имперский контроль над дакийскими провинциями. Задача Императорского Рима, которую Валент смог реализовать, состояла в том, чтобы убедить варварские народы, будто вестготы правят Дакией исключительно по «доброй воле» римских властей. То есть восстанавливалось впечатление, намеренно создававшееся ещё правительствами Аврелиана (соглашение с готами от 271 г.) и Константина Святого (соглашение с готами от 332 г. [7, p. 243]).



Некоторые надписи [12, pp. 5-17] и нарративные данные позволяют предположить: летом 367 г. Валент вновь учредил «титularные провинции Верхняя и Нижняя Дакия». Эти административные образования исчезли из юридических источников после предоставления Константином Святым *lex foedus* западным готам в 332 г. [13]. Как известно, титулярные (т. е. «номинальные») дакийские «провинции» создал император Аврелиан [15, pp. 120-121]. Он разместил часть административных учреждений Дакии в Мёзии (на правом берегу Дуная) и поставил наместников для наблюдения за процессом эвакуации романского населения с левобережья Дуная.

Несмотря на официальное требование императора Аврелиана к римлянам Дакии «переселиться» во Фракию, Верхнюю и Нижнюю Мёзию, часть римских граждан всё-таки осталась в родных крепостях и городках [6, pp. 317-318]. У себя дома дако-римляне встретили вестготское владычество [2, Eutropius, Breviarium. VIII, 2, 2] – фактическую оккупацию [6, p. 314], формально считавшуюся реализацией римского правового режима *lex foedus* племенем тервингов. Многие исследователи полагают: готы хотели максимально вписаться в культурно-цивилизационный контекст *Pax Romana* и, исходя из этой логики, дако-романское население оказало своим присутствием в границах современных Валахии, Трансильвании (хотя и в меньшей степени, но также и в Молдове) неоценимую услугу германским варварам-федератам. Некоторые специалисты по истории Румынии даже высказывали гипотезы, будто благодаря дако-римлянам, готы приобрели «понятие» о формах и содержании римского публичного, частного права, принципах рекрутинга воинов, прохождении римской военной службы [3].

После судьбоносных договоренностей с императором Аврелианом (270-275), готы неоднократно посылали военные контингенты ради поддержки Рима. Так было во времена Констанция II Арианина (337-361), Юлиана Отступника (361-363). Особенно следует отметить вклад готских вспомогательных (федератских) подразделений во время персидского похода Юлиана весной-летом 363 г. Тогда готы (скорее всего, западные готы) сопровождали римскую армию вплоть до персидской столицы Ктесифона. Прецедент наличия права голоса у германца Дагалайфа во время избрания императором Иовиана [1, Amm. Marc. XXV.5.2] (а позже и Валентиниана в Никее [Amm. Marc. XXVI.2.3]) демонстрирует формальную возможность участия самих готов как в общеимперских собраниях, так и в избирательных процедурах.

Изложенные данные указывают на ошибочность аргументации историков, считающих встречи готов и римлян 360-410-х гг. «первым знакомством» будто бы одичалых германцев с т. н. «цивилизованным миром» римлян. Подобные варианты аргументации являются чрезвычайно некорректными, но, к величайшему сожалению, до сих пор присутствуют во многих общеисторических обобщениях, а также в специальных очерках, посвященных римско-готским контактам. Вопреки подобному упрощенному мнению, надо помнить о факте: западные и восточные готы соседствовали с римскими административными провинциями, еще начиная с миграции в причерноморские степи (150-240 гг.) [26, с. 49-50]. После 271 г. они признавались федератами Императорского Рима [14, s. 227]. Следовательно, по состоянию на 367 г. готы уже около ста лет входили в формально-юридический мир Империи (*Pax Romana*), являлись его неотъемлемой и важной военно-политической частью [14, s. 227-228].

Возможность возрождения титулярных администраций Верхней и Нижней Дакии Валентом является исключительно рабочей гипотезой, которая исходит из характера ведения боевых действий против западных готов весной и летом 367 г. Подтверждение либо опровержение гипотезы требует внимательного исследования ряда надписей, обнаруженных в некоторых районах Буджака, Добруджи, Валахии. Можно предположить, что император Валент устанавливал т. н. «милевые» или же почтовые столбы (по-латыни: *miliarium*), еще с III-II вв. до н. э. сопровождавшие римские дороги (по-латыни: *Viae Romanae*). Известно, что после пересечения старой границы Дакии, Валент занимался реконструкцией разрушенных готским недосмотром древнеримских почтовых дорог [17, Themistius. Oratio X «De pace»].



Возврат римского войска на зимовку 367-368 гг. не должен ставить под сомнение формальные шаги императора Валента по установлению военно-политического контроля над Дакией. Весной 368 г. римские легионы стояли в полной боевой готовности, восстановили мост через Дунай на участке мёзийско-дакийского лимеса, а также создали большой плацдарм на валашском левобережье реки. Однако, непредвиденное повышение уровня воды в реке заставило Валента отвести армию в северофракийские города [1, Amm. Marc. XXVII.5.5].

Тем не менее, готы не радовались воздействию природной стихии. Таяния снегов в Восточных Карпатах, наводнения в прудо-днестровском и молдовско-сиретском бассейнах, ударили по сельскохозяйственному потенциалу германцев. 368-й год считался голодным, а 369-й обещал стать ещё хуже. Постоянные боевые действия в условиях «пограничной войны» (стычки на дунайском левобережье, расширение римского «плацдарма») не позволяли «рексу» Атанариху всерьёз заниматься заготовкой продовольствия, что требовало от него даже больших усилий, нежели сбор армии.

Весной 369 г. римляне неожиданно для готов форсировали Дунай на северо-востоке Нижней Мёзии, войдя в пределы современной Бессарабии через город-крепость Новиодунум (сегодня – Исакча в румынском жудеце Тулча).

В современных южных районах Одесской области и на юге Молдовы балканская полевая армия Валента встретила дружины гревтунгов-остготов. Однако, далеко не факт, что остготы прибыли именно для помощи западным соплеменникам (вестготам). По всей видимости, еще накануне состоялись переговоры между остготами и послами императора. С этими возможными переговорами связываю сообщение хронистов о будто бы «скором бегстве» остготов. Вероятно, остготы явились, чтобы засвидетельствовать Валенту приверженность старым федератским договорам и принести присягу на верность восточноримскому правителю. Вот почему в дальнейшем остготские контингенты не поддерживали Атанариха [1, Amm. Marc. XXVII.5.5-6].

Косвенные данные позволяют считать дипломатический контакт Валента и остготских послов весной 369 г. признанием правового режима *lex foedus* и в отношении восточных готов (гревтунгов). В таком случае, гревтунги-остготы не «бежали» от римлян, а просто вернулись в основную ставку собственного «рекса». Вероятность подобного дипломатического развития событий высока, поскольку остготы имели все причины по-настоящему опасаться развития римского военного успеха. Разгром вестготов мог привести Валента в причерноморские и приднестровские степи. По крайней мере, император, не обладая успехами в геополитическом противостоянии с Ираном Династии Сасанидов, вряд ли остановился бы перед возможностью расширения прямого контроля над провинциями, некогда завоеванными Траяном [идеологический контекст: 23, с. 152]. Вследствие внутренних конфликтов с вестготами и опасения перед силами римской армии, остготам действительно могло показаться выгодным получить поддержку официального Константинополя. Само место перехода римских подразделений на левый берег Дуная свидетельствует в пользу озвученной версии.

Летнее наступление 369 г. в глубь Пруто-Днестровского междуречья привело к решающему сражению между римлянами Валента и вестготами Атанариха [1, Amm. Marc. XXVII.5.6]. Битва, исходя из средней скорости движения римского войска и характера местности, произошла где-то северо-восточнее течения реки Ялпуг. *Rex* тервингов Атанарих потерпел сокрушительное поражение, а большая часть готских дружин отступила на северо-запад [1, Amm. Marc. XXVII.5.6]. Преследуя отступавших, император Валент издал *рескрипт* о денежных выплатах за голову каждого убитого германского воина [19, Zosimus. Lib. IV].

Не желая распылять силы полевой армии, приступив к укреплению причерноморских и придунайских крепостей [12, р. 5, 7, 11], император Валент принял предложение разгромленного вождя тервингов Атанариха о заключении соглашения [19, Zosimus. Lib. IV]. Аммиан Марцеллин называл соглашение Валента и Атанариха «мирным договором» [1, Amm. Marc. XXVII.5.7-10]. По содержанию оно действительно являлось таковым. Но, помимо



прекращения конфликта, вестготы должны были опять признать «верховную власть» римских императоров (Валента и Валентиниана).

Летнее соглашение 369 г. стало возможным благодаря дипломатической работе магистра Виктора и военачальника Аринфея. По его условиям, вестготы (тервинги) возвращались под власть Константинополя, признавали законность правления императора Валента, приносили Империи извинения за грабительские нападения южнее дунайского лимеса. Император же признавал полномочия «рекса» Атанариха и обязывался поддерживать боеспособность готских федератов ежегодными «взносами» (ещё один вариант перевода: «подарками»; термин «дань» в этом отношении некорректен). Речь шла о практиковавшемся веками методе денежного содержания федератских племен.

Rex Атанарих, как видно из отсутствия любых упоминаний по этому поводу, вообще отказался от претензий по поводу «пленных Римом» вестготских дружинников-поселенцев в Нижней Мёзии [1, Amm. Marc. XXVII.5.9]. (Напоминаю, что это был изначальный *casus belli*, т. е. повод к войне Атанариха против римлян!). Также готский вождь обязывался регулярно отправлять рекрутов на римскую военную службу. Для утверждения заключенного соглашения, Атанарих и воины его войска принесли торжественную устную клятву «никогда впредь не ступить на земли римских провинций» [1, Amm. Marc. XXVII.5.9].

Чтобы наказать вестготов, император Валент внес в текст соглашения пункт о сокращении объёмов взаимной торговли. Таможенный контроль и рыночные площади для римско-готского торгового обмена назначались только в двух мёзийских лимесных крепостях [1, Amm. Marc. XXVII.5.9]. Все остальные населенные пункты вовсе не имели права принимать вестготских торговцев (основываясь на данных из Таврики, это условие соглашения не касалось *остготских купцов*). Пересечение Дуная вестготами без разрешения лимесных властей признавалось преступлением [19, Zosimus. Lib. IV]. В таком случае, наказание предусматривалось не только для пойманных нарушителей, но и для самого Атанариха.

Учитывая интерес готской стороны к длительному сохранению мира, «рексу» поручалось лично контролировать безопасность лимесной зоны. Как минимум, готы должны были охранять административные имперские границы, чтобы избежать проникновения «своих же» вестготских разбойников «на римскую сторону».

Получив обещание выплаты регулярного жалованья от императора Валента, Атанарих передал в Константинополь заложников [1, Amm. Marc. XXVII.5.9] из числа сыновей наиболее знатных дружинников и воевод. Таким образом, Императорский Рим создал новый и внушительный резерв для воспитания будущих военачальников из варварской среды, а также самое действенное средство вмешательства во внутренние дела готских племен.

Одним из интересных моментов соглашения 369 г. является место непосредственного заключения договора. Переговоры проходили где-то в районе устья Дуная, поскольку финальная церемония скрепления договоренностей личной встречей императора и рекса состоялась посреди реки [1, Amm. Marc. XXVII.5.9]. Вестготский правитель аргументировал свой отказ переправиться на правый берег «клятвой не ступить в пределы провинций». Но, скорее всего, он боялся возможного ареста. Вестготские дружины, самостоятельно инициировавшие переговоры с императором Валентом [1, Amm. Marc. XXVII.5.7-10.], находились далеко не в лучшем состоянии, что могло сподвигнуть римского правителя нарушить свои обещания, перебить вестготов и вернуть Риму прямое управление в Дакии. В свою очередь, восточный римский император проявил изрядное мужество, так как оставил свое войско на правом берегу, прибыл к Атанариху на гребном корабле только с несколькими охранниками. Телохранители держали имперский штандарт и положенные торжественным мероприятиям инсигнии [1, Amm. Marc. XXVII.5.9].

Существует достаточно высокая вероятность, что в 369 г. Валент заключил два федератских соглашения с готами: весной предоставил *lex foedus* гревтунгам (остготам), а летом заключил мирный договор с правителем тервингов (вестготов). Оба события примечательны именно личным присутствием императора в Буджаке [12, р. 13]. Хотя Дакия и оставалась в руках



вестготов Атанариха, но никто не мог упрекнуть Валента в военном поражении. Ведь вестготы принесли клятву верности Империи [17, Themistius. Oratio X «De rase»].

Возвратившись в столичный Константинополь, Валент организовал триумф. Римский Сенат проголосовал за присвоение ему титула «Готский». Включение этнонима в титулатуру, как и во времена предыдущих августов, прямо указывало: император считал себя верховным правителем готских племен. Впрочем, тогда ещё никто не подозревал, что менее чем через семь лет, в 376 г., вестготы, дававшие клятву «никогда не переходить Дунай с оружием в руках», массово форсируют реку, убегая от приближения степняков-гуннов [18, pp. 24-34]. До полной смены этнополитической карты Восточной Европы оставалось совсем немного.

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ЦИФРОВАЯ ТРАНСФОРМАЦИЯ СОЦИАЛЬНОЙ ПАМЯТИ КАК УГРОЗА СОЦИЕТАЛЬНОЙ БЕЗОПАСНОСТИ

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Abstract. This paper, from the standpoint of structural functionalism, examines the impact of the digital transformation process on social memory. It identifies the key mechanisms, directions, and consequences of this process, evaluates the risks of digitizing social memory in the context of ensuring societal security.

Keywords: social memory, societal community, societal security, digital transformation, socio-philosophical analysis.

В современных исторических условиях обеспечение устойчивого, инклюзивного, транспарентного и мирного развития всего человечества является универсальным моральным императивом и фундаментальной политической целью. В идеале реализация на практике парадигмы устойчивого развития в политическом аспекте должна обеспечить минимизацию конфликтного потенциала развития национальных государств в условиях глобализации, а в социальном аспекте – имманентное стремление современного общества к воспроизводству устойчивых форм организации социальной жизни и поддержанию собственного равновесия как основы социального порядка.

С точки зрения теоретических положений структурного функционализма, интегративная целостность современного общества достигается за счет функциональной когерентности его



базовых институциональных подсистем при доминирующей роли в этом процессе социетальной общности. Характеризуя социетальное сообщество как ядро всей социальной системы, одновременно дифференцированное и сегментированное, выдающийся американский социолог Т. Парсонс подчеркивал, что «основная функция этой интегративной подсистемы состоит в том, чтобы определять обязательства, вытекающие из лояльности по отношению к социетальному коллективу, как для его членов в целом, так и для различных категорий дифференцированных статусов и ролей внутри общества» [1, с. 25]. Он особо акцентировал внимание на функциональной значимости социетального нормативного порядка, конституируемого на основе общих норм, ценностей и нормативных образцов ролевого поведения, в формировании «стратификационной шкалы – шкалы признаваемого и легитимизированного (в той мере, в какой усвоены нормы и ценности) престижа входящих в это сообщество в качестве его членов коллективов, отдельных лиц, а также статусов и ролей, распространенных в этом сообществе» [1, с. 27].

Определяющая роль социетального нормативного порядка в жизнедеятельности современного общества позволила таким представителям Копенгагенской школы исследований безопасности, как Баррри Бузан, Оле Уейвер и Яап де Уильде, ввести новое измерение в изучении безопасности – социетальное [2]. Категория социетальной безопасности характеризует интерсубъективное, трансграничное и мультипликативное понимание этого феномена, согласно которому экологическая безопасность и угрозы идентичности представляют большую опасность для сообщества, чем военный конфликт или техногенная катастрофа. Это предполагает обеспечение безопасности сообщества как целого, формируемого крупными социальными группами с устойчивыми коллективными идентичностями и способными существовать вне зависимости от состояния государства. Более того, в современных исторических условиях государство трансформируется в направлении неизбежной институциональной и функциональной десквамации, которая кардинально изменяет его природу и лишает привилегированного социального статуса.

Однако в условиях усиливающейся социальной динамики, когда «расширение ролевого плюрализма является важной составляющей процессов дифференциации, ведущих к становлению общества современного типа» [1, с. 25], а также определяющего влияния на этот процесс технологического прогресса, достижение социальной солидарности на основе социетального нормативного порядка становится проблематичным. Внимание к технологическому прогрессу обусловлено тем, что глубина «происходящих технологических изменений трансформирует материальный мир вокруг нас, а также формирует новые социальные отношения, оказывает огромное влияние на тенденции социокультурных изменений и роль человека в мире» [3, с. 133]. Все это актуализирует тему социально-философского исследования, целью которого является выявление роли цифровой трансформации социальной памяти в конституировании угроз социетальной безопасности.

В современном социогуманитарном дискурсе социальная память рассматривается как совокупность социокультурных инструментов и социальных институтов, обеспечивающих селективный отбор и преобразование актуальной социальной информации в ретроспективную информацию. Основной целью этого является аккумуляция, межпоколенческая передача, сохранение и практическое использование в новых условиях исторически накопленного общественного опыта. Она представляет собой комплекс разделяемых в рамках конкретного сообщества ценностей, мифов, верований и представлений, репрезентаций образов прошлого, которые являются эффективными нормативными регуляторами индивидуального поведения и макросоциальных процессов. Социальная память «не только обеспечивает набор категорий, посредством которых группа неосознанно ориентируется во времени и пространстве, но также предоставляет материал для сознательной рефлексии» [4, с. 6–7]. В широком смысле она характеризует конституирующее влияние социальных институтов и структур власти на общественные процессы, эксплицирует специфику группового осознания, оценивания, мемориализации или избирательного



забывания событий и процессов прошлого. В узком смысле необходимо учитывать то, что «наиболее важным элементом при определении института являются не формальные структуры, правила и процедуры, а набор неких ценностей, на основе которых члены организаций принимают решения и строят свое поведение» [5, с. 221].

В социетальном аспекте представленные в социальной памяти «образы событий в форме различных культурных стереотипов, символов, мифов выступают как интерпретационные модели, позволяющие человеку или социальной группе ориентироваться в окружающем мире и в конкретных ситуациях, в которых индивид или коллектив должен и может делать свой осознанный или вынужденный выбор» [4, с. 14]. Несмотря на структурную многослойность, функциональную утилитарность и смысловую противоречивость социальной памяти, она обеспечивает политически организованной нации устойчивые культурно-исторические основания коллективной идентификации и государственного развития. Как подчеркивает Н.Л. Мысливец, базовой «основой формирования национального самосознания, условием полноценного функционирования общества и залогом его успешного будущего служит историческая преемственность, ведь, забывая великие подвиги своих предков, человек теряет тот самый уникальный патриотический дух, почитаемый и уважаемый во всем мире, который является основой социального благополучия общества, залогом его дальнейшего развития» [6, с. 87]. На макроуровне это достигается посредством публичного артикулирования нормативно-ценностного значения прошлого в настоящем, что содействует достижению определенного уровня социальной интеграции, релевантной культурогенезу коллективной идентификации и институциональной легитимации в настоящем. На микроуровне социальная память содействует формированию системы экзистенциально значимых ценностных ориентаций личности, определяющих характер социального поведения индивида, его осознанное и нравственно обусловленное целеполагание и целедостижение. Выступая в качестве конституирующего социального фактора и источника моральной регуляции социальной деятельности индивида, она репрезентирует успешный опыт персональной социальной адаптации к кризисным процессам и явлениям, который позволяет индивиду сохранять свою субъектность в процессе жизнедеятельности.

Однако цифровая трансформация всех сфер общества обуславливает появление дигитализированной версии социальной памяти, обладающей структурными особенностями, дополнительными характеристиками и социокультурными функциями о системе общественных отношений. В современном социогуманитарном дискурсе в рамках анализа исследователей находится проблематика сущности, содержания и последствий цифровой трансформации социальной памяти, которые по-разному ими интерпретируются и оцениваются. Интернет, цифровые гаджеты и онлайн-социальные сети рассматриваются в качестве основного технологического фактора, обуславливающего цифровые трансформации, формы и направления развития социальной памяти в информационном обществе. Они формируют универсальную, дифференцированную и эффективную коммуникационную систему для повседневного использования. Благодаря этой системе индивиды не только поддерживают личные и деловые отношения, но и на основе частного пользовательского контента и зафиксированных в цифровом виде личных воспоминаний, дополняющих официальные нарративы социальной памяти, конструируют общее коммеморативное пространство. В результате цифровые технологии и медиа существенно расширяют возможности для создания и распространения нарративов социальной памяти, трансформируют практики и формы её бытования, меняют подходы к концептуализации этого феномена [7].

Эндрю Хоскинс считает, что экспансия ИКТ в социокультурную сферу радикально изменила как принципы и механизмы сбора, хранения и передачи информации о прошлом, так и его ревитализацию в настоящем [8]. До появления компьютерной техники и цифровых технологий возможность сохранения прошлого определялась физическими свойствами конкретных материальных носителей, подверженных физическому износу, структурной



деградации и разрушению в результате их постоянного использования людьми. Поэтому такая деятельность являлась прерогативой профессионалов, не только получивших соответствующее образование и работавших на постоянной основе в архивах, библиотеках или музеях, но и руководствующихся в своей деятельности корпоративными стандартами и этическими нормами сообщества. Однако появившиеся цифровые медиа и технологии технологически предоставляют любому пользователю смартфона, планшета или ноутбука возможность мгновенного вхождения в любые коммуникационные потоки и устойчивого подключения к любым информационным массивам и базам данных. С одной стороны, это позволило демократизировать и эмансипировать деятельность по архивированию частных элементов прошлого, повысить социокультурный статус индивидуальной биографии и символическую ценность соответствующих артефактов. Благодаря алгоритмам социальных медиа происходит ревитализация индивидуального прошлого и превращение его в информационный элемент коллективного настоящего, пользующийся устойчивым спросом у потребителей. С другой стороны, любой человек не просто создает личностно ориентированную коммеморативную среду, в которой неразрывно переплетаются, рефлексированы и оцениваются информационные следы индивидуальной и социальной памяти, но и произвольно фильтрует, маркирует и управляет коммуникационным контентом. Тем самым содержание его деятельности имплицитно оказывает трансформирующее влияние с мощным деструктивным потенциалом на какую-то часть всего социетального нормативного базиса сообщества.

В контексте конституирующего влияния цифровых медиа и онлайн-социальных сетей на социальную память можно говорить не только о расширении коммеморативного пространства и появлении новых коммеморативных практик, но и определенных деструктивных последствиях цифровой трансформации социальной памяти [9]. Обратной стороной эмансипации социальной памяти в силу развития цифровых технологий является угроза её деструкции из-за избыточности цифровых данных. Так, социальные медиа обладают практически неограниченной возможностью конструировать и тиражировать образы катастрофического настоящего, вызывающие травматические эффекты на индивидуальном и групповом уровнях, обладающие фрустрирующим эффектом. Возможности онлайн-социальных сетей и цифровых сервисов фиксировать истории о прошлом в виде последовательно воспроизводимых нарративов способствуют возникновению постоянно увеличивающегося информационного массива, в котором обычный пользователь ориентируется с большим трудом. Следствием широкого применения алгоритмических принципов обработки информации фактически является как неконтролируемое и беспрепятственное распространение в интернете цифровых следов индивидуальной активности, так и усиление контроля над различными аспектами поведения индивида посредством цифровых технологий. В аспекте влияния на социальную память это ведет к превращению цифровизированного коллективного прошлого в фактор, который меняет конфигурацию индивидуальной, социальной и культурной памяти. В результате изменяются и усложняются современный режим темпоральности, характер мнемонических отношений между акторами и инфраструктура сохранения социальной памяти в обществе. Более того, широкое распространение цифровых сервисов, фактически являющихся формой персонализированного участия в потребительской культуре информационного общества, позволяет рассматривать их в качестве фактора нормативного и содержательного переопределения и переструктурирования человеческой деятельности [10]. Это способствует коммодификации социальной памяти, нормативно-ценностное содержание которой постепенно теряет статус общего культурного блага и имплицитно превращается в объект коммерческих отношений.

Итак, в современных условиях социальная память оказалась в поле тотального и противоречивого влияния процесса дигитализации, который обусловил тенденцию её экстернализации и возрастающей зависимости от технических средств хранения и передачи



информации. Это нашло своё отражение в изменении не только параметров и механизмов её функционирования, но и трансформации коммеморативных практик и современного режима темпоральности. В контексте социально-философской и политологической оценок содержания и последствий цифровой трансформации социальной памяти для социетальной безопасности социума можно актуализировать несколько важных моментов.

Во-первых, следствием постоянного роста объемов архивируемой и коммеморативизируемой информации, организованной в управляемые машинными алгоритмами базы данных, которые качественно изменяют содержание и механизм конструирования социальной памяти, является ослабление когнитивно-антиципационных способностей человека. В итоге это отчуждает человека от национальной истории и культурогенеза, кардинально затрудняет установление каузальных связей между событиями прошлого, настоящего и будущего, разрывает связь между нормативным регулированием социальной деятельности и её продуктами. В первую очередь, это касается пожилых людей, которые в отличие от молодежи менее компетентны в инфокоммуникационных технологиях, что ограничивает их возможности в плане выбора источников получения объективной информации и технических инструментов коммуникации. Следствием этого является появление определенных проблем, связанных с межпоколенческой передачей социальной памяти, когда не просто проблематизируется получение, сохранение и интерпретация транслируемого коллективного опыта, а девальвируется его социетальное значение для стабильности общества.

Во-вторых, дигитализация обуславливает тенденцию секьюритизации социальной памяти, из-за которой идентификационные модели различных этнокультурных групп как мнемонических акторов начинают конфликтовать между собой и создают предпосылки для деструкции конвенциональных исторических метанарративов и конституирующих национальных идентификационных оснований. При этом аксиологические компоненты этнокультурных идентификаций меньшинств и других подобных групп, распространяемые в онлайн-социальных сетях и социальных медиа в качестве предмета коммуникационного взаимодействия пользователей, начинают оцениваться как феномены деструктивной направленности. На макросоциальном уровне они обычно воспринимаются обществом в качестве потенциальной угрозы, способной на практике разрушить общие нормативные, когнитивные и эмоциональные основания мира повседневности. Репрезентация этой угрозы в интернете и средствах массовой коммуникации актуализирует дилемму мнемонической безопасности, решение которой на практике фактически запускает эскалацию внутривнутриполитических и межгосударственных конфликтов, деструктивно влияющих на состояние социетальной безопасности сообщества.

Во-третьих, следствием расширенного использования машинной алгоритмической обработки и сохранения информации является имплицитная деконструкция антропных принципов сохранения социальной памяти. Это по-новому структурирует коллективные и индивидуальные воспоминания, в результате чего формируется многослойное коннективное пространство, в котором прошлое доступно для любых пользователей и коммеморативных практик, а индивидуальные воспоминания становятся основанием для формирования как виртуальных, так и реальных коллективных идентичностей. Цифровой формат индивидуальных воспоминаний или их симулякров, их сохранение в интернете позволяет любым акторам оперативно и манипулятивно ими оперировать в культурных, идеологических и политических целях. Если для взрослого человека с устойчивой психикой и сформированным мировоззрением подобные манипулятивные практики не представляют экзистенциальной опасности, то для подростка внешнее вторжение в его внутренний мир, используя для этого неконтролируемые им персональные цифровые следы с эксклюзивной информацией, к которой посторонние имеют полностью или частично свободный доступ, напрямую угрожает его психологическому здоровью и благополучию [11]. В результате дигитализированное пространство для индивида, а подростки являются наиболее активными



пользователями и потребителями цифровых благ и услуг, создает угрозу как виктимизации личности, так и угрозу безопасности человека вследствие фактической потери права на забвение, которое является фактором нормального личностного развития.

В-четвертых, практика постоянной активной переработки и перекомбинирования воспоминаний в процессе их тиражирования в социальных медиа и онлайн-социальных сетях ведет к релятивизации ценности индивидуальных и коллективных воспоминаний, к их неизбежному забвению. Одновременно существенное расширение возможностей в плане создания смысловых и ценностных интерпретаций прошлого радикально расширяет временные и событийные границы прошлого. Благодаря пользовательской активности в интернете создается противоречивая, многослойная и рекурсивная картина исторического процесса и культурогенеза. Фактически любой индивид в интернете может получить статус исторического актора или стать источником формирования эксклюзивной исторической картины, основанной как на реальных фактах, так и на воображаемых событиях и персонажах. Цифровая трансформация социальной памяти кардинально расширяет пространство памятования, делая объектом коммеморативных практик как канонические культурные тексты символы и образы, так и результаты индивидуального творчества по сохранению результатов личных историй и результатов социальной деятельности. Все это усложняет познание социального бытия как в аспекте самого процесса, так и его результатов, т.к. социальная реальность и её виртуальные образы перестают быть тождественными. При этом виртуальность природы конституируемых образов прошлого в содержательном плане девальвирует нормативно-ценностную регуляцию настоящего и этическую оценку прошлого.

В-пятых, возникновение мультимодальной версии цифровизированной социальной памяти, существующей в режиме постоянной транскультурной и транснациональной циркуляции разнородных воспоминаний в реальном времени, которые являются не только продуктами человеческой жизнедеятельности, но и искусственно сконструированными с помощью медиа фантомами, способствует формированию многослойного и динамичного коннективного пространства, недоступного для индивидуального контроля и управления. При этом дигитализация и медиатизация социальной памяти содействуют, с одной стороны, смещению в сторону мемориализации прошлого, в том числе фактически посредством создания цифровых двойников реальных людей или исторических персонажей, различных артефактов прошлого, что в макросоциальном масштабе способствует интенсификации социальной амнезии. С другой стороны, они обуславливают коммодификацию дигитализированной социальной памяти, содействуя превращению образов прошлого в объекты коммерческого потребления посредством применения технологии искусственного интеллекта, визуализации, чат-ботов и т.д. В результате этого конструируется новая мифологизированная социокультурная реальность, в которой элиминируется грань между прошлым и настоящим, искусственным и естественным, подлинным и виртуальным, нормативным и экстраординарным. Как представляется, для такой социокультурной реальности процедуры нормативной оценки и этической рефлексии её содержания является имитационными и/или избыточными.

Таким образом, цифровая трансформация социальной памяти в современных условиях несёт в себе существенные социокультурные риски, т.к. посредством расширения и одновременной девальвации нормативных оснований социетального сообщества проблематизирует обеспечение и поддержание социетальной безопасности. Как представляется, это актуализирует постоянное генерирование вызовов и угроз различного характера и деструктивной интенсивности в институциональном и социокультурном пространстве современного общества.



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ДЕЯТЕЛЬНОСТЬ ГОСУДАРСТВЕННЫХ ОРГАНОВ И ИНСТИТУТОВ ГРАЖДАНСКОГО ОБЩЕСТВА ПО ОСУЩЕСТВЛЕНИЮ КОНТРОЛЯ ЗА ОКАЗАНИЕМ МЕДИЦИНСКОЙ ПОМОЩИ ОСУЖДЕННЫМ ЛИЦАМ

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Abstract. The article examines the legal basis of control over the provision of medical assistance to convicts in the Republic of Moldova, reveals the types of control and officials authorized to carry it out, outlines significant problematic issues. Attention is paid to some issues of European legislation implementation in the process of medical service development in the penitentiary system of the Republic of Moldova, taking into account the main conceptual directions of providing quality medical care to inmates, taking into account the provision of conditions in strict compliance with sanitary and hygienic requirements, priority human values, principles of respect for human rights. The conducted research will make it possible to assess the quality of medical care provided in places of detention and to identify areas of control by state authorities and civil society institutions over the provision of medical care to inmates.



Keywords: convicted persons, medical provision, sanitary-epidemiological regime, compliance with sanitary regime, health protection legislation, international aspects on sanitary regime.

Охрана здоровья является основополагающим вектором развития современного правового государства. На сегодняшний день состояние медицины, ее качество, своевременность, доступность говорит о развитом цивилизованном государстве, где первоочередной задачей является создание здорового общества в целом.

Права лиц, находящихся в местах лишения свободы, должны быть реализованы в полной мере, независимо от пола, возраста, степени причинения вреда, срока отбывания наказания, реализация права на охрану здоровья и др.

Именно реализация права на охрану здоровья и получение качественной медицинской помощи есть отражение вектора гуманизации всей уголовно-исполнительной политики Республики Молдова.

Постепенно ситуация меняется, принимается ряд основополагающих документов, регламентирующих императивное право на охрану здоровья, обязанность оказывать медицинскую помощь осужденным, в том числе принудительные меры медицинского воздействия, развиваются институты контроля со стороны государственных органов и институтов гражданского общества за деятельностью учреждений уголовно-исполнительной системы, которые внимание уделяют вопросам качества оказываемой медицинской помощи в местах лишения свободы.

Деятельность по контролю, представляющая собой одну из составных частей механизма правового государства, позволяет обеспечить точность и соответствие требованиям законности процесса применения права.

По верному замечанию И. Давыдовой в процессе реализации контрольной деятельности осуществляется профилактическая работа в результате:

- 1) выявления правонарушений, а также виновных лиц;
- 2) реализации принятых по результатам контроля правовых актов, в которых сформулированы рекомендации по устранению способствующих правонарушению условий;
- 3) вследствие реализации контрольными органами конкретных профилактических мер [1].

Соглашаясь с мнением автора, следует указать, что успешное решение задач по оказанию медицинской помощи в местах лишения свободы в Республике Молдова, способствует контрольная деятельность со стороны государственных органов и институтов гражданского общества, среди которых выделяются следующие виды контроля:

Ведомственный контроль

Нормативно-правовой основой закрепления функции ведомственного контроля за персоналом органов и учреждений, исполняющих наказания, является уголовно-исполнительное законодательство.

Необходимость ведомственного контроля позволяет, осуществить контроль за деятельностью учреждений и органов, исполняющих наказания, со стороны вышестоящих органов и должностных лиц. Указанная норма является бланкетной, и порядок осуществления ведомственного контроля определяется нормативными правовыми актами.

Данное обстоятельство логически ставит на повестку вопрос о необходимости анализа нормативно-правовых актов, устанавливающих правовой статус структур по исполнению наказания при Министерстве юстиции Республики Молдова, на которое возложены функции координации и контроля за деятельностью подведомственных ему служб. Таким образом, наличие данной нормы о подведомственности позволяет нам сделать вывод о том, что деятельность ему подконтрольна.

Определяя границы, в рамках которых Министерство юстиции Республики Молдова реализует компетенцию по контролю за деятельностью персонала исполняющих



пенитенциарных учреждений, с необходимостью следует остановиться на анализе контрольных элементов основных функций Министерства юстиции Республики Молдова.

В целях реализации контроля Министерство юстиции Республики Молдова осуществляет следующие основные полномочия: утверждает ежегодный план деятельности Департамента пенитенциарных учреждений, а также отчет об их исполнении; обобщает вопросы практической деятельности, а также принимает меры, направленные на усовершенствование данной деятельности; осуществляет подготовку ежегодных докладов Правительству Республики Молдова о состоянии работы по исполнению уголовных наказаний, обеспечению условий содержания осужденных, а также по соблюдению законности и прав человека в учреждениях, исполняющих наказания; вносит Правительству Республики Молдова проекты документов, в том числе нормативно-правовых актов, по вопросам, отнесенным законодательством Республики Молдова к компетенции рассматриваемой Службы и др. [2]

Благодаря указанным полномочиям министру юстиции осуществляет общее руководство персоналом пенитенциарных учреждений и иных органов, осуществляющих исполнение наказаний, а также ведомственный контроль за их деятельностью. Кроме того, следует отметить, что, используя властные полномочия, министр юстиции оказывает значительное влияние на процесс управления подчиненными подразделениями.

Министерство юстиции Республики Молдова принимало самое активное участие в разработке постановлении Правительства Республики Молдова о медицинском освидетельствовании подозреваемых или обвиняемых в совершении преступлений, где закрепляются порядок проведения медицинского освидетельствования и перечень тяжелых заболеваний, препятствующих содержанию под стражей подозреваемых или обвиняемых в совершении преступлений.

Министерством юстиции Республики Молдова продолжается работа по интеграции общественных структур, негосударственных организаций в систему наблюдения за местами лишения свободы, а также совершенствованию исполнительской политики по оказанию качественной и своевременной медицинской помощью осужденным в местах лишения свободы.

Так, в последнем ежегодном докладе Министерства юстиции Республики Молдова было обращено внимание на необходимость привлечения общественного контроля за обеспечением прав человека в местах лишения свободы, предусматривающий в том числе расширение полномочий членов общественных наблюдательных комиссий при осуществлении общественного контроля.

Таким образом, анализ представленных нормативных актов и сложившейся практики позволяют нам сделать вывод о том, что в Министерстве юстиции Республики Молдова сохранены и реализуются контрольные полномочия, но это требует более четкого и полного нормативного закрепления посредством восполнения указанных пробелов в законодательных актах по привлечению общественного контроля.

Судебный контроль

Одним из видов контроля за деятельностью персонала учреждений и органов, исполняющих наказание, обладающего определенной спецификой, следует рассматривать судебный контроль. Он выражается в своей самостоятельности и возможности обеспечения законности в государственном управлении.

Судебный контроль следует рассматривать как особый вид надведомственного контроля, особыми характеристиками которого являются не только отсутствие организационной подчиненности объектов контроля контролирующей инстанции, но и независимость субъекта контроля, в качестве которого выступает суд, подчиняющийся только закону, в следствие чего, ни один государственный орган (должностное лицо) не может дать указание суду о том, какое решение он должен принять. [3]



Это позволяет нам прийти к выводу о наличии двух основных видов рассматриваемого контроля: 1) судебный контроль, осуществляемый стадии (на уголовно-процессуальной) исполнения приговора и 2) судебный контроль за законностью решений (действий), принимаемых (совершаемых) учреждениями (органами), исполняющими наказание, и их должностными лицами в отношении осужденных.

Более того, насуд возложены полномочия рассматривать и другие вопросы, которые непосредственно связаны с исполнением приговора об осуждении лица к лишению свободы. В частности вопросы, связанные с зачетом времени, проведенного под стражей и времени пребывания в лечебном учреждении; вопросы об освобождении от наказания, а также о его смягчении по причине принятия имеющего обратную силу уголовного закона.

Таким образом, мы можем сделать вывод, что целевая направленность контрольной деятельности судебных органов в области исполнения приговоров ориентирована не на реализацию задач уголовного процесса, решенных уже к рассматриваемому моменту, а на ход судопроизводства при исполнении наказаний, в рамках которого и происходит решение таких вопросов, как, в частности, замена назначенного приговором наказания другим видом, досрочное освобождение осужденных от наказания, изменение условий содержания осужденных в местах лишения свободы.

В качестве цели судебного контроля на исследуемом этапе исполнения приговора выступает не проверка законности, обоснованности и справедливости ранее примененного к осужденному наказания, они неподвергаются сомнению и не оспариваются, а обеспечение целесообразного и эффективного процесса исполнения наказания.

Исходя из сказанного, на наш взгляд следует выделить судебный контроль, направленный на достижение цели: предупредить корыстные и иные должностные злоупотребления, увлечение карательным либо либеральным подходом к осужденным; осуществить охрану прав и законных интересов осужденных; обеспечить надлежащее исполнение осужденными своих обязанностей.

Относительно освобождения от наказания в связи с болезнью возможно по трем основаниям: наличие психического расстройства, возникшее у лица после совершения преступления, что лишает его возможности осознавать фактический характер и общественную опасность своих действий (бездействия); наличие иной тяжелой болезни, препятствующей отбыванию наказания; наличие заболевания, делающего военнослужащего негодным к военной службе.

Вместе с тем, законодатель установил и возможность освобождения от наказания лица, которое совершило преступление будучи вменяемым, но которое заболело «душевной болезнью, лишаящей его возможности отдавать себе отчет в своих действиях или руководить ими» до вынесения приговора судом. В таком случае законодатель предоставлял суду возможность назначить соответствующему лицу применение принудительных мер медицинского характера; в последующем, в случае выздоровления, закон допускал возможность применения к нему наказания.

Суд при вынесении решения о досрочном освобождении от лишения свободы больных должен быть уверен, что при наличии тяжелой болезни осужденный в значительной мере теряет свою общественную опасность и лишается, как правило, возможности вновь совершить преступление. Если уверенности в том, что лицо, заболевшее тяжелой болезнью, больше не совершит преступления нет, то досрочное освобождение недопустимо.

В местах лишения свободы имеются необходимые условия для оказания медицинской помощи и лечения заболевших. Прежде всего, возможность досрочного освобождения возникает из факта наличия тяжелого недуга, который до минимума сводит возможность совершения освобожденным новых преступлений. Причем имеются в виду такие тяжелые заболевания, которые, как было указано выше, препятствуют отбыванию наказания. При решении вопроса об освобождении лица от наказания определяющее значение имеет



установление судом наличия у осужденного тяжелой болезни, препятствующей отбыванию им назначенного наказания.

Рассматривая соответствующее ходатайство осужденного, суд оценивает медицинское заключение специальной медицинской комиссии или учреждения медико-социальной экспертизы с учетом установленного перечня, а также принимает во внимание иные обстоятельства, имеющие значение для разрешения ходатайства по существу.

Какие же иные обстоятельства должен учитывать суд? Это, поведение осужденного в период отбывания наказания, его отношение к проводимому лечению, соблюдение им медицинских рекомендаций, режимных требований учреждения, исполняющего наказание, по состоянию здоровья, а также данные о личности осужденного, наличие у него постоянного места жительства, родственников или близких ему лиц, которые могут и согласны осуществлять уход за ним. Постановление суда должно быть мотивированным и содержать конкретные основания принятого решения. В случае наступления болезни осужденного в результате его умышленных действий (например, членовредительства) с целью последующего освобождения, он не подлежал освобождению от отбывания наказания.

Для оптимизации судебной практики по вопросам освобождения осужденного в связи с болезнью необходимо законодательно предусмотреть, что в случае удовлетворения ходатайств (представлений) по освобождению от наказаний в связи с болезнью, освобождать осужденного непосредственно в зале суда [4].

Таким образом, указанные изменения направлены не только на реализацию гуманизации в действующем уголовно-исполнительном законодательстве, но и на приведение национального законодательства в соответствие с международными стандартами и правилами, а также уменьшение количества предписаний контрольных органов и жалоб со стороны институтов гражданского общества.

Контроль Офиса народного адвоката

В Республике Молдова 03 апреля 2014г. – был принят специальный законодательный акт - закон Республики Молдова о народном адвокате (омбудсмене) [5], направленный на более конкретное регулирование статуса контроля за соблюдением прав и свобод человека пенитенциарной системе. Причина этого кроется в том, что реализация таких конституционных прав лишенных свободы лиц как право на жизнь, здоровье, свободу от пыток, личную безопасность и т.д. конкретизируется в обеспечении их реальных прав.

На практике часто можно наблюдать зависимость лиц, осужденных к отбыванию наказания в учреждениях пенитенциарной системы, от деятельности персонала, что усугубляется существенным ограничением их возможности осуществлять защиту своих прав и законных интересов. Это обстоятельство и объясняет факт постоянного контроля Офиса народного адвоката за деятельностью персонала исполняющих наказания учреждений (органов).

Согласно указанного закона, Офис народного адвоката наделен возможностью беспрепятственно посещать пенитенциарные учреждения, во-первых, когда имеется в наличии информация о массовых (грубых) нарушениях прав (свобод) граждан, во-вторых, при наличии случаев, обладающих особым общественным значением либо связанных с необходимостью защиты интересов лиц, которые самостоятельно не способны использовать предусмотренные законодательством средства защиты.

На практике такая форма контроля за деятельностью исполняющих наказания учреждений как их посещение сотрудником Офиса народного адвоката хорошо себя зарекомендовала. Так как, осуществляя визиты в места лишения свободы, обладают реальными возможностями лично проверить то, как соблюдаются права и законные интересы осужденных лиц; на сколько соответствуют условия их содержания тем требованиям, которые содержатся в нормативно-установленных стандартах; осуществить непосредственное общение, как с осужденными, так и персоналом, а при необходимости получить и рассмотреть жалобы. Каждое посещение имеет определенный результат – обсуждение мер, направленных



на улучшение положения с правами человека. После чего соответствующие обращения направляются в министерства и ведомства, заинтересованные в решении соответствующих вопросов. Основными вопросами, отражаемыми в указанных обращения, являются необоснованное применение к осужденным физической силы (специальных средств), оказание медицинской помощи, качество питания осужденных, распространение туберкулеза и др.

Реализация контрольной функции сотрудником Офиса народного адвоката происходит в основном посредством главной его формы – процесса рассмотрения поступивших жалоб. Правом обращения законодатель наделил любых физических лиц, находящихся и осужденных на территории Республики Молдова, чьи права и законные интересы были нарушены (граждане Республики Молдова, иностранные граждане, лица без гражданства), а также их законных представителей, родственников и адвокатов.

Сотрудник Офиса народного адвоката при осуществлении контроля в форме проведения проверок наделен достаточно широкими полномочиями, в частности, он имеет права: беспрепятственно посещать все входящие в пенитенциарную систему учреждения (органы); для рассмотрения поступивших ему жалоб запрашивать, а также получать необходимые ему сведения (документы и материалы); получать объяснения должностных лиц (государственных служащих) учреждений (органов) уголовно-исполнительной системы по подлежащим выяснению в ходе рассмотрения жалобы вопросам; как самостоятельно, так и совместно с компетентными государственными органами (должностными лицами, государственными служащими) проводить проверку деятельности исполняющих наказания учреждений (органов) и их должностных лиц; для выяснения вопросов, подлежащих выяснению в процессе рассмотрения жалоб, поручать компетентным государственным учреждениям проведение экспертных исследований и подготовку соответствующих заключений.

Рассмотрев жалобу, сотрудник Офиса народного адвоката наделен правом на осуществление ряда действий: он вправе в защиту нарушенных прав и свобод заключенного осуществить обращение в суд с соответствующим заявлением; лично (через своего представителя) принимать участие в процессе, возбужденном на основе его обращения; направить ходатайство к руководителям исполняющих наказания учреждений (органов) с просьбой реагирования на выявленные нарушения. При этом сотруднику Офиса народного адвоката предоставлено право самостоятельно, опираясь на различные факты (в частности, характер и масштаб нарушения, обстоятельства его совершения, личность виновного лица) определять способ восстановления нарушенных прав осужденного.

Одним из самых действенных реагирований Офиса народного адвоката при рассмотрении жалобы, поступившего от осужденного лица, следует рассматривать подготовленное им заключение, содержащее рекомендации относительно тех мер, которые возможны и необходимы для восстановления соответствующих нарушенных прав и свобод.

Получивший заключение с рекомендациями от сотрудника Офиса народного адвоката государственный орган (должностное лицо), обязан в срок, рассмотреть его и сообщить в письменной форме Офису народного адвоката о принятых мерах.

Помимо рассмотрения жалоб как основной формы контроля за деятельностью сотрудников (персонала) учреждений (организаций) пенитенциарной системы, сотрудник Офиса народного адвоката использует и иные формы, в частности, в результате реализации права на безотлагательный прием руководителями (другими должностными лицами) учреждений и органов, исполняющих наказания.

Общественный контроль

Основным правовым актом, регламентирующим реализацию общественного контроля за деятельностью учреждений, исполняющих наказания, является Конституция Республики Молдова. Где закреплено, что народ осуществляет свою власть непосредственно, а также через органы государственной власти и органы местного публичного управления. Общество



выступает основным сувереном во всех областях жизни и самостоятельно определяет, как ему организовать свою власть.

Помимо Конституции Республики Молдова, вторым актом которой регламентирует общественный контроль за деятельностью учреждений, исполняющих уголовные наказания является Исполнительный кодекс Республики Молдова.

В Исполнительном кодексе Республики Молдова содержится отдельные нормы, которые посвящены учреждениям и органам, исполняющим наказание, и контролю за их деятельностью. То есть, органы государственной власти, органы местного публичного управления и некоммерческих организаций, возможен и общественный контроль (члены общественных наблюдательных комиссий).

Кроме этого, существует также ряд других нормативно-правовых актов. Например, закон Республики Молдова №235 от 13 ноября 2008г. «о гражданском контроле за соблюдением прав человека в учреждениях, обеспечивающих содержание лиц под стражей», где закреплено право осуществления гражданского контроля, за органами исполняющим наказание.

Что касается представителей средств массовой информации, то законодатель разрешает посещать учреждения, исполняющие уголовные наказания, но только при наличии специального разрешения администрации этих учреждений либо вышестоящих органов.

Наряду с актами, которые содержат нормы, регулирующие общественный контроль за деятельностью уголовно-исполнительной системой, существуют и иные нормативные документы, при толковании которых отдельные их положения можно отнести к правовым основам общественного контроля за деятельностью уголовно-исполнительной системы.

Это касается норм, которые содержатся в законе Республики Молдова №86 от 11 июня 2020г. «о некоммерческих организациях» [6], где перечислены права некоммерческих организаций: право на участие в выработке решений органов государственной власти и органов местного публичного управления; право на проведение собраний, митингов, демонстрации, шествий и пикетирований; право учреждать средства массовой информации и осуществлять издательскую деятельность; право представлять и защищать свои права, законные интересы своих членов и участников, а также других граждан в органах государственной власти, органах местного публичного управления и некоммерческих организациях; право выступать с инициативами по различным вопросам общественной жизни, вносить предложения в органы государственной власти.

Следует согласиться с мнением В. Федорова, который отмечает, что, несмотря на отсутствие в указанных полномочиях прямых контрольных функций общества за деятельностью правоохранительных органов, не без основательно можно говорить о том, что при осуществлении данных полномочий некоммерческие организации реализуют взаимодействие с государством, в рамках чего и достигается контроль за его функционированием [7].

К данному выводу ученый приходит на основе герменевтического анализа, учитывая «наличие широкого и узкого смыслового значения понятий общественного контроля за государством».

В качестве второго законодательного акта, содержащего отдельные положения, составляющие правовые основы общественного контроля за деятельностью уголовно-исполнительной системы, можно отметить закон Республики Молдова №190 от 19 июля 1994г. «о подаче петиции» [8].

Согласно нормам закона, граждане Республики Молдова, иностранные граждане, а также лица без гражданства наделены правом на личное обращение, а также на направление индивидуальных и личных обращений в государственные органы и органы местного публичного управления (их должностным лицам). Логично предположить, что данное право может быть реализовано и в отношении учреждений (органов) и должностных лиц пенитенциарной системы.



Третьим законом, составляющим источники правовых основ общественного контроля за деятельностью уголовно-исполнительной системы, является закон Республики Молдова №243 от 26 октября 1994г. «о печати» [9], в которой содержится запрет на воспрепятствование распространению продукции средств массовой информации со стороны граждан, объединений граждан, должностных лиц, предприятий, учреждений, организаций, государственных органов. Средства массовой информации часто привлекают внимание к наиболее острым и ярким темам пенитенциарной системы, тем самым выполняют контрольную функцию за деятельностью уголовно-исполнительной системы.

Выводы. Вопросы охраны здоровья осужденных и проблемы оказания медицинской помощи им в пенитенциарных учреждениях являются не только актуальными в современном уголовно-исполнительном законодательстве Республики Молдова, но и нуждаются в скорейшем реформировании.

В этом отношении необходимо: во – первых, в части оказания медицинской помощи качественно и своевременно, обеспечения охраны здоровья осужденных в местах лишения свободы, нормативно закрепить в уголовно-исполнительном законодательстве обязанность осужденного «по сохранению своего здоровья». Во – вторых, создание медико-санитарной части в виде современной организационно-правовой формы при пенитенциарном учреждении, с учетом требований международных стандартов, которая напрямую является результатом выполнения Концепции развития уголовно-исполнительной системы Республики Молдова в контексте европейской интеграции. В – третьих, с абсолютной уверенностью можно говорить о том, что оказание медицинской помощи осужденным в местах лишения свободы рассматривается как важнейший атрибут исполнения наказаний не только в Республике Молдова, но и на международной арене.

По этому поводу в указанном направлении необходимо: принимать необходимые меры воздействия для обследования лиц, находящихся под стражей; пересмотреть судебную практику по вопросу досрочного освобождения в связи с болезнью; законодательно закрепить право больных осужденных на продолжение лечения после освобождения из мест лишения свободы и др.

Только принятие в совокупности указанных мер позволит существенно улучшить качество оказываемой медицинской помощи осужденным, уменьшить количество жалоб, поступающих в Европейский Суд по правам человека и контролирующие органы Республики Молдова, а также сохранить и реализовать на практике пенитенциарной политики вектор гуманизации исполнительной системы.

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ОСОБЕННОСТИ И ПРИОРИТЕТЫ РЕГИОНАЛЬНОЙ ПОЛИТИКИ В РЕСПУБЛИКЕ МОЛДОВА НА СОВРЕМЕННОМ ЭТАПЕ

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Abstract: The aim of this article is to study the peculiarities and challenges of regional policy development in the Republic of Moldova. The article examines and analyzes the factors influencing the development of regional policy in the country, as well as proposes strategies and measures to improve the effectiveness of this policy.

Keywords. Regional policy, features, tasks, development, territorial differentiation, regional inequalities, regional sustainability, infrastructural development, economic diversity.

Политика регионального развития в Республике Молдова является национальной прерогативой, в осуществлении которой координированно участвуют органы центрального и местного публичного управления, в рамках процесса участия, направленного на выполнение региональных проектов и программ. Их конечная цель ориентирована на создание необходимых условий для обеспечения доходов, занятости и обеспечения условий жизни гражданам, на привлечение инвестиций и улучшение региональной инфраструктуры.

16 февраля 2007г. вступил в силу Закон о региональном развитии в Республике Молдова [1], которым было закреплено новое, региональное, решение развития страны. В соответствии с указанным законом, территория Республики Молдова была разделена на 6 регионов: Центр, Юг, Север, Кишинев, АТО Гагаузия, Приднестровье. Под регионом развития понимается функционально-территориальная единица, являющаяся объектом планирования, оценки и реализации политики регионального развития. С этого момента началась история регионального развития молдавского государства, направленная на повышение конкурентоспособности и устойчивое развитие каждого региона, сокращение различий и повышение качества жизни жителей.

Конкретными задачами регионального развития являются: повышение конкурентоспособности и занятости в регионах, усиление территориальной сплоченности и предупреждение изолированности, обеспечение институциональных и правовых условий для реализации коллективного управления на национальном, региональном и местном уровне в сотрудничестве с частным сектором и гражданским обществом [1, ст.2].

Исходя из этих предпосылок, соотнесенных с более чем 15-летним опытом внедрения политики регионального развития, возникает необходимость вмешательства государства в



целях изменения политики в данной сфере, для приведения ее в соответствие с новыми тенденциями и реалиями.

Региональное развитие в Молдове прошло три цикла планирования:

Первый: 2010 – 2012 гг. - Миссия Национальной Стратегии Регионального развития на 2010-2012 годы [2] заключалась в создании институциональной и финансовой архитектуры исполнения Закона № 438/2006 о региональном развитии в Республике Молдова [1], соотносясь одновременно с целями развития, намеченными в Национальной стратегии развития – 2020.

Второй: 2013 – 2015 гг. - Миссия Национальной Стратегии Регионального развития на 2013-2015 годы [3] заключалась в начале системной политики и инвестиционных мер вмешательства по сокращению меж- и внутрирегиональных диспаритетов в Республики Молдова через комплексный механизм интегрированного и коллективного планирования регионального развития

Третий: 2016 – 2020 гг. Миссия Национальной Стратегии Регионального развития на 2016-2020 годы [4] заключалась как в обеспечении логической последовательности инвестиционных мер вмешательства, так и в развитии межсекторного характера политики регионального развития путем обеспечения интегрированного и единого процесса планирования, управления и координации секторных мер правительственного вмешательства, направленных на поддержку сбалансированного социально-экономического развития. В этом смысле Национальной Стратегии Регионального развития на 2016-2020 годы предусматривала переход, начиная с 2018 года, на новую парадигму регионального развития.

Национальная политика регионального развития в Республике Молдова, которая была инициирована в 2006 году, активно проводилась в течение последних 10 лет, начинает проявлять первые положительные результаты системного воздействия. Таким образом, благодаря внедрению национальной политики регионального развития в течение последнего цикла планирования (Национальная стратегия регионального развития на 2016-2020 годы [5], в синергии с действиями, реализованными в рамках других стратегий и программ отраслевых государственных политик, а также с частными инвестициями, впервые после провозглашения независимости удалось добиться замедления (пока еще нестабильного) тенденций непропорционального сосредоточения ресурсов в мун. Кишинэу в ущерб остальной части национальной территории, следующим образом:

- ✓ на два процентных пункта возросла доля хозяйствующих субъектов, зарегистрированных за пределами мун. Кишинэу;
- ✓ на один процентный пункт возросла доля регионов, расположенных за пределами мун. Кишинэу, в общем обороте хозяйствующих субъектов страны;
- ✓ на шесть процентных пунктов возросла доля регионов, расположенных за пределами мун. Кишинэу, в общем объеме промышленного производства страны;
- ✓ на два процентных пункта возросла доля регионов, расположенных за пределами мун. Кишинэу, в общем объеме капитальных инвестиций (из всех источников) и на четыре процентных пункта – в общем объеме строительных работ [5].

В современных тенденциях развития Республики Молдова по-прежнему преобладает *поступательная однополярная модель развития*, которая характеризуется непропорциональным сосредоточением ресурсов и благосостояния в мун. Кишинэу на фоне растущей маргинализации периферийных регионов. В настоящее время региональный валовой продукт на душу населения в мун. Кишинэу почти в 5 раз выше, чем в регионах, что отрицательно сказывается на экономической конкурентоспособности Республики Молдова и на средних показателях качества жизни граждан, создавая необходимые предпосылки для сохранения внешней и внутренней миграции.

Важнейший фактор, препятствующий сбалансированному территориальному развитию Республики Молдова, определяется низкой степенью урбанизации (43% – самой



низкой на европейском континенте) и чрезвычайно непрочной городской архитектурой, которая характеризуется 3-мя крупнейшими проблемами:

✓ наличие очень большого демографического и экономического расхождения (мун. Кишинэу и мун. Бэлць, первый и второй по размеру городские центры страны), что очень сильно подрывает перспективы многоцентрового развития национальной территории;

✓ отсутствие третьих динамичных городов среднего масштаба, которые бы функционировали как полюсы регионального роста. Существующие 6 муниципиев с потенциалом стать региональными полюсами (Унгень, Орхей, Комрат, Кахул, Единец и Сорока) сталкиваются в настоящее время с трудностями в развитии, не соответствуя минимальным критериям, определенным законом, для получения городом статуса муниципия;

✓ малые города сильно утратили свои урбанистические и экономические функции в результате длительного процесса демографического, экономического спада, деиндустриализации и преобладания сельского образа жизни.

В то же время, при анализе тенденций социально-экономического развития регионов, расположенных за пределами мун. Кишинэу, выявляется сохранение ощутимых межрегиональных расхождений в развитии страны. Особенно выделяются два региона, в которых показатели эффективности выше среднего национального уровня: Регион развития АТО Гагаузия и Регион развития Центр, и другие два региона, в которых показатели эффективности ниже среднего национального уровня: Регион развития Север и Регион развития Юг:

Регион развития Центр находится в преимущественном положении благодаря близости к мун. Кишинэу, достигая самых высоких показателей развития по сравнению со всеми остальными регионами. В течение последнего десятилетия РР Центр был национальным лидером по развитию большинства показателей социально-экономического развития.

Регион развития АТО Гагаузия сумел очень эффективно воспользоваться преимуществами, предоставляемыми особым статусом автономии и самой высокой степенью налоговой и административной децентрализации. Находясь в начале 1990-х годов на уровне развития, аналогичном Региону развития Юг, Регион развития АТО Гагаузия достиг более высокого роста на всем протяжении последних десятилетий, превратившись в один из самых динамичных регионов Республики Молдова.

Регион развития Юг по-прежнему остается регионом с самым слабым уровнем развития в стране, который характеризуется самым низким уровнем урбанизации и индустриализации. В то же время регион характеризуется самым низким уровнем занятости населения и самой низкой средней заработной платой среди всех остальных регионов страны.

Традиционное процветание Региона развития Север неуклонно снижается, подвергаясь сильному влиянию как демографического фактора (регион стареет быстрее всех регионов), так и географического фактора (это самый отдаленный от мун. Кишинэу регион) [5].

Основной вызов в иницировании четвертого цикла стратегического планирования регионального развития в Республики Молдова состоит в том, что до сих пор не удалось ввести интегрированный и единый подход к планированию, координации и оценке государственных отраслевых инвестиций, направленных на развитие регионов.

На период планирования 2022-2028 годов стратегический подход настоящей Стратегии основывается на новой Концепции регионального развития страны, утвержденной Национальным координационным советом по региональному и местному развитию 13 февраля 2020 года [6]. Концепция отражает как выводы и уроки, усвоенные на протяжении последних десяти лет внедрения политики регионального развития, так и европейские тенденции изменения подхода к региональному развитию, и направлена на интенсификацию усилий, призванных обеспечить сбалансированное развитие в регионах путем интеграции принципов территориальной конкурентоспособности. Новая парадигма была введена с



учетом того, что цель политики регионального развития должна быть ориентирована на создание предпосылок для обеспечения достаточных доходов, занятости и обеспечения условий жизни граждан, поддержки местной инициативы, привлечения инвестиций, создания и развития малых и средних предприятий, улучшение инфраструктуры.

В стране, где необходимость развития очевидна невооруженным глазом или обоснована цифрами, многие люди предпочитают покинуть страну в надежде на лучшую жизнь в другом месте. Анализ факторов экономического развития в Республике Молдова позволяет сделать очень тревожный вывод: в отсутствие постоянных усилий по изменению парадигмы развития потенциал роста в течение следующих 10 лет ограничивается не более 4,5-5% в год, поскольку уровень Развития регионов Республики Молдова, хотя и растет, всё ещё далек от наименее развитых стран Европейского Союза. В ситуации, когда потребности очень велики по всей стране, и различия в развитии все еще велики внутри страны, особенно между сельскими и городскими районами, а также между муниципалитетом Кишинева и всеми другими городами, невозможно обсудить изменение положения политики. Региональное развитие, полностью отказавшись от идеи сокращения этих различий, но все еще существует острая необходимость в ускорении процесса развития, где есть потенциал и потенциал.

Согласно закону № 438/2006 [1], политика регионального развития - это скоординированная деятельность органов центрального и местного публичного управления, местных органов власти и неправительственных организаций, ориентированная на планирование и реализацию сбалансированного территориального социально-экономического развития, для непосредственной поддержки социально-экономического развития неблагополучных районов.

Учитывая общий контекст развития в стране, предлагается переформулировать общую цель регионального развития следующим образом: «повышение конкурентоспособности и устойчивого развития каждого региона, корректировка неравенства и повышение качества жизни граждан».

В связи с указанной Концепцией, Национальная Стратегия регионального развития до 2028 года [5], отражающая четвертый этап регионального развития в Молдове, укрепляет интегрированный подход к политике регионального развития как «межсекторному зонту» мер правительственного вмешательства в регионах, а также ориентирована на полное приведение ее в соответствие с европейской политикой регионального развития, согласно положениям Соглашения об ассоциации Республики Молдова с Европейским Союзом и с Глобальной повесткой дня в сфере устойчивого развития 2030.

Стратегическим видением регионального развития в Республике Молдова является повышение конкурентоспособности и устойчивого развития каждого региона, корректировка диспаритетов и повышение качества жизни граждан [5].

В соответствии с новой концепцией регионального развития на 2022-2028 годы, формулируются следующие цели:

1. Повышение конкурентоспособности и занятости населения регионов.

Достижение этой цели видится через укрепление роли и функций городов в качестве двигателей повышения конкурентоспособности регионов, улучшение предпринимательской среды в регионах, определение и продвижение рациональной специализации в регионах, региональное и трансграничное сотрудничество.

2. Повышение территориальной сплоченности и предотвращение исключения через улучшение основной инженерно-технической инфраструктуры, развитие инфраструктуры для поддержки бизнеса, поддержку процесса адаптации регионов к изменениям климата, предотвращение рисков и устойчивость к катастрофам.

3. Улучшение механизмов и инструментов координации и внедрения национальной политики регионального развития посредством повышения операционной



эффективности базы по внедрению, укрепления механизма финансирования проектов регионального развития, операционализацию Региона развития Кишинэу.

Основной вызов в начале четвертого этапа стратегического планирования регионального развития в Республике Молдова состоит в том, что до сих пор не удалось внедрить интегрированные и единые подходы к планированию, координации и осуществлению секторальных государственных инвестиций, направленных на развитие регионов. В этом смысле многочисленные меры правительственного вмешательства по поддержке развития регионов (в областях инфраструктуры, публичных услуг, развития предпринимательства и социальной сплоченности) по-прежнему являются разрозненными, секторальными и мало синхронизированными. В Республике Молдова политика регионального развития по-прежнему воспринимается как секторальная политика, в отличие от всех остальных государств Европейского Союза, где политика регионального развития – это трансверсальная политика и не воспринимается как отдельный, обособленный и изолированный сектор.

Сохраняется недостаточное участие местных субъектов в проведении мер вмешательства по региональному развитию. Роль органов местного публичного управления в реализации проектов регионального развития больше заметна на этапе разработки, планирования внедрения, но существенно снижается на этапе внедрения и пост-внедрения.

Главная возможность настоящей Стратегии состоит в синхронизации с циклом и приоритетами политики регионального развития Европейского Союза, которая в рассматриваемый период должна основываться на новом подходе сплоченности «Путь к образцовым показателям», сосредоточенном на пяти главных задачах:

1) развитие рациональной региональной специализации (*более рациональная Европа, путем инноваций, дигитализации, экономического преобразования и поддержки малых и средних предприятий*);

2) переход на зеленую экономику (*более экологичная Европа, без выбросов углерода, применение Парижского соглашения и инвестиции в энергетический переход, энергия из возобновляемых источников и борьба с изменениями климата*);

3) повышение внутри- и межрегиональной мобильности (*связанная Европа, со стратегическими транспортными и цифровыми сетями*);

4) повышение социальной сплоченности (*более социальная Европа, для реализации европейского фундамента социальных прав и поддержки качества рабочих мест, образования, социальной интеграции и равного доступа к системе здравоохранения*);

5) поддержка инициатив снизу вверх (*Европа, более близкая к своим гражданам, путем поддержки стратегий развития, возглавляемых на местном уровне, и устойчивого развития городов в ЕС*) [5].

Следует отметить, что соответствие приоритетам Европейского Союза в сфере регионального развития продолжает оставаться и большим вызовом для Республики Молдова. Это обусловлено большим расхождением во внутри- и межрегиональном развитии, а также отставаниями в осуществлении стратегических целей, намеченных в предыдущие периоды планирования. В этом смысле, достаточно сложно определить перспективные цели, сосредоточенные на аспектах рациональной специализации, инновации, дигитализации, экономическом преобразовании, когда экономическое развитие в регионах Республики Молдова еще далеко хотя бы от минимального европейского уровня. Сложно продвигать и поддерживать конкурентоспособность и экономический рост регионов тогда, когда их конкурентные преимущества еще хотя бы не определены. На европейском уровне еще с 2014 года парадигма регионального развития сосредоточена на том, что регионы стремятся специализироваться в секторах, которые обеспечивают им наивысший потенциал роста и конкурентоспособности, где у соответствующего региона уже есть конкурентное преимущество или он может его развить. До настоящего времени задача обеспечить процесс сбалансированного территориального социально-экономического развития и ликвидировать



существующие диспаритеты развития еще далека от выполнения, а по сравнению с мун. Кишинэу все остальные регионы можно считать неблагоприятными территориями.

Новый этап регионального развития Регионов Молдовы представляет меры секторального вмешательства, а также институциональных связей, содействующих партнерству между органами центрального и местного публичного управления, укрепляет интегрированное рассмотрение, в качестве «межсекторного зонта», меры правительственного вмешательства в регионах, а также полное соответствие европейской политике регионального развития, согласно положениям Соглашения об ассоциации РМ–ЕС.

Планирование регионального развития на следующий программный цикл будет соответствовать пяти главным целям, намеченным на европейском уровне в рамках Новой политики сплочения на 2021–2027 годы: более конкурентоспособная и более рациональная Европа; более экологичный переход, с низкими выбросами углерода – на чистую экономику с нулевыми выбросами диоксида углерода; более взаимосвязанная Европа за счет укрепления мобильности; более социальная Европа и более благоприятная для интеграции; Европа, более близкая к гражданам путем продвижения устойчивого и интегрированного развития всех видов территорий, считая приоритетом рациональное экономическое преобразование (включая дигитализацию) и меры вмешательства в области окружающей среды (водоснабжение, канализации, отходы и устойчивость к изменениям климата).

Таким образом, региональное развитие в Республике Молдова является важным стратегическим направлением, которое имеет значительные перспективы и потенциал для улучшения экономической, социальной и инфраструктурной сфер жизни в регионах страны. В последние годы были предприняты значительные усилия для стимулирования регионального развития, таких как реализация программ и проектов, поддержка малого и среднего бизнеса, инвестиции в инфраструктуру и развитие человеческого капитала. Однако, несмотря на достигнутые успехи, все еще существует ряд вызовов, которые нужно преодолеть, чтобы обеспечить равномерное и устойчивое развитие всех регионов страны.

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УНИВЕРСАЛЬНЫЙ УРОВЕНЬ МЕЖДУНАРОДНЫХ МЕХАНИЗМОВ КОНТРОЛЯ СОБЛЮДЕНИЯ ПРАВ ЧЕЛОВЕКА

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Annotation. This article focuses on the scientific analysis of the complex system of international control in human rights at the universal level. The main attention is given to research legal and organizational aspects of monitoring human rights that is at the leading bodies, specialized UN agencies and the treaty committees on human rights. The author gives a vision of the essence of international control mechanism for the protection of human rights at the universal level

Key words: human rights, international protection of human rights, monitoring compliance with human rights, treaty bodies in the field of human rights.

Современное общество сталкивается с множеством вызовов, которые осложняют признание и применение международных стандартов в области прав человека. Эти вызовы могут быть обусловлены различными факторами, включая политическую нестабильность, конфликты, экономические трудности и социальные изменения.

Важно отметить, что права человека являются универсальными и неотъемлемыми, и их соблюдение должно быть гарантировано во всех странах, независимо от политической, экономической или социальной ситуации. Однако в реальности многие люди по-прежнему сталкиваются с серьезными нарушениями своих прав.

Для решения этой проблемы необходимо проводить активную работу на всех уровнях - от международного до национального и локального. Это может включать в себя разработку и принятие новых законов и стандартов, обучение и просвещение, а также мониторинг и привлечение к ответственности нарушителей прав человека.

Также важно учесть, что защита и продвижение прав человека требуют совместных усилий всех участников общества, включая правительства, международные организации, неправительственные организации, гражданское общество и отдельных граждан. Только так можно достичь постоянного улучшения ситуации с правами человека во всем мире.

Проблемы международно-правовой защиты прав человека на универсальном и региональном уровне уделяли внимание в своих трудах такие отечественные и зарубежные авторы, как С. Захария, В. Жук, А. Сосна, Ю. Фрунзе, В. Лысенко, В. Буткевич, В. Мицик, М. Рабинович, М. Хавронюк и др. Однако сложный и комплексный характер вопроса развития международно-правового механизма защиты основных прав и свобод человека, в частности его контрольной составляющей, обуславливает актуальность дальнейших основательных научных исследований в указанном направлении.



Целью данной научной статьи комплексное исследование сущности и специфики универсального контрольного механизма в сфере защиты прав человека.

Задания данной научной статьи включают:

- освещение особенностей реализации правозащитной функции руководящих органов и специализированных учреждений ООН;
- исследование правовой и организационной природы универсальных договорных органов в области защиты прав человека;
- анализ сущности международного контроля в области защиты прав человека на универсальном уровне.

Осуществление контрольной деятельности в сфере защиты прав человека - одна из основных целей Организации Объединенных Наций.

С момента своего создания в 1945 году Организация Объединенных Наций добилась огромного прогресса в направлении установления правовых норм в сфере защиты прав человека и конституирования различных механизмов для осуществления контроля над соблюдением этих норм.

В современной доктрине международного права существует мнение, что успешное осуществление контроля в сфере защиты прав человека во многих аспектах зависит от наличия четко сконструированной организационной основы взаимодействия государств, связанной, главным образом, с деятельностью международных межправительственных организаций. Безусловно, Организация Объединенных Наций занимает уникальное место в указанной системе как по объему полномочий, так и по масштабам функционирования. Устав ООН прямо предусматривает обязанность Организации содействовать "общему уважению и соблюдению прав человека и основных свобод" (п.3 ст. 55) и требует в этой связи от государств-участников "принимать совместные и самостоятельные действия в сотрудничестве с Организацией" (ст. 56) [1].

Следует отметить, что направления и формы при содействии защиты прав человека в рамках ООН чрезвычайно разнообразны. В частности, в исследуемой сфере ООН уполномочена организовывать и проводить исследования, касающиеся прав человека, составлять соответствующие доклады и делать рекомендации государствам-членам, а также осуществлять контрольные функции по проверке соблюдения обязательств, взятых на себя государствами исходя из Устава ООН и международно-правовых актов по правам человека.

Следует указать на то, что значительная часть полномочий ООН в сфере защиты прав человека напрямую связана с разработкой и принятием нормативных актов политического и правового характера. С именем Организации Объединенных Наций связаны практически все международные универсальные акты о правах человека, принятые во второй половине XX века. Кроме того, Организация оказывает необходимую организационную и техническую помощь государствам в разработке соответствующего национального законодательства и подготовке ими отчетных докладов для международных контролирующих органов.

Следует отметить, что Организация Объединенных Наций (ООН) играет важную роль в обеспечении межгосударственного сотрудничества в области прав человека. Ее структура, включающая главные и вспомогательные органы, специализированные учреждения и другие связанные с ней международные организации, образуют "систему ООН" [2].

В рамках этой системы особо выделяются две подсистемы: подсистема собственно ООН с ее главными органами и их структурными подразделениями, и подсистема организаций, находящихся в связи с ООН, включая ее специализированные учреждения. Практически все главные органы ООН занимаются вопросами прав человека в той или иной степени.

Генеральная Ассамблея и Экономический и Социальный Совет (ЭКОСОС) играют ключевую роль в выполнении функций Организации в области прав человека, поскольку на них Уставом ООН возложена основная ответственность за содействие всеобщему уважению и соблюдению прав человека. При этом между Ассамблеей и Советом существует четкое распределение полномочий по принятию решений в этой области.



Генеральная Ассамблея ООН является уникальным форумом для обсуждения международных вопросов и принятия решений. Она состоит из представителей всех 193 членов ООН, каждый из которых имеет один голос.

Согласно Уставу ООН, Генеральная Ассамблея может обсуждать любые вопросы или дела, входящие в рамки Устава, или относящиеся к компетенции любого органа ООН (за исключениями, предусмотренными в ст. 12 Устава). Это дает Генеральной Ассамблее уникальную возможность рассмотреть широкий спектр вопросов, включая мировой мир и безопасность, экономическое и социальное развитие, международное сотрудничество и многое другое.

Однако стоит отметить, что решения Генеральной Ассамблеи, в отличие от решений Совета Безопасности ООН, не имеют обязательного характера для членов ООН. Они выступают в качестве рекомендаций и отражают международное общественное мнение по конкретным вопросам.

Генеральная Ассамблея руководит работой Экономического и Социального Совета ООН, которая также наделена значительным объемом полномочий в области прав человека, к которым, в частности, входит:

- организация исследований и составление докладов по итогам обсуждения ситуации с правами человека в отдельных странах и регионах мира;
- внесение рекомендаций по правозащитным вопросам Генеральной Ассамблеи, государствам-членам ООН и ее специализированным учреждениям;
- подготовка для представления Генеральной Ассамблеи проектов конвенций и резолюций гуманитарного характера;
- созвать международные конференции по проблемам прав человека;
- осуществление контрольных функций, направленных на выполнение рекомендаций Генеральной Ассамблеи в области защиты прав человека;
- обеспечение координации работы специализированных учреждений Организации, в том числе – и в сфере прав человека.

Следует отметить, что, Генеральная Ассамблея ООН обладает наиболее общими организационными и нормотворческими полномочиями в гуманитарной сфере, включая вопросы прав человека. Она принимает решения по широкому спектру вопросов и устанавливает общие направления работы Организации Объединенных Наций.

Однако, ЭКОСОС играет центральную роль в координации и реализации программ деятельности ООН в области прав человека. ЭКОСОС наделен широкими исследовательскими, консультативными и контрольными функциями. Он осуществляет подготовку проектов документов, которые затем подаются на рассмотрение Генеральной Ассамблеи.

Таким образом, большинство решений по вопросам прав человека, принимаемых Генеральной Ассамблеей и ЭКОСОС, основывается на подробной подготовительной работе, проводимой в рамках сессионных подразделений этих органов. Это подчеркивает важность ЭКОСОС как центрального координирующего органа в области прав человека в ООН [3].

Следует отметить, что в выполнении решений ООН и техническом обеспечении ее работы большая роль принадлежит Секретариату Организации и Центра по правам человека.

Последний отвечает за непосредственную реализацию политики и программ, разрабатываемых директивными органами ООН и их соответствующими подразделениями, оказывает им помощь в деятельности по установлению фактов и других процедур, касающихся сообщений о случаях нарушений прав человека. Общее руководство деятельностью Центра осуществляет Верховный комиссар по правам человека, которых является должностным лицом Организации, несущей под эгидой и руководством Генерального секретаря основную ответственность за деятельность ООН в области прав человека.

Центр поддерживает постоянные контакты с правительствами государств и специализированных учреждений Организации. Среди последних наибольшую активность в



области прав человека проявляют Международная организация труда и Организация Объединенных Наций по вопросам образования, науки и культуры (ЮНЕСКО). Будучи связанными с ООН специальными соглашениями, они координируют усилия государств и способствуют созданию международно-правовых норм в отношении конкретных групп основных прав и свобод индивида (трудовых, социальных, культурных и др.).

Для реализации задач по защите отдельных категорий прав человека, МОТ и ЮНЕСКО наделены широкими полномочиями, что, в частности, включают:

- созыв и проведение конференций, семинаров и симпозиумов по проблемам международного регулирования трудовых и культурно-образовательных прав индивидов;
- осуществление научных исследований, разработка и реализация комплексных программ межгосударственного сотрудничества в области науки, культуры, образования, улучшения условий труда;
- оказание информационной и технической помощи государствам в процессе создания ими соответствующих законодательных, административных и других актов.

Однако следует отметить, что ключевым направлением функциональной деятельности специализированных учреждений ООН в правозащитной сфере, безусловно, есть разработка конвенций и рекомендаций, посвященных социально-экономическим правам, а также организация контроля за их соблюдением [4].

Следует отметить важное значение в международном контрольном механизме в сфере защиты прав человека, наряду с руководящими органами и специализированными учреждениями ООН, международных комитетов (так называемых договорных органов) по правам человека, основанных на фундаментальных универсальных правозащитных международно-правовых актах с целью обеспечения соблюдения их предписаний. К основополагающим международным договорам по правам человека, на основании которых основаны контрольные комитеты, в первую очередь относятся:

- Международный пакт об экономических, социальных и культурных правах;
- международный пакт о гражданских и политических правах;
- Международная конвенция по ликвидации всех форм расовой дискриминации;
- Конвенция по ликвидации всех форм дискриминации в отношении женщин;
- Конвенция против пыток и других жестоких, бесчеловечных или унижающих достоинство видов поведения и наказания;
- Конвенция о правах ребенка;
- Международная конвенция о защите прав всех трудящихся-мигрантов и членов их семей [5].

Следует отметить, что на основании каждого из указанных договоров основан соответствующий «договорный орган», представляющий собой комитет независимых экспертов для осуществления контроля за соблюдением прав человека, касающихся положений, содержащихся в указанных договорах. В настоящее время эффективно действуют следующие договорные органы в сфере прав человека:

1. Комитет по правам человека: отвечает за мониторинг выполнения Международного пакта о гражданских и политических правах странами-участниками.

2. Комитет по экономическим, социальным и культурным правам: осуществляет контроль за соблюдением Международного пакта об экономических, социальных и культурных правах.

3. Комитет против пыток: отвечает за мониторинг соблюдения Конвенции против пыток и других жестоких, бесчеловечных или унижающих достоинство видов обращения и наказания;

4. Комитет по ликвидации расовой дискриминации: осуществляет контроль за соблюдением Международной конвенции о ликвидации всех форм расовой дискриминации. Этот комитет следит за тем, чтобы все страны-участницы конвенции принимали необходимые



меры для борьбы с расовой дискриминацией во всех ее формах и обеспечивали равные и справедливые права для всех людей, независимо от их расы.

5. Комитет по ликвидации дискриминации в отношении женщин: осуществляет контроль за соблюдением Конвенции о ликвидации всех форм дискриминации в отношении женщин. Этот комитет стремится устранить дискриминацию женщин во всех областях общественной жизни и обеспечить равенство полов.

6. Комитет по правам ребенка: осуществляет контроль за соблюдением Конвенции о правах ребенка. Он следит за тем, чтобы права детей были защищены во всех странах, которые подписали и ратифицировали эту конвенцию.

Все эти комитеты играют важную роль в поддержании и продвижении универсальных стандартов прав человека.

Следует отметить, что работу указанных комитетов обеспечивают независимые эксперты (от 10 до 23 человек), обладающие определенной компетенцией в области прав человека, которые назначаются или избираются государствами-участниками. Деятельность большинства комитетов координируется Управлением Верховного комиссара по правам человека в Женеве [6].

Необходимо указать на то, что в том случае, если государство ратифицирует международный договор, оно берет на себя обязательство соблюдать положения настоящего договора на национальном уровне. Кроме того, она берет на себя обязательство периодически представлять договорным органам доклады о принятых ею мерах с целью обеспечения соблюдения предусмотренных в договорах прав.

Доклады государств-участников рассматриваются договорными органами вместе с информацией из разных источников в присутствии делегации государства, представляющего доклад. В свою очередь, рассмотрение доклада завершается принятием "заключительных замечаний/ комментариев", в которых договорный орган отмечает проблемы, которые вызывают его озабоченность, и дает конкретные рекомендации государству-участнику относительно будущих действий. Ожидается, что государство-участник должно принять надлежащие меры для выполнения рекомендаций договорного органа. Кроме того, в говорящие органы также утверждают замечания общего порядка и общие рекомендации, в которых излагают свои взгляды в отношении конкретного значения различных статей вышеуказанных правозащитных договоров [7].

Важно заметить, что в том случае, если государством-участником было нарушено какое-либо из регламентированных и признанных государством прав человека, вступает в действие особый механизм контрольной деятельности, который сводится к применению одной из процедур, в соответствии с которыми частные лица, утверждающие о том, что они являются жертвами нарушения государством участником определенного права, закрепленного в соответствующих договорах, они могут подать на рассмотрение свои жалобы. Договорными органами не могут рассматриваться только жалобы, что поступили от лиц, состоящих в пределах юрисдикции государств, формально признавших эти процедуры.

В двух из этих случаев формальное признание осуществляется путем ратификации отдельных договоров, получивших название факультативных протоколов (Факультативный протокол к Международному пакту о гражданских и политических правах и Факультативный протокол к Конвенции о ликвидации всех форм дискриминации в отношении женщин), а в двух других случаях - посредством соответствующих заявлений государств, предусмотренных в самих договорах (в Международной конвенции о ликвидации всех форм расовой дискриминации и в Конвенции против пыток).

Следует указать на необходимость соблюдения определенных условий дальнейшего рассмотрения жалобы в соответствии с вышеуказанными процедурами, в частности:

- необходимость исчерпания заявителем всех внутренних средств правовой защиты;
- необходимость представления жалобы лично предполагаемой жертвой, надлежащим образом уполномоченным представителем



или другим лицом, подтверждающим свои возможности действовать от имени предполагаемой жертвы;

- жалоба должна касаться нарушения одного из конкретных прав, предусмотренных в договоре, по которому она представлена;

- жалобы не могут рассматриваться, если это же дело находится на рассмотрении в соответствии с другой международной процедурой расследования или урегулирования [8].

Однако, следует отметить, что, несмотря на комплексный и многоаспектный характер системы международно-правового контроля соблюдения прав индивида, на внутреннем уровне во многих государствах мира, в том числе, в Республике Молдова главным деструктивным фактором развития правозащитной системы остается коррупция в своих многообразных проявлениях, на преодоление которой должны быть направлены систематические меры, прежде всего, в плоскости законотворчества.

Мы разделяем мнение А. Сосна, отмечающего, что «даже в высоко развитых странах экономические процессы опережают действующее законодательство, поэтому совершенствование правовой базы должно носить перманентный характер» [10].

Таким образом, можно констатировать, что международный контроль представляет собой относительно новый институт международного права, объектом которого являются чрезвычайно разнообразные международные отношения, урегулированные нормами международного права, а также соответствующая деятельность государств по соблюдению международных обязательств, обеспечению международного правопорядка и законности.

Сущность международного контроля определяется как основанная на общепризнанных принципах и нормах современного международного права деятельность субъектов международного права или созданных ими органов, заключающаяся в проверке соблюдения государствами международно-правовых обязательств и в принятии мер по их исполнению. Являясь правовой формой деятельности государств и созданных ими органов, международный контроль включается в правоприменительные процессы с целью обеспечения надлежащего выполнения государствами международных обязательств, проверки соответствия их поведению требованиям международно-правовых норм, блокирование отклонений деятельности государств от заданной программы, установленной в международных соглашениях [9]. Одним из специфических аспектов системы защиты прав человека на универсальном уровне, что влияет на эффективность международного контрольного механизма в указанной сфере, является формирование некоторых прав человека, преимущественно социально-экономических, недостаточно четкими, абстрактными категориями, которые часто нуждаются в количественном измерении в каждом частном случае. В свою очередь, наиболее императивные обязательства государств на международном уровне касаются необходимости обеспечения гражданско-политических прав индивидов.

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ПРОЦЕСС РАЗВИТИЯ И ФОРМИРОВАНИЯ СОЦИАЛЬНЫХ ПОЛИТИК В ОБЩЕСТВЕ

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Annotation. Studying the history of social relations is important for understanding the essence and development of social policy. Consideration of the historical context allows us to see how social relations, problems and needs of people influenced the formation and evolution of social policy. Studying the history of social relations allows us to better understand how social policy has developed in response to social challenges and what measures have been taken to meet the needs and interests of citizens. This knowledge can help us better understand contemporary challenges and develop effective social policy strategies to promote well-being and justice in society.

Key words: social policy, social security system, social justice, reduction of inequality.

Постановка проблемы. Социальная политика – комплекс мер государственного и негосударственного характера, направленных на выявление, удовлетворение и согласование потребностей и интересов граждан, социальных групп, территориальных общин.

Цель социальной политики – создание условий для развития и оптимального функционирования социальных отношений, всестороннего раскрытия творческого потенциала человека, его сущностных сил, достижения общественного согласия и стабильности. Чтобы лучше понять сущность социальной политики, следует проследить ее историю со времен зарождения, в развитии и становлении в обществе. Ведь именно эта сфера жизни сегодня является главной для развитого государства и его граждан. Для этого нужно исследование истории социальных отношений.

Анализ последних исследований и публикаций. Вопросы, которые являются предметом общетеоретического анализа в рамках статьи, были и остаются объектом многих научных



исследований. Важно отметить, что при исследовании темы «Социальная политика» фундаментальная роль принадлежит всеобщей теоретической разработке, а также отраслевым достижениям.

Началом законодательного установления социальной политики считается 1601 г., когда в Англии королева Елизавета издала «Законы о бедных» (The Poor Laws).

Отдельные элементы социальной политики можно найти даже в Древнем мире.

Например, в кодексе Хаммурапи установлено, что в случае стихийного бедствия обязанность общества – помочь жертвам, Афинское государство внедряло пенсии для инвалидов войны и сирот. В Киевской Руси большую роль в становлении традиций и благотворительности сыграло принятие христианства.

Первыми документальными свидетельствами заботы государства о нуждающихся считаются договоры князя Олега с Царьградом (911 г.) и князя Игоря (945г.) «О спасении пленных». Основатель современной экономической науки Адам Смит отстаивал мнение об ограничении роли правительства (1776 г.). Лоренц фон Штайн (1815–1890 гг.) хотел объединить социальное и политическое путем «социального администрирования». Рейхсканцлер Германской империи Отто фон Бисмарк (1815–1898 гг.) среди первых принял социально-политические акты. В его времена приняты законы «О страховании на случай болезни» (1883 г.), «О страховании от несчастных случаев» (1884 г.), «О страховании по старости и инвалидности» (1889 г.).

В Англии основателем социального законодательства стал Ллойд Джордж. По его инициативе принят закон о пенсиях по возрасту (1908 г.), а также «Билль о национальном страховании» (1911 г.). В отличие от системы страхования в Германии, этот Закон предусматривал более весомый финансовый вклад со стороны государства.

Законы о государственном социальном страховании приняты в Англии, Италии, Австрии в 80–90-е гг. XIX в., в Бельгии и Нидерландах – в начале XX ст. Во Франции страхование по старости и инвалидности введено в 1910 г. Начало весомых реформ в социально-политической сфере связано с последствиями Первой мировой войны и кризиса 30-х гг. XX ст. По словам известного исследователя социальной политики Т. Гансли, войны «поставляли» жертв, нуждавшихся в организованном уходе, и вдов, которым требовалась экономическая поддержка [1].

Вопросы «социальной политики» указаны в законах президента Соединенных Штатов Америки (далее – США) Франклина Рузвельта, трудах известного ученого, английского экономиста Джона Мейнарда Кейнса, ученого-экономиста, политического деятеля Великобритании Уильяма Бевериджа. Социальной политикой интересовались такие исследователи, как: Д. Аулейтер, Т. Гансли, В. Мокану, Г. Гончарова, А. Горелый, В. Дереха, О. Иванова, М. Иншин, К. Кузьмин, Л. Лазор, М. Лукашевич, О. Панасюк, С. Прилипко, В. Скуратовский, А. Слюсар, П. Спикер, Г. Фирлит-Феснак, М. Шилко-Скочен, И. Яковюк, А. Ярошенко и др.

Но эта тема постоянно развивается, поэтому изучение ее необходимо для познания социальной реальности, а значит, является предметом пристального внимания ученых.

Целью статьи является рассмотрение генезиса социальной политики.

Изложение основного материала исследования. Большое значение для понимания эволюции социальной политики имеют два ее измерения – нравственное, воплощенное в извечных традициях помощи ближнему, благотворительности, и юридическое, лежащее в законодательном закреплении таких норм. С одной стороны, эти измерения определяются их взаимодействием и взаимопроникновением в процессе функционирования государства и негосударственных общественных объединений. Не считая того, предпосылки возникновения общественного законодательства лежат в плоскости, удаленной от гуманизма. Можно сказать, что никогда социальные реформы не проводились по гуманным соображениям, а всегда по определенным политическим причинам. В этом состоит коллизия социальной политики, законодательное закрепление которой наполнено гуманистическим содержанием, а



практическое введение соответствующих норм и, кстати, самого термина «социальная политика», напрямую связано не с гуманистическими, а с политическими факторами. Причинами проведения социально-политических реформ со стороны государства была необходимость обеспечения стабильности в обществе, претворения в жизнь принципальный компромисс вместо социальной революции».

В XIX веке наука о социальной политике в Европе формировалась в тесной связи с вопросами труда. В процессе экономического развития случается множество отрицательных для работодателя и работника случаев. Для современников те времена и события уже далека история, однако в XIX в. повреждения, причиненные работникам на производстве, приводили к их увольнению; в селе еще была барщина, трудовой день на заводе нередко составлял 14 и более часов, также распространен был труд детей. Неквалифицированные работники получали минимальные заработки. Обычные владельцы капитала считали, что заработная плата работников должна определяться на таком уровне, на котором работник мог бы проработать на следующий день, и того, на их взгляд, было достаточно.

Жизнь на европейских землях тех времен характеризуется бедностью и безработицей, серьезными жилищными проблемами, экономической эксплуатацией деградирующего в таких условиях человека, а также огромным уровнем смертности работников.

С ранним развитием капитализма «дружили» необразованность, неуравновешенность человека, маргинализация бездомных, голодных, инвалидов, больных, безработных. Эти категории лиц «поглощало» экономическое небытие.

Формы страхования рисков стали систематически внедряться во второй половине XIX ст. Это было не благотворительность, а постепенная демократизация общественной жизни. Нужно было обещать работникам то, за что бы они пошли голосовать. Условия труда ранних промышленных работников были очень тяжелыми.

В таких обстоятельствах эксплуатируемые и обиженные пытались защитить себя, создавали профсоюзы, иногда бастовали. Однако ситуация в мире труда нуждалась не только в самозащите работников, но и усилиях государства для согласования существующих противоречий.

Общество создателей современной социальной политики узнало о прусском политическом деятеле Отто фон Бисмарке, который после победы над социалистами привлек страхование на время болезни, аварий и пенсионное страхование, а также способствовал сокращению рабочего времени. Эти меры положили начало в Европе системной защите людей, хотя и на фоне слабого экономического положения. Применение социальных решений в избирательной борьбе за власть было признаком того, что государство готово уйти от либеральной концепции ночного сторожа в пользу социального вмешательства по общим мерам, направленным не только на улучшение жизни населения, но и на привлечение голосов избирателей. Законопроект Отто фон Бисмарка распространяется за пределами Пруссии [2], что означало, что немецкая практика и обучение оказывали значительное влияние на формирование европейской научной мысли до Первой мировой войны и после ее окончания.

Ситуация, которая имела место в рыночной экономике XIX в., а именно резкое распределение между теми, кто имеет частную собственность, и теми, у кого ее нет, создал конфликт между капиталом и рабочей силой. Ученые также интересовались такими проблемами.

Концепция «Социальная политика» впервые упоминается в научной дискуссии В. Рихла [4] примерно в 1854 г., но этот термин появился в Германии, в Ассоциации социальной политики, основанной в 1872 г. Историки и экономисты описали реальность и отметили взаимосвязь между экономическим положением страны и социальным вопросом.

Социалистический альянс Германии разглядывал вопросы социальной реформы с точки зрения науки. Ассоциация сыграла значительную роль в формировании мнений.

Обсуждения, конференции и публикации с участием известных мировых экономистов были направлены на смягчение напряженности, изучение позиций друг друга, решение



конкретных проблем в мире труда. Эхо немецких споров о модели социального вмешательства государства достигло научных кругов других стран.

Наука о социальной политике имела экономическую окраску с самого начала, считалась (и есть) «дочкой» экономики. Социальные проблемы рассматривались как неотъемлемая часть расходного счёта в народном хозяйстве. Ученые были уверены, что экономическое развитие также должно учитывать социальные аспекты человеческой работы. На практике эта новая наука обеспечивала аргументы в конфликтных ситуациях, предлагая компромиссные решения. Это научное направление социальной политики, определяемое практикой, сегодня также поддерживается как учеными, так и практиками [5].

Сначала вопрос о новой науке стал проблемой тех, кто работал на производстве, несмотря на то что большинство современного общества связано с сельским хозяйством. Однако проблемы села были не такими конфликтными, как проблемы работников. Исследователи на практике искали средства, которые могли бы привести к реформам, направленным на облегчение неравенства в положении мира труда.

Постепенно предметом социальной политики стала совокупность отдельных социальных проблем. Ее задачей является формирование гармонии в обществе, которое разделено на разные классы. Политика социальной помощи признана как часть изучения социальной политики. Науку о социальной политике понимали как дисциплину, которая синтетически фиксирует происходящие в общинах изменения под влиянием сознания. Итак, социологическая тенденция появилась в науке о социальной политике. Со временем она более или менее сознательно будет разделять социальную политику на две ориентации – экономическую и социологическую. Кроме того дидактика направляет обсуждаемую дисциплину на взаимодействие с политической наукой.

Это следует из определения самой категории политики. Она понимается как целое направленная деятельность, касающаяся в основном отношений между социальными слоями, государствами и нациями, связанными с борьбой за сохранение или приобретение государственной власти, поскольку это инструмент для регулирования и формирования этих отношений. Источником политики является противоречивость интересов и групповых стремлений, обусловленных дифференциацией общества. Общей целью политики признана интеграция плюралистического общества и создание условий для организованного участия граждан в жизни страны [6]. Добавление прилагательного «социальный» к слову «политика» означает, что речь идет о рациональном формировании территории, связанной с жизненной ситуацией, социальными рисками и возможностями для развития людей.

Социальная политика быстро становится глобальной и распространяется на многие задачи, выполняемые специализированными национальными и международными организациями. Социальная политика имеет несколько целей, а именно: уменьшение социальных рисков, защиту социальных прав, удовлетворение потребностей, устойчивость к кризисным и непредсказуемым событиям.

Условия жизни в современном мире очень разнообразны. Есть места, где люди испытывают дефицит воды и все его последствия. В других – голод, бедность, болезнь, война. Многие женщины в мире лишены доступа к образованию, другие преследуются и становятся беженцами [7].

Результаты глобализации:

- 1) социальные проблемы, требующие транснационального подхода;
- 2) документальное подтверждение ненадежности института государства в решении отдельных нужд;
- 3) изменение пропорций, связанных с балансом сил между капиталом и работой. Малая мобильность капитала способствует повышению силы представительства работников, повышению мобильности в условиях открытой рыночной экономики, ослабляет профессиональные ассоциации;



4) рост конкурентоспособности, изменяющий соотношение в социальной политике. Наличие шансов для стран с дешевой рабочей силой и меньшими социальными затратами;

5) содействие интернационализации социальной политики. Мы наблюдаем путь идей, обмениваемся опытом, появляется новое коллективное сознание, имеющее трансграничный характер.

6) изменение приоритетов в социальной политике. Бедность людей в других странах может представлять угрозу для богатых обществ (производство лекарств, терроризм, неконтролируемые потоки мигрантов и т.п.).

Задачи, реализуемые специализированными организациями, программами и фондами, являются срочными (помощь жертвам стихийных бедствий), а также органическими, когда, например, проводится долгосрочная работа по образованию в странах-контрагентах. Идея показать глобальность организации субъектов активной социальной политики оправдана тем фактом, что европейское общество заинтересовано в структуре международного сотрудничества. К сожалению, молодежь узнает о работе в международных агентствах и программах случайно, часто из-за трагических событий в мире, таких как: землетрясения, цунами, наводнения или войны. Тогда в информационных службах можно увидеть иностранные названия: Всемирная продовольственная программа – World Food Programme (WFP) (крупнейшая в мире гуманитарная организация, созданная для борьбы с глобальным голодом; штаб-квартира – в Риме, а офисы расположены в более чем 80 странах мира); United Nations High Commission for Refugees (UNHCR) (Верховная комиссия Организации Объединенных Наций (далее – ООН) по правам беженцев); UNV (Волонтеры ООН) или организации UNICEF (Международный фонд помощи детям на случай чрезвычайных ситуаций) [8].

Молодые люди, изучающие социальную политику и другие социальные науки, являются потенциальными добровольцами для таких организаций. Но чтобы активно участвовать в работе транснациональных организаций, нужно сначала больше узнать о них, знать их в контексте глобальных социальных проблем. К сожалению, в международных организациях очень мало молодых людей из Молдовы, которые могли бы способствовать глобальной социальной политике пропорционально нашей позиции в рейтинге Программы развития ООН. Кроме того, следует знать, что каждое агентство и программа ООН ищут как добровольцев, так и претендентов на работу, и объявляют об этом на своих веб-сайтах.

Международные субъекты социальной политики должны предоставлять заинтересованным сторонам не только знания о своих задачах. Они напоминают нам о солидарности с бедными, пострадавшими из-за непредвиденных событий. Каждый год приносит трагедии. Например, 2010 г. – крупное землетрясение в Гаити, уменьшившее население этой очень бедной страны более чем на 200 000 человек. Помощь приходит тогда, когда заинтересованность средств массовой информации в мире нарастает, международные организации и их добровольцы приобщаются к решению проблем на месте происшествия. Катаклизм в Гаити вызвал проблемы семей, детей, образования, труда, здоровья и жилья. Речь идет не только о реконструкции, а и о борьбе с преступностью, сопровождающей подобные события.

В Европе произошла серия разрушительных наводнений. Вот некоторые значительные наводнения, которые произошли в Молдове и других странах Европы после 2005 года:

- Молдова, июль 2008 года: Одно из самых разрушительных наводнений в истории Молдовы. Проливные дожди привели к тому, что реки вышли из своих берегов, затопив сотни домов и уничтожив инфраструктуру.

- Центральная Европа, май-июнь 2010 года: Несколько стран, включая Польшу, Германию, Чехию, Венгрию и Словакию, пострадали от масштабных наводнений. Это было одно из самых серьезных наводнений в Центральной Европе за последние десятилетия.



- Балканы, май 2014 года: Сербия, Босния и Герцеговина и Хорватия столкнулись с наиболее разрушительными наводнениями за последние 120 лет. Было затоплено множество городов, погибли десятки людей.

- Великобритания, зима 2015-2016 года: Серия наводнений, вызванных ураганскими ветрами и чрезвычайно сильными дождями. Это было одно из самых серьезных наводнений в истории Великобритании.

- Италия, ноябрь 2019 года: Венеция столкнулась с одним из худших наводнений в истории города, когда уровень воды поднялся более чем на 1,5 метра.

Такие события стали толчком для волонтерских инициатив (из-за границы также). Они стали испытанием местной самоорганизации, настойчивости и усердия [3].

Каждое такое событие вначале влечет за собой хаос, который появляется вместе с бедностью.

Жизнь общины дезорганизуется. Прежде всего, это касается социальной ситуации в домохозяйстве, а потому внешнее вмешательство становится необходимым. Позже нужен план развития, иногда местная (национальная, межрегиональная, государственная, международная) стратегия решения проблем.

Агентства и специализированные программы ООН удовлетворяют такие потребности, особенно в странах с низким уровнем дохода. Однако инициатива должна исходить от государства, которое должно решать проблемы своих граждан. Именно она определяет потребности и предлагает агентствам (и) программам ООН помочь.

Программы и фонды ООН часто носят одинаковый характер; они поддерживают страну для кратковременного вмешательства, а агентства осуществляют долгосрочные проекты сотрудничества.

Питер Таунсенд (1928–2009) был пионером мировой социальной политики. Он постоянно напоминал о социальных правах человека, выдвинул их на первый план. Он известен своей работой по бедности, которая вызвала резонанс в кругах социальных политиков в мире [9] и всегда упоминается при изучении таких проблем.

Выводы. Задачей социальной политики является обеспечение четкого функционирования всей системы социально-политических институтов – субъектов такой политики; координация работы разных элементов системы; формирование оптимального соотношения между различными формами, методами, средствами с целью получения ожидаемых результатов. В результате анализа становления и развития социальной политики мы приобретаем опыт и понимание, что и как нужно делать для личности, чтобы она чувствовала себя счастливой и спокойной в государстве. Хотя теория Питера Таунсенда экономические вопросы рассматривает после социальных и правовых, без развитой экономики крепкое государство не построишь. Республике Молдова нужно крепкое экономически и сильное социальной политикой государство. Только объединение усилий экономистов, политиков, депутатов, Президента и исполнительной власти дадут нам возможность построить крепкое и безопасное государство.

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СТАНОВЛЕНИЕ И ФУНКЦИОНИРОВАНИЕ КРАУДФАНДИНГА НЕКОММЕРЧЕСКИХ ОРГАНИЗАЦИЙ (НКО) РЕСПУБЛИКИ МОЛДОВА

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Abstract. The article analyzes crowdfunding as an alternative financing option for the non-profit sector. Studying the experience of the formation and functioning of crowdfunding of non-profit organizations involves studying the Moldovan practice of special platforms, possible risks when startups raise funds to implement their innovative projects using crowdfunding, analysis of its regulation in domestic legislation, the current state of crowdfunding of non-profit organizations and its future, new trends in development, opportunities and challenges faced by both Moldovan non-profit organizations themselves, as well as sponsors and investors.

Keywords: non-profit organizations (NPOs); financial stability; crowdfunding; interactive online platforms; the legislative framework; sponsors and investors.

Финансовая стабильность большинства некоммерческих организаций зависит от сбора средств, который может включать специальные мероприятия, написание проектов, прямую почтовую рассылку и многое другое. Краудфандинг – альтернативный вариант финансирования для некоммерческого сектора, который постоянно испытывает дефицит средств для развития и реализации своих целей и задач. Эта проблема, в сочетании с ростом социальных сетей и интерактивных онлайн-платформ способствуют росту популярности краудфандинга как возможного альтернативного источника финансирования некоммерческого сектора.

Термин краудфандинг был впервые введен Майклом Салливаном в 2006 году, который попытался создать инкубатор для проектов, связанных с видеоблогами.

Краудфандинг — это глобальное социальное и финансовое явление, описывающее метод сбора денег от большой группы людей («толпы») через Интернет. Оно появилось совсем недавно, в начале XXI века, хотя использование толпы для финансирования той или иной цели было известно и раньше. Например, Моцарт и Бетховен собирали деньги от заинтересованных покровителей для финансирования своих концертов или создания дополнительных музыкальных произведений, и подобных этому примеров много.

Краудфандинг может быть особенно эффективным способом сбора средств, особенно за короткий промежуток времени. Поэтому он и становятся объектом широкого интереса некоммерческого сектора во всем мире и предметом изучения исследователей во всем мире (*Lambert, T., & Schwienbacher, A. (2010); Younkin, P., & Kashkooli, K. (2016); Belleflamme, P., Omrani, N., & Peitz, M. (2016) u др.*).



Ламберт и Швинбахер определили краудфандинг как «открытый призыв, в основном через Интернет, о предоставлении финансовых ресурсов либо в форме пожертвования, либо в обмен на некоторую форму финансирования». вознаграждение и/или право голоса для поддержки инициатив, преследующих конкретные цели [6]. Они считали Интернет ключевым элементом краудфандинга. Авторы утверждали, что развитие Интернета сыграло решающую роль в существовании краудфандинга, поскольку оно позволило взаимодействовать с другими пользователями через социальные сети. Через онлайн-платформу потребители могут собирать финансовые ресурсы для поддержки и поддержания новых проектов, инициированных другими в коммерческой и некоммерческой сферах.

Финансирование посредством краудфандинга в целом можно разделить на два типа: с финансовой отдачей и без нее. Нефинансовые модели включают пожертвования или вознаграждения. Это означает, что спонсоры либо не ожидают никакой прибыли, либо получают неденежное вознаграждение, часто имеющее символическую ценность. Модели, предлагающие финансовую отдачу, включают кредитование и краудфандинг акций. В настоящее время преобладает краудфандинг с нефинансовой отдачей. Однако краудфандинг, приносящий финансовую отдачу, также расширяется.

Краудфандинг некоммерческого сектора определяется нами как *процесс, в котором некоммерческие проекты публично иницируются через краудфандинговую платформу отдельными лицами или организациями, которые стремятся привлечь средства в виде небольших инвестиций от множества спонсоров, которые бесплатно предоставляют свои активы либо в форме пожертвования, либо в обмен на денежное или не денежное вознаграждение* [3].

Феномен краудфандингового финансирования некоммерческого сектора и различные его аспекты, естественно, не до конца изучены, что и определяет наш исследовательский интерес.

Целью статьи является исследование особенностей развития краудфандинга некоммерческих организаций в Республике Молдова.

Изучение опыта становления и функционирования краудфандинга некоммерческих организаций предполагает изучение молдавской практики деятельности специальных платформ, возможных рисков при привлечении средств стартапами для реализации своих инновационных проектов методом краудфандинга, анализ его регулирования в отечественном законодательстве, текущее состояние краудфандинга некоммерческих организаций и его будущее, новые тенденции в развитии, возможности и проблемы, с которыми сталкиваются как сами молдавские некоммерческие организации, так и спонсоры и инвесторы.

Данный круг **задач** определил логику и структуру настоящей статьи.

Информационно- статистическая база исследования. В качестве источников использованы национальные нормативные акты, регулирующие деятельность краудфандинга НКО в Молдове, данные USAID и Центра Контакт в Республике Молдова по краудфандингу молдавских некоммерческих организаций в период с 2016 г. по 2023 год.

Результаты и обсуждение.

Развитие инвестиционных моделей краудфандинга в Республике Молдова и усложнение сопутствующих рисков для обеих сторон процесса потребовало разработки для них нормативной базы. О том, что появление соответствующей отечественной законодательной базы вызывает необходимость серьезного обсуждения предложенной концепции регулирования краудфандинга некоммерческих организаций, отмечали в своих отчетах представители USAID в Республике Молдова [4;5] ещё в 2016 году (на основе ежегодного мониторинга отечественных некоммерческих организаций). По их мнению, бюрократическая система отчетности о пожертвованиях продолжает оставаться препятствием для развития корпоративных пожертвований.



Поэтому В 2017 году рабочая группа при содействии Европейского центра некоммерческого права (ECNL) подготовила ряд инициатив по его совершенствованию. Согласно данным предложениям, корпоративные налогоплательщики могут вычесть благотворительные или спонсорские пожертвования в размере до 5 процентов от своего налогооблагаемого дохода. Пожертвования могут быть вычтены только в том случае, если они преследуют филантропические или спонсорские цели в соответствии с Постановлением Правительства РМ № 489 [2]. Но процедура получения таких заключений по-прежнему являлась устаревшей и сложной, что потенциально отпугивало возможных доноров.

Согласно нововведениям, начиная с 2017 года физические лица могут перечислять 2 процента своих подоходных налогов в пользу НКО. А Министерство юстиции ежегодно утверждает список потенциальных бенефициаров 2-процентного механизма. Основными критериями для отчислений являются то, что некоммерческие организации предоставляют услуги на благо общества и не имеют задолженности перед государством.

Как позитивный вклад в упрочение ресурсной базы молдавских НКО рассматривается то, что в октябре 2018 г. Министерство юстиции начало процесс общественных консультаций по разработке законопроекта о внесении изменений в Закон № 1420 от 2002 года о благотворительности и спонсорстве [2]. Контакт-центр, координатор рабочей группы, разработавшей рекомендации по совершенствованию нормативной базы благотворительности, публично представил предложения гражданского общества на конференции «Будущее благотворительности в Молдове», состоявшейся в июне 2018 года. А Платформа развития и продвижения благотворительности в Республике Молдова представила комплекс предложений по стимулированию корпоративных пожертвований. В 2020 году эти предложения были рассмотрены Государственной канцелярией и проведен ряд консультаций с членами Платформы.

На настоящий момент источники дохода некоммерческих организаций включают пожертвования частных лиц и компаний, 2-процентную схему индивидуальных пожертвований и доходы от экономической деятельности. Согласно существующему Закону о благотворительности и спонсорстве [1], корпоративные налогоплательщики имеют право делать необлагаемые налогом пожертвования (денежные и неденежные) на благотворительные и спонсорские цели, но их стоимость не может превышать 5 процентов налогооблагаемого дохода компаний в течение финансового периода.

В середине 2022 года в Закон о благотворительности и спонсорстве [1]. были внесены поправки, которые дают более точные определения филантропической деятельности, спонсорской деятельности, филантропа, спонсора и бенефициаров; расширен перечень благотворительных и спонсорских целей и уточнены потенциальные бенефициары.

Рамочное положение о механизмах безвозвратного финансирования проектов некоммерческих организаций было утверждено в сентябре 2022 года и вступило в силу в январе 2023 года. Ожидается, что оно стандартизирует предоставление финансирования и грантов НКО центральными и местными государственными органами и должно помочь НКО диверсифицировать источники финансирования.

Чтобы добиться успеха в краудфандинге молдавские некоммерческие организации используют эффективные краудфандинговые платформы.

На основе анализа исследования устойчивости некоммерческого сектора USAID [4;5] представим их во временном аспекте.

✓ В 2017 году использование краудфандинговых платформ выросло: многие люди внесли свой вклад в проекты НКО на таких платформах, как www.caritate.md и www.guvern24.md. В рамках проекта MiDL, реализуемого ПРООН в Молдове, 4000 человек из-за границы пожертвовали около 100000 долларов США через www.guvern24.md на общественные проекты в двадцати трех населенных пунктах.



✓ В 2018 году НКО используют как международные платформы, такие как www.indiegogo.com и www.patreon.com, так и местные платформы - www.guvern24.md. Была запущена новая краудфандинговая платформа — www.sprijina.md.

✓ В 2019 году основными национальными платформами являлись sprijina.md и caritate.md (которые в основном ориентированы на сбор денег на цели, связанные со здоровьем). ПРООН в Молдове активно использовала в своих проектах национальные краудфандинговые платформы, такие как sprijina.md и guvern24.md. В период с 2015 по 2018 год ПРООН помогла своим бенефициарам разработать пятьдесят пять краудфандинговых кампаний, в рамках которых более 10 000 человек пожертвовали около 166 500 долларов США.

✓ В 2020 году была создана новая краудфандинговая платформа — www.particip.md, целью которой является поддержка творческих, общественных, благотворительных и инвестиционно-инвестиционных проектов. Платформы, созданные в предыдущие годы, например www.sprijina.md и www.caritate.md, также продолжили свою работу. ПРООН в Молдове и правительство Швейцарии активно поддерживали НКО, особенно местные ассоциации, в разработке кампаний и сборе денег посредством краудфандинга. В 2020 году местные ассоциации (широко известные в Молдове как ассоциации родных городов) собрали около 121 939 долларов США посредством краудфандинговых кампаний.

✓ 2021 год. Краудфандинг позволил НКО диверсифицировать свои потоки финансирования. Три основные краудфандинговые платформы — particip.md, sprijina.md и caritate.md — продолжили работу в 2021 году, а четвертая платформа, www.guvern24.md, возобновила работу после её прекращения в 2018 году.

✓ 2022 год. Основные онлайн-платформы краудфандинга некоммерческих организаций Молдовы — www.particip.md, www.sprijina.md, www.caritate.md и www.guvern24.md — продолжили действовать, но количество инициатив и собранных сумм было низким. Среди нескольких успешных краудфандинговых кампаний инициатива «Moldova pentru rase» собрала почти 100 000 евро для удовлетворения потребностей беженцев и покрытия расходов их волонтеров.

В целом, краудфандинговые платформы стали эффективными инструментами для связи НКО с донорами. Они предлагают НКО удобную, прозрачную и привлекательную среду для сбора средств и продвижения своих целей, в то время как доноры имеют доступ к широкому спектру проектов и удовлетворение от непосредственного вклада в позитивные изменения.

На основе проведенного в статье исследования краудфандинга некоммерческих организаций Молдовы можно сделать следующие **выводы**.

1. Появление краудфандинга как принципиально новой модели финансирования проектов в различных сферах деятельности некоммерческого сектора стало возможным благодаря широкому развитию информационных технологий и Интернета, способствовавших возникновению всевозможных социальных сообществ. Инициаторами проектов явились как отдельные, так и фирмы. В последнее время в некоммерческой сфере все чаще возникают ситуации, когда спонсорами выступают юридические лица.

2. С учетом существования краудфандинга в некоммерческой сфере мы определяем его как «процесс, в котором некоммерческие проекты публично иницируются через краудфандинговую платформу отдельными лицами или организациями, которые стремятся привлечь средства в виде небольших инвестиций от множества спонсоров, бесплатно предоставляющих свои активы либо в форме пожертвования, либо в обмен на денежное или неденежное вознаграждение». Краудфандинг в некоммерческой сфере играет важнейшую роль в НКО и устанавливает правила, по которым идет процесс взаимодействия спонсоров



(в зависимости от особенностей выбранной модели — инвесторов, кредиторов) и инициаторов проектов.

3. Развитие инвестиционных моделей краудфандинга некоммерческих организаций, усложнение сопутствующих рисков для обеих сторон процесса вызывает необходимость серьезного обсуждения нормативной базы регулирования.

4. Некоммерческие организации Республики всё в большей степени выявляют и используют преимущества краудфандинга:

- Краудфандинг, как правило, дешевле и более экономически эффективен, чем другие источники сбора средств, такие как мероприятия, которые имеют высокие накладные расходы.

- Люди обычно с большей вероятностью вносят деньги в организацию, если видят, что многие другие уже поддерживают ее, что также известно как социальное доказательство.

- Краудфандинг также является ценной формой маркетинга и распространения информации.

- Некоммерческие организации могут и используют свои краудфандинговые кампании для тестирования различных историй, видеороликов и многого другого бенефициаров, оценивая реакцию аудитории.

5. Хотя краудфандинг является вариантом финансирования для отечественного некоммерческого сектора, он также влечет за собой определенные риски. К ним относятся: риск мошенничества, закрытие или сбой платформы, дефолт проекта, кибератаки, истощение доноров, вводящая в заблуждение рекламная практика, правовая неопределенность, вытекающая из законодательных актов, риск ликвидности (отсутствие вариантов выхода) и нарушение прав интеллектуальной собственности.

6. Причинами, по которым краудфандинг ещё не получил широкого распространения в некоммерческих организациях Молдовы, являются:

- недостаточное информирование СМИ об отечественных проектах;
- сложности для ведения коммерческой деятельности НКО на начальном этапе;
- интернет-инфраструктура находится на стадии развития;
- плохая осведомленность участников данного рынка и низкая культура авторов стартапов;
- скептическое отношение населения ввиду опыта в 90-х с финансовыми пирамидами.

Учет всех достижений и недочетов в области краудфандинга НКО будет способствовать в дальнейшем увеличению доли некоммерческого сектора в Молдове, снижению уровня коррупции посредством использования фондов нового типа и улучшению благополучия населения.

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УСТУПКА ДОГОВОРА КАК МЕХАНИЗМ ПЕРЕДАЧИ ТРЕБОВАНИЯ И ОБЯЗАТЕЛЬСТВА И ЕГО ОСОБЕННОСТИ ПРИ ДОГОВОРЕ КУПЛИ-ПРОДАЖИ СТРОЯЩЕГОСЯ НЕДВИЖИМОГО ИМУЩЕСТВА

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Аннотация. Статья детально анализирует понятие и общие положения о передаче требования и обязательства на основе модернизированного Гражданского кодекса РМ (в силу с 01.03.2019) и исследован такой новый институт для молдавского правового порядка как уступка договора. В статье также анализируется специфика договора купли-продажи строящегося недвижимого имущества (как разновидность договора купли-продажи, а конкретно договора купли-продажи недвижимости), и доказывается наличие у этого договора такой специфической юридической характеристики как договор с последовательным во времени исполнением обязательств. На основе правового анализа автор приходит к выводу, что уступка договора, это одновременная совокупность уступки право требования (цессии) и принятия долга, соответственно. Также, учитывая тот факт, что договор купли-продажи строящегося недвижимого имущества, по мимо прочего, является и договором с последовательным во времени исполнением обязательств, автор резюмирует, что механизм уступки договора должен использоваться и в отношении него, подобно договорам имущественного найма, лизинга и других, но с определенными свойственными ему условиями.

Ключевые слова: поручение исполнения, переадресовка исполнения, уступка договора, уступка договора купли-продажи строящегося недвижимого имущества, договор с последовательным во времени исполнением обязательств, юридическая техника.

Abstract. The article analyzes in detail the concept and general provisions on the transfer of a claim and obligation on the basis of the modernized Civil Code of the Republic of Moldova (effective from 03/01/2019) and examines such a new institution for the Moldovan legal order as the assignment of a contract. The article also analyzes the specifics of the contract of sale of real estate under construction (as a type of contract of sale, specifically the contract of sale of real estate), and proves the existence of such a specific legal characteristic of this contract as a contract with consistent performance of obligations. Based on the legal analysis, the author comes to the conclusion that the assignment of the contract is a simultaneous combination of assignment of the right of claim (assignment) and acceptance of debt, respectively. Also, taking into account the fact that the contract of sale of real estate under construction, among other things, is also a contract with a consistent time of fulfillment of obligations, the author summarizes that the mechanism of assignment of the contract should be used in relation to it, like property lease agreements, leasing and others, but with certain conditions peculiar to it.



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Keywords: assignment of performance, redirection of performance, assignment of a contract, assignment of a contract for the purchase and sale of real estate under construction, a contract with consistent performance of obligations, legal technique.

Понятие и общие положения о передачи требования и обязательства (перемена лиц в обязательстве).

По общему правилу субъектами исполнения обязательства являются стороны последнего, т.е. участников обязательства - *должник и кредитор*. Данное правило соблюдается при исполнении всех обязательств, возникающих из линейных договоров. Потребностями развитого имущественного оборота нередко диктуется замена (*не дополнение - прим. авт.*) участников обязательства. Что же касается тех гражданских правоотношений, которые возникают на основе конструктивных договоров, отмеченного совпадения обязательств нет. В такого рода обязательствах имеет место *переадресование или перепоручение* исполнения определенному третьему лицу.

Перепоручение исполнения означает, что должник возложил совершение действий, направленных на исполнение обязательства, *на третье лицо* (смотри: ст.870 ГК РМ - *исполнение обязательства третьим лицом*). При этом третье лицо не становится стороной в обязательстве, поскольку оно по отношению к кредитору выполняет только фактические действия, *например*, передает имущество, платит деньги, выполняет работу и т.д. (*например*, договор субподряда). В данном случае, должник, не выбывая из обязательства, отвечает перед кредитором за исполнение так, как если бы исполнение осуществлялось им лично. То есть, должник отвечает перед кредитором за действия третьего лица. Также бывают случаи, когда *любое третье лицо*, подвергаящееся риску утраты определенных прав на имущество, может удовлетворить требования кредитора без согласия должника. В данном случае, в результате удовлетворения указанных требований к третьему лицу переходят права кредитора (смотри: ст.871 ГК РМ - *удовлетворение требований кредитора третьим лицом*). *Переадресовка исполнения* означает, что должник имеет право исполнить обязательство либо кредитору, либо лицу, прямо указанную кредитором. Никто не вправе требовать исполнения в свою пользу, не имея полномочий от кредитора.

Таким образом, в отличии от участия третьих лиц в исполнении обязательства, где кредитор и должник *не выбывают* из обязательства, возможны случаи, когда происходит замена кредитора или должника. Такие ситуации именуется *передача требования и обязательства* или, другими словами, переменной лиц в обязательстве. *Например*, возникшая у кредитора по денежному обязательству (по договору займа) необходимость получения причитающихся ему денег ранее наступления оговоренного с должником срока исполнения вызвала к жизни различные формы оборота соответствующих прав требования (иногда именуемых долговыми обязательствами). Кредиторы уступают свои права на будущее получение денег другим лицам, в частности банкам, получая по ним немедленное исполнение за вычетом оговоренного процента за услугу (зависящего, прежде всего от надежности должника, или «ликвидности требования»), а последние могут даже «скупать долги» (*суброгация*) определенных лиц для установления контроля за их деятельностью.

В таких ситуациях имущественные права и обязанности становятся самостоятельными объектами гражданского оборота, что, в частности, открывает путь к развитию разнообразных форм биржевой торговли, *например* «торговли фьючерсами» (контрактами, предусматривающими исполнение в будущем). В международном коммерческом обороте



уступка экспортером товара кредитной организации своих прав по получению денег с иностранного покупателя (в обмен на немедленную оплату большей их части) не только освобождает его от многих хлопот, но иногда и защищает от безнадежных долгов [13, р.231].

С этим, разумеется, ничего общего не имеют абсурдные попытки организовать по нормам гражданского права «оборот» публично-правовых обязанностей, *например* задолженностей по налоговым, таможенным и тому подобным платежам, в том числе путем выпуска органами самой публичной власти различных документов типа «казначейских налоговых освобождений», проведения «взаимозачетов» по недоимкам и т.п. Поэтому в период действия обязательства по общему правилу возможна замена участвующих в нем лиц при сохранении самого обязательства. Дело может касаться *либо перемены кредитора*, именуемой уступкой права требования, т.е. цессия (поскольку именно оно определяет его положение в обязательстве), *либо перемены должника*, именуемой переводом долга (определяющего статус последнего), *либо даже замены обоих* этих участников.

В любом случае из обязательства выбывает кто-либо из его участников, а к вступающему на его место новому участнику переходят права и обязанности прежнего. Иначе говоря, здесь имеет место правопреемство кредитора или должника [11].

Повторим, что в отличии от *участия третьих лиц* в исполнении обязательства, где кредитор и должник не выбывают из обязательства, при *передаче требования и обязательства* (перемене лиц в обязательстве) происходит полная замена кредитора или должника. При этом указанное правопреемство относится ко всем правам и обязанностям, вытекающим из данного обязательства (в том числе обеспечивающим его надлежащее исполнение), если только законом или договором прямо не предусмотрено иное, *например*, частичная уступка денежного требования при суброгации (смотри ст.857 ГК РМ).

Замена участников обязательства может не только осуществляться по соглашению сторон (на основании договора), но и предусматриваться непосредственно законом (смотри, например случаи перехода цессии не по воле сторон в ст. 839 ГК РМ или законной суброгации в ст.855 ГК РМ). Такая ситуация возникает, также, в случаях универсального правопреемства в правах и обязанностях, в частности при преобразовании или слиянии юридических лиц и наследовании в случае смерти гражданина, а также в других предусмотренных законом случаях, например при переводе прав и обязанностей покупателя доли в праве общей собственности на сособственника, право преимущественной покупки которого нарушено приобретателем, или при передаче комиссионером комитенту прав по заключенной им во исполнение договора комиссии сделке с третьим лицом. Вместе с тем замена участвующих в обязательстве лиц допускается не всегда. Исключение, прежде всего, касается обязательств строго личного характера, связанных с личностью кредитора. В частности, прямо запрещена *уступка права требования* (цессия) касающиеся взимания алиментов или возмещения вреда, вызванного повреждением здоровья или смертью гражданина, поскольку соответствующие платежи имеют строго целевое назначение (ч. (4) ст. 823 ГК РМ).

Перемена участников обязательства, в том числе замена кредитора, может быть запрещена законом, иными правовыми актами или даже договором сторон. *Например*, на практике запрещается передача нанимателем имущества по договору проката (это разновидность договора имущественного найма на короткий срок - ст. 1251 ГК РМ) своих прав и обязанностей другому лицу, хотя по общему правилу (смотри: ч. (1) ст. 1270 ГК) – «наниматель вправе передать нанятую вещь в поднаем или уступить наем лишь с согласия наймодателя», т.е. в договоре или в отдельном соглашении к ним должно быть прямо указано условие, по которому наймодатель разрешает нанимателю передать нанятую вещь в поднаем или уступить наём другому - третьему лицу. Закон может также ограничить круг субъектов, которые могут заменять участников конкретных обязательств. Так, в договорах факторинга (финансирования под уступку денежного требования) – ст.1811, 1813,1821 ГК РМ дальнейшая передача уступленного права допускается, если она прямо предусмотрена договором и только в пользу других факторов (финансовых агентов).



Согласно модернизированному ГК РМ (глава III-я, раздела I-го, книги третьей) передача требования и обязательства, то есть перемена лиц в обязательстве осуществляется в следующие пять форм: 1. *Уступка требования (цессия)*; 2. *Принятие (перевод) долга*; 3. *Уступка договора*; 4. *Передача права в случае несостоятельности косвенного представителя* и, 5. *Суброгация*.

Учитывая, что предметом нашего исследования выступает только уступка договора, рассмотрим далее этот отдельный механизм применительно к договору купли-продажи строящегося недвижимого имущества.

Уступка договора.

Эта юридическая конструкция законодательно действует в Республике Молдова с 01.03.2019 года после модернизации ГК РМ. Однако, справедливости ради, отметим, что данный механизм уступки договора был и ранее применен на практике. Например, уступка найма, уступка договора лизинга и уступка инвестиционного договора в строительстве. К слову отметим, что инвестиционный договор в строительстве не отражался в Гражданском кодексе РМ и участники гражданских правоотношений имели право заключать его по правилам неназванного в законе договор. Эту правовую конструкцию сегодня заменила договор купли-продажи строящегося недвижимого имущества (ст.1170-1176 ГК РМ).

Действующая статья 849 ГК РМ (в силу с 01.03.2019) прямо признаёт данный концепт уступки договора и в норме части (1) устанавливает, что «сторона договорного отношения может договориться с третьим лицом, *с согласия другой стороны* договорного отношения, о том, чтобы третье лицо заменило ее *в качестве стороны* договорного отношения». Далее норма ч. (2) конкретизирует, что «согласие другой стороны может быть предоставлено заранее. В таком случае передача вступает в силу с момента, когда другая сторона уведомлена об этом». А часть (3) регулирует ситуации, что цитируем: - «В той мере, в какой вследствие данной замены третье лицо получает *права*, применяются положения части 1. В той мере, в какой третье лицо принимает на себя *обязательства*, применяются положения части 2».

Таким образом, в более простом понимании *уступка договора это одновременная совокупность уступки право требования (цессии) и принятия долга, соответственно.*

Однако из общего формального логического анализа данной статьи видно, что норма части (3) прямо и однозначно не указывает какие именно положения должны быть применены в случаях, когда вследствие данной замены третье лицо *получает права*, либо *принимает на себя обязательства*. Ибо, нормы ч. (1) и (2) данной статьи прямо не указывают на какие-либо конкретные положения. И это, потому что норма части (1) носит общий диспозитивный характер, а норма ч. (2) конкретизирует эту диспозицию. Видимо, законодатель и автор (или рабочая группа по разработке законопроекта этих дополнений в ГК) имели ввиду тот факт, что в той мере, в какой вследствие данной замены третье лицо *получает права*, применяются положения о *цессии*. А, в той мере, в какой третье лицо *принимает на себя обязательства*, применяются положения о *принятия долга*.

Анализ *ex ante* законопроекта о модернизации ГК РМ, а конкретно пояснительная записка (*nota informativă*) к проекту этого нормативного акта также не дает никаких разъяснений и толкований на этот счет [6]. Поэтому смысл положений нормы ч. (3) ст. 849 ГК РМ, суть этой правовой нормы и какого по ней конкретное волеизъявление Парламента до сих пор официально не прояснён.

Полагаем, что в рассматриваемом случае, была нарушена юридическая техника (требования законодательной техники [5, р. 238]), а точнее некоторые принципы правотворчества. Ибо, по выражению профессора Mircea Djuvara, процесс разработки нормативных актов должен быть направлен, на воплощение рациональности и нравственности права, основываться на определенных принципах, особенно тех, которые закреплены на законодательном уровне [2, р. 407]. А именно, *принцип обеспечения естественной связи между динамикой и статикой права*, согласно которому цель правового регулирования заключается в том, чтобы упорядочить общественные отношения, гарантировать их



безопасность и правовую определенность, исключить потенциальные конфликты, обеспечить спокойствие и относительную стабильность [7, р. 144; 3, р. 97]. И, соответственно, *принцип доступности и законодательной экономии*, который означает, что нормативные акты должны быть четкими и понятными тем субъектам права, которым они адресованы [12, р. 412].

В этом ключе профессор Nicolae Pora, приводя слова Еллинека: «Законодатель, должен глубоко мыслить как философ, но, четко выражаться как крестьянин», отмечает: - без выполнения этого основного требования нормативный акт создаст противоречие и путаницу, негативные социальные последствия, что поставит под угрозу применение этого акта, воплощение в жизнь воли законодателя. Законодатель должен учитывать, что адресатами правовых норм являются люди с различными уровнем культуры, с различными возможностями получения нормативного материала [7, р. 144; 8, р. 191]. В этом же отношении профессор Boris Negru, обобщая различные концепции об условиях, которым должна соответствовать юридическая техника, где профессор Alexandru Vallimărescu делает вывод: «Основная цель юридической техники - обеспечить безопасность с помощью точности, стабильности и единообразия» [9, р.316], выделяет следующие правила: - по мнению профессора Нэнси, Франсуа Жени, «качества, которыми должна обладать юридическая техника, следующие: четкая определенность, адаптируемость, простота, безопасность и не слишком большая насыщенность» [4, р.318]; - Жан Дабин утверждает, что техника должна создавать последовательное и логичное право «не по соображениям элегантности или правовой эстетики, а по практическим мотивам, потому что когерентное и логичное право понимается и постигается легче, чем некачественное и сложное право, состоящее из противоречивых решений» [10, р. 348].

Поэтому, для устранения этого законодательного конфуза объективно считаем, что норма части (3) ст. 849 ГК РМ должна быть изложена в следующей редакции: - «В той мере, в какой вследствие данной замены третье лицо получает *права*, применяются положения части 1 *в составе настоящей главы*. В той мере, в какой третье лицо принимает на себя *обязательства*, применяются положения части 2 *в составе настоящей главы*». Или, еще проще: - «В той мере, в какой вследствие данной замены третье лицо *получает права*, применяются положения о *цессии*. А, в той мере, в какой третье лицо *принимает на себя обязательства*, применяются положения о *принятии долга*».

Считаем, предложенная редакция нормы части (3) ст. 849 ГК РМ в достаточной мере соответствует рассматриваемым выше принципам правотворчества.

Возвращаясь к анализу уступки договора отметим, что данный механизм уступки договора сегодня на практике оно используются довольно широко. *Например*, уступка договора имущественного найма (ст.1270 ГК РМ); договора лизинга (и это, потому что в соответствии с частью (2) ст. 1315 ГК РМ – к договору лизинга применяются соответствующим образом положения договора имущественного найма); уступка договора о пакетном туре (ст. 1599 ГК РМ); уступка кредитного договора (ст.1773 ГК) и других.

К примеру: по договору имущественного найма, в соответствии с ст. 1270 ГК, наниматель вправе *уступить наем* лишь с согласия наймодателя. Наймодатель не может отказать в согласии на уступку найма, если после заключения договора найма у нанимателя возник законный интерес предоставить вещь полностью или частично третьему лицу. Это правило не применяется, если третье лицо не внушает доверия или нанятое помещение становится перенаселенным либо если по другим обоснованным причинам от наймодателя нельзя требовать уступки найма. Уступка найма освобождает предшествующего нанимателя от его обязанностей. *Конкретный пример*, индивидуальный предприниматель ФА (наниматель) заключил с муниципальным предприятием МП «Центральный рынок» (наймодатель) договор найма торгового места (лотка или помещения, расположенное прямо возле входа на рынок) на 10-ти летний срок с правом уступки. Через два года ФА решил уехать на заработки за границу. Узнав об этом, третье лицо КВ, ознакомившись с условиями договора, где было прописано условие (пункт) о праве на уступку, попросил ФА уступить ему данный договор



имущественного найма торгового места. ФА сообщил, что он имеет задолженность по оплате за найм перед рынком за последние три месяца. КВ подтвердил, что он готов принять договор на себя с этой задолженностью. Кроме этого, он еще заплатит ФА 1000 евро за уступку договора, ибо место на рынке очень прибыльное. Стороны заключили соглашение об уступке договора и письменно уведомили об этом наймодателя МП «Центральный рынок», который ничего против этого не возражал. Таким образом, на оставшийся 8 - летний срок КВ как новый наниматель стал, как цессионарием по данному договору, т.к. получил все права на это торговое место, так и новым должником по принятым на себя долга по оплате за найм перед рынком за последние три месяца.

Также, *по кредитному договору* в соответствии с ст. 1773 ГК РМ, кредитор (банк) может уступить кредитный договор банку или небанковской кредитной организации с местонахождением или отделением в Республике Молдова без согласия другой стороны договора (т.е. должника по кредиту). Одновременно с уступкой кредитного договора кредитор может уступить частично или в полном объеме также обеспечения и другие акцессорные права (залог, поручительство), установленные в связи с принятыми по кредитному договору обязательствами, без согласия другой стороны договора и/или установивших их третьих лиц. К цессионарию переходят права и обязанности, вытекающие из кредитного договора, и уступленные вместе с ним обеспечения и другие акцессорные права в форме их существования на дату смены стороны договора. Первоначальный кредитор освобождается от своих обязанностей перед уступленной стороной договора с момента извещения о смене стороны договора. Уступленная сторона договора вправе применить в отношении цессионария любые средства защиты, к которым она могла бы прибегнуть в отношении первоначального кредитора. Для предъявления прав кредитор-цедент извещает об уступке другую сторону договора и третьих лиц, установивших обеспечение и другие акцессорные права, связанные с принятыми на себя по кредитному договору обязательствами, в течение десяти календарных дней со дня заключения договора об уступке посредством заказного письма с уведомлением о вручении. Данная уступка договора не применяется к соглашениям, касающимся только уступки требования или только принятия долга, для которых применяются положения статей 823-848 ГК. Уступка кредитного договора не может нанести ущерб правам должника либо сделать его обязательство более возмездным.

Или же, *по договору о пакетном туре* в соответствии с ст. 1599 ГК РМ, «Турист вправе уступить договор о пакетном туре третьему лицу, которое отвечает всем условиям, относящимся к данному договору, после того, как он до начала тура в разумный срок уведомил об этом на долговременном носителе информации (*на бумаге, на СД -диске, на флешке*) организатора. Уведомление не позднее чем за семь дней до начала тура в любом случае расценивается как разумное. Цедент и цессионарий договора несут солидарную ответственность за внесение суммы оставшихся платежей, а также за дополнительные комиссии, сборы и другие расходы, возникающие в связи с данной уступкой. Организатор должен проинформировать цедента договора о фактических затратах, связанных с уступкой. Данные затраты должны быть разумными и не должны превышать размер фактических издержек, понесенных организатором в связи с уступкой договора. Организатор должен представить цеденту договора доказательства дополнительных комиссий, сборов и других затрат, возникающих в связи с уступкой договора».

Хотя, часть 8 - купля-продажа недвижимого имущества из главы I- купля-продажа, раздела III - отдельные виды обязательств ГК РМ прямо не содержит ни одной статьи касающиеся уступки договора купли-продажи строящегося недвижимого имущества этот правовой механизм передачи права и принятия обязательства вытекает из положения части (4) ст. 1172 ГК РМ. Данная правовая норма недвусмысленно гласит, что «К лицу, которое приобретает у покупателя предварительно зарегистрированное право собственности, переходят *все права и обязательства*, которые покупатель имеет по договору купли-продажи строящегося недвижимого имущества, без согласия продавца. Покупатель остается солидарно



ответственным с новым приобретателем строящегося недвижимого имущества, за исключением случая, когда продавец дал свое согласие на такое отчуждение. Правовые положения об уведомлении об уступке требования применяются соответствующим образом».

Из первого предложения цитируемой нормы явствует, что это приобретение третьим лицом у покупателя предварительно зарегистрированного права собственности на строящееся недвижимое имущество ни что иное как уступка договора, но, осуществляемая без «согласия другой стороны договорного отношения», то есть продавца [14, p.106].

И это, во-первых, вытекает из синтагмы «К лицу, которое приобретает у покупателя [...] переходят все права и обязательства ...», которую и следует интерпретировать буквально. Во-вторых, далее, в следующих двух предложениях этой нормы законодатель закрепляет, как и при общем институте об уступке договора (ст.849 ГК РМ) правила о принятии долга и, соответственно, уступки право требования (цессии). Таким образом, единственное отличие от общего института об уступке договора выступает то положение, что по договору купли-продажи строящегося недвижимого имущества, уступка договора осуществляется без согласия другой стороны договорного отношения, то есть продавца. И это вполне логично, ибо после процедуры оглашения прав, то есть предварительной регистрации своего право собственности на строящееся недвижимое имущество в кадастровый орган (после оформления в собственность) покупатель по договору купли-продажи строящегося недвижимого имущества становится её собственником, а не каким-то инвестором (соинвестором) в строительстве. Поэтому, на правах собственника он, покупатель, может свободно распоряжаться своим имуществом, то есть вещь в виде имущественного (вещного) права, а конкретно право собственности (ст. 454 ГК РМ), в том числе отчуждать её (на возмездной или безвозмездной основе) как собственность. Например, продать ее по правилам ст. 1108 ГК РМ (договор купли-продажи). Соответственно, третье лицо, на этапе строительства, приобретает у него (покупателя по договору купли-продажи строящегося недвижимого имущества, выступающего уже в роли продавца) не саму квартиру, гараж и т.п., как вещь в виде материального объекта (ст. 455 ГК РМ), а только имущественное – вещное право собственности на неё. И это логично, ибо, сама квартира, гараж и т.п., как вещи в виде материального объекта еще не существуют. Оно лишь формально фигурируют на бумаге – в проекте здания, участка [15, p.228].

Тем не менее, учитывая специфику договора купли-продажи строящегося недвижимого имущества (как разновидность договора купли-продажи, а конкретно договора купли-продажи недвижимости), который по своей юридической характеристике является *двусторонним, консенсуальным, возмездным, синаллагматическим* (т.е. двусторонне-взаимным или встречно-обязанным), *коммутативным* (т.е. переместительным, где взаимные представления сторон по нему известны в момент его заключения), *по передачи собственности*, кроме прочего, является и договором *с последовательным во времени исполнением обязательств – si executare succesivă în timp* [1, p. 91, 106, 126, 142] (как с одной, так и другой стороны), по которому продавец, с одной стороны, обязуется обеспечить строительство квартиры, другого изолированного помещения или иного недвижимого имущества, находящегося в процессе строительства (строящееся недвижимое имущество), и передать его в собственность покупателю, а покупатель обязуется уплатить согласованную цену и принять недвижимое имущество после ввода его в эксплуатацию.

Что следует понимать под такой особенной характерной чертой договора купли-продажи строящегося недвижимого имущества как договор *с последовательным во времени исполнением обязательств*?

Ключевое слово здесь «*во времени*». Известно, что в соответствии с ч. (2) ст. 779 ГК РМ (встречное обязательство) встречные обязательства могут возникать из договоров (синаллагматические договоры), а также из других оснований возникновения обязательств. А из смысла диспозиции ч. (1) этой статьи - встречным исполнением может быть признано такое исполнение, которое обязанная сторона должна произвести после



получения исполнения от контрагента. Основной целью установленного регулирования является предоставление субъекту встречного исполнения права на задержку исполнения своего обязательства или даже на отказ от исполнения своего обязательства в случае, если контрагент, обязанный исполнить свое обязательство первым, такового исполнения не производит. Обязательства сторон по договору купли-продажи строящегося недвижимого имущества, изначально являются *с условием и сроком исполнения* (т.е. сложные), которые исходя из требований закона (ст. 1173, 1175 ГК РМ) обременены определенными условиям и, что немаловажно, определенными *сроками* исполнения. Так, согласно ст. 1173 (пределы осуществления платежей по договору) ГК РМ прямо определяются пределы, соответственно, этапы и объемы исполнения договора со стороны покупателя и продавца во времени. Поэтому, подобно договорам о передачи вещи во временное пользование и/или владение (имущественного найма, аренды, лизинга, концессии) договор купли-продажи строящегося недвижимого имущества по своей правовой природе является и договором *с последовательным во времени исполнения обязательств*.

В качестве *вывода* отметим: учитывая тот факт, что договор купли-продажи строящегося недвижимого имущества, по мимо прочего, является и договором с последовательным во времени исполнения обязательств, то механизм уступки договора должен использоваться и в отношении него. И, конечно же, с определенными свойственными ему условиями по защите прав покупателя-потребителя.

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РАЗВИТИЕ ПРЕДСТАВЛЕНИЙ ОТВЕТСТВЕННОСТИ СОВЕРШЕНИЯ ПРЕСТУПЛЕНИЯ ЭКСЦЕССА ИСПОЛНИТЕЛЯ ПРЕСТУПЛЕНИЯ

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Annotation. The presented article considers the development of ideas of responsibility of committing the crime of excess of the perpetrator of a crime, as well as the provisions of articles of the Criminal Code relating to excess of the perpetrator, the opinions of scientists on the issue under consideration. Consideration of the crime of excess of the perpetrator as an exit from the framework of collusion with other accomplices seems to be a narrow approach, as collusion is one of the manifestations of united actions of accomplices. It is also generally accepted that the excesses of the executor in criminal law can be committed not only by the executor himself, but also by other accomplices of the crime.

Keywords: complicity, excess of the perpetrator, responsibility, criminal law.

Задачей каждого историко-правового исследования является то, чтобы показать на конкретном историческом материале, что развитие правовых идей и законодательных декретов неизменно происходит на основе развивающихся общественных отношений. Особый интерес в этой связи представляет изучение развития одного из наиболее значительных институтов уголовного право – это соучастие.

Соучастие - институт относительно развитого права, поэтому систематическая разработка положений о соучастии как в теории, так и в законодательстве началась относительно поздно - только в XVIII в.

В теории уголовного права дискуссионными вопросами уголовной ответственности при эксцессе преступления, лица совершившего преступление, которые требуют рассмотрения, являются следующие проблемы: определение понятия эксцесса преступления, совершившего преступление; установление причинно-виновной связи между преступлением, составляющим эксцесс преступления, совершившего преступление, и деянием других соучастников, а также возможность признания эксцессом преступления, совершенного виновным по неосторожности, установление эксцесса преступления, совершившего преступление, им менее тяжкого преступления, чем первоначально планировалось,

В применении теории уголовного права дискуссионными вопросами про уголовную ответственность эксцесса исполнителя преступления, лицо, совершившее преступление, которое требует рассмотрения, является следующая проблема: это определить понятие эксцесса исполнителя преступления, которое совершило преступление, установление причинно-следственной связи между преступлением, составляющим эксцесс преступления, совершившего преступление, и действиями других соучастников, и возможность признания эксцесса преступления, совершенного виновным выраженное в форме неосторожности, а также установление эксцесса исполнителя преступления, совершившее, менее тяжкое преступление, чем поначалу планировалось, возможности эксцесса исполнителя при



субъективном признаке меняется сторона преступления, вменение эксцесса другими соучастниками, кроме лиц, совершивших преступление.

Как справедливо отмечают современные ученые: «Квалификация преступлений, которые совершены в соучастии, только в соответствии с нормами особенной части уголовного кодекса без ссылки на нормы общей части УК РМ является неполной. Необходимость такого отнесения к общему правилу диктуется тем, что в нормах особенной части УК РМ фактически криминализируют деяние одного лица. Поэтому, когда в квалификации указывается только инкриминируемая норма, обычно предполагается, что одним лицом было совершено преступление» [1].

Законодательно положения о уголовной ответственности за эксцессы исполнителя впервой были зафиксированы в виде отдельных норм в Уложении об уголовных и исправительных наказаниях 1845 г. В соответствии со ст. 123 указанного Кодекса, когда один из лиц, участвовавших в совершенном преступлении, совершил другое, на что не было предварительного согласия между ним и остальными соучастниками, то он наказывается по совокупности преступлений [2].

На тех же основаниях мера наказания определяется тем из его сообщников, которые помимо умышленного преступления участвовали в чужом деянии либо заведомо не предотвратили совершение другого преступления. Последующие законодательные акты не содержали нормы, которые касались эксцесса лица, совершившего преступление, несмотря на то, что в применении уголовного права существовало устойчивое мнение, что эксцесс преступления, совершившего преступление при соучастии, не наказуем. Например, Сергеевский Н. Д. указывал, что «если следствие, хотя бы и задуманное, произведено таким сочетанием, которого субъект не предвидел и не мог предвидеть, то это следствие становится за пределы вменения» [3]. В законодательстве начала двадцатого века также не были закреплены нормы об уголовной ответственности в случае эксцесса исполнителя. В настоящее время в Республике Молдова, в Уголовном кодексе закреплено понятие эксцесса исполнителя, совершившего преступление. Согласно ст. 48 УК РМ эксцессом исполнителя выражается в совершении виновным преступных деяний, которые не охватывались умыслом иных соучастников. Также предусмотрено, что остальные соучастники не должны нести уголовную ответственность за эксцесс исполнителя [4].

В то же время ученые в науке уголовного права подходят к понятию эксцесса исполнителя, совершившего преступление, с различных позиций [5].

Таким образом, ряд авторов под эксцессом исполнителя понимают совершение таких действий, которые не охватывались умыслом иных соучастников, аналогичного мнения придерживаются и практики.

В начале XX в. эксцессом исполнителя понималось совершение такого преступления, которое не охватывалось, и не мог предвидеть ни один из других соучастников предвидением. Такой позиции придерживались, в частности, Б.С. Утевский., Ф.Г. Бурчак, А.А. Пионтовский с чем, мы также согласимся.

В учебной литературе в общей части уголовного права, которые изданы авторским коллективом Всесоюзного института правовых наук в 1938 и 1939 гг., эксцесс рассматривался у лица, которое совершило преступление, и понималось как совершение виновным в чего-то, что не охватывалось предвидением остальных сообщников, как элемент его прямого или возможного умысла [6].

На сегодняшний день среди практикующих работников также могут встречаться подобные мнения. В суждениях других ученых, которые являются приверженцами сговора как необходимого признака соучастия (В.Е. Лыхмус, М.А. Шнейдер и др.), исполнитель будет иметь эксцесс во всех случаях, когда будет иметь место нарушение сговора. Например, А.В. Ушаков обозначает: «что изучение материалов судебной практики представляет, что там, где речь идет о превышении полномочий исполнителем, выделяют два основных признака: первый признак- это выход исполнителя, за рамки плана предварительного сговора, а второй



признак совершение иного незапланированного преступления, которое может быть предусмотрено в Особенной части уголовного кодекса в качестве основного» [7].

Некоторые ученые считают, что понятие эксцесса через категорию умысла в ст. 48 Уголовного кодекса Республики Молдова неосновательно расширяет анализируемое определение. В таком виде под эксцессом может быть любое преступление против третьих лиц, совершенное виновным вне плана соучастия. Поэтому при эксцессе выходят за рамки соглашения с остальными соучастниками [8]. Соглашаясь с позицией данных исследователей отметим, что действительно при эксцессе преступления один из соучастников выходит за пределы соглашения между ними.

По мнению А.П. Козлова, в случаях превышений полномочий исполнителем весьма значительно установить объем и характер сговора, также определить отношение соучастников к всевозможным составам преступления [9]. Анализируя существующие в доктрине концептуальные подходы, следует согласиться с данным автором. В связи с изложенными точками зрения считаем, что необходимо отметить следующее. Уяснение эксцесса исполнителя преступления, которое совершило преступление через категорию предвидения, выступает неточно. Однако то, что в деяниях, совершенных, легкомысленно или по неосторожности, время наступления преступных результатов, как правило содержит элемент неожиданности, предвидение соучастником, либо соучастниками, наносящих вред последствий своих преступных деяний присутствует не только при присутствии умысла, но и в подобной разновидности как неосторожная, форма вины как легкомыслие [10].

В результате возможно расширение сферы ответственности всех соучастников, если виновный совершил другое преступление. Однако соучастники должны также осознавать вред, а также опасные последствия и характер своих действий или своих бездействий, знать способ содействия совершению преступления, либо способы воздействия на исполнителя, осознавать вред, наносящий деянием, характер преступления, совершенный со стороны виновного, в том числе с предвидением результатов в преступлениях с материальным составом, и желанием избранным им образом участвовать в соучастии в совершении преступления [11]. Подобным образом, категория предвидения не в полной мере отражает сущность эксцесса лица, совершившего преступление, и отношения к нему иных соучастников.

Рассмотрение преступления эксцесс исполнителя, как выхода за рамки сговора с иными соучастниками представляется узким подходом, так как сговор является одним из проявлений объединенных действий соучастников. Подобное понимание эксцесса отрицает возможность эксцесса исполнителя в преступлениях, которые совершены группой лиц, без предварительного сговора, что встречается на практике. Например, одно лицо совершает открытое хищение имущества у прохожего, не имея целью причинения каких-либо телесных повреждений. Другое лицо к нему присоединяется и в процессе завладения имуществом чужого лица, наносит потерпевшему удары ножом, от которых наступает смерть потерпевшего, что является эксцессом со стороны этого лица.

Формулировка эксцесс исполнителя преступления при помощи категории соглашение заслуживает одобрения, но лишь в случае, когда сговор и соглашение не рассматриваются как равнозначные понятия. Еще Н.С. Таганцев писал, что соглашение, как выражение объединения в виновности, должно предшествовать учинению преступного деяния или по крайней мере предшествовать тому акту, в котором выразилось участие данного обвиняемого. Но это соотношение между решимостью орудовать сообща и действительным участием, также, как и при совершении отдельного преступного деяния, может иметь различные оттенки.[12] Полагаем, что автор этим умозаключением устанавливает особую важность участия каждого отдельного субъекта преступления.

Сговор рассматривался Н.С. Таганцевым именно как соучастие по предварительному соглашению. [12] Действительно, соглашение может быть, как в группе лиц по предварительному сговору, когда соглашение предшествует выполнению объективной стороны



состава преступления, так и в группе лиц, когда оно достигается в процессе выполнения признаков, входящих в объективную сторону состава преступления, совершенного преступления. В первом случае соглашение является предварительным. Поэтому представляется излишним употребление в ч. 2 ст. 48 УК Республики Молдова слов «по предварительному», так как сговор уже предполагает наличие предварительного соглашения

Итак, эксцесс может совершить любой из соучастников преступления. Однако в случае наличия на стороне соучастников не конкретизированного или альтернативного умысла, если ими осознавались, предвиделись и допускались различные варианты и способы совершения другим соучастником преступления, в том числе при отягчающих обстоятельствах, то эксцесс со стороны такого соучастника для них исключается, и они должны нести ответственность за содеянное наравне с ним.

Вместе с тем в судебной практике случаи эксцесса со стороны других соучастников практически не фиксируются. Так, из общего числа изученных нами уголовных дел о соучастии эксцесс организатора, подстрекателя или пособника не встретился ни разу. Подобную практику можно объяснить не только законодательным закреплением эксцесса лишь исполнителя преступления, но и сложностью установления эксцесса со стороны других соучастников, ошибками в квалификации деяний, когда действия пособника, подстрекателя оцениваются судом как соисполнительство.

Не всякое отклонение от общего умысла является юридически значимым и образует эксцесс. Так, изменение согласованной линии поведения, которое по существу не выходит за пределы умысла соучастников и касается обстоятельств, не влияющих на юридическую оценку преступления, не является эксцессом исполнителя преступления. Если исполнитель убийства вместо намеченного использования огнестрельного оружия применит нож, пределы соглашения соучастников по существу не нарушаются. Нового либо того же, но более опасного преступления не совершается, и эксцесса соучастника не возникает. [13] Это объясняется тем, что в подобных ситуациях сохраняется причинная и виновная связь между наступившим результатом и действиями соучастников.

На основании изложенного, под эксцессом исполнителя преступления необходимо понимать совершение им умышленного преступления, не охватывающегося умыслом других соучастников, в отношении которого предшествующая деятельность соучастников выступает необходимым условием.

В уголовном кодексе Республики Молдова эксцессом исполнителя признается совершение исполнителем преступных действий, не охватывавшихся умыслом других соучастников. Также предусмотрено, что за эксцесс исполнителя другие соучастники уголовной ответственности не подлежат. [4]

Законодательство Республики Молдова, а именно в уголовном кодексе предусмотрена норма об уголовной ответственности при совершении преступления эксцесс исполнителя. Закон предусматривает положение, при котором соучастники несут ответственность только за деяния, которые как правило охватывались их сознанием, за эксцесс исполнителя преступления, уголовной ответственности не несут.

Таким образом: Эксцесс исполнителя – это совершение преступных действий, не охватываемых умыслом других соучастников. При эксцессе исполнителя последний выходит за пределы тех действий, которые были обусловлены или предусмотрены соучастниками для достижения определенной цели, и совершает иные действия, не охватываемые умыслом других соучастников и являющиеся частью другого преступления. Также необходимо указать, что в случае эксцессов исполнителя последний несет ответственность за фактически совершенное им преступление, а другие соучастники - только за соучастие в тех преступных деяниях, которые охватывались их умыслом.



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ГУМАНИТАРНАЯ ДЕЯТЕЛЬНОСТЬ ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ: К ПОСТАНОВКЕ ВОПРОСА

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Abstract. The article is devoted to the analysis of the humanitarian activities of the United Nations at the present stage. The authors analyze the UN institutional instruments for providing humanitarian aid. The authors concluded about the problems that the UN has to face when carrying out its humanitarian activities.



Keywords: humanitarian cooperation, humanitarian aid, UN, humanitarian crisis, emergency situations

Сегодня вопросы, связанные с необходимостью оказания гуманитарной помощи, не требуют дополнительного обоснования. Количество чрезвычайных ситуаций, требующих незамедлительного гуманитарного вмешательства, неизменно возрастает. Основной международной межправительственной организацией, занимающей лидирующую роль в деле оказания гуманитарной помощи, является Организация Объединенных Наций (далее – ООН). За годы своей деятельности ООН накопила немалый опыт в вопросах координации чрезвычайных и долгосрочных операций по оказанию гуманитарной помощи

Целью статьи является анализ гуманитарной деятельности ООН на современном этапе и ее роли в координации усилий международного сообщества по оказанию гуманитарной помощи.

Обращение к указанной теме не случайно. Прошедший год стал беспрецедентным с точки зрения ситуаций и событий, требующих незамедлительного гуманитарного вмешательства. ООН и международное сообщество в целом столкнулись с целым рядом чрезвычайных ситуаций как техногенного, так и военного характера, которые потребовали переосмысления действующего механизма осуществления гуманитарной деятельности. Помимо увеличения финансовых затрат стран-доноров усилилась и разнополярность точек зрения и позиций государств о гуманитарной деятельности. Вместе с тем, именно ООН сегодня выступает основной (помимо МККК) международной площадкой, способной оказать экстренную помощь нуждающемуся населению.

С момента создания ООН международное сообщество фактически возложило на нее главную ответственность за координацию действий по ликвидации последствий различных чрезвычайных ситуаций, с которыми сами власти отдельных стран не могут справиться самостоятельно. Фактически, на момент создания «конкурировать» с ООН в этой сфере мог лишь Международный Комитет Красного Креста, у которого уже имелся подобный опыт, хоть в большей степени и связанный с вооруженными конфликтами. ООН смогла перенять опыт МККК и существенно его доработать. Так, если МККК финансируется за счет добровольных пожертвований от государств-участников Женевских конвенций, национальных обществ Красного Креста и Красного Полумесяца, а также из иных источников (в том числе, частных средств), то бюджет ООН формируется за счет регулярных взносов государств-членов ООН. Это позволяет оказывать не только экстренную помощь, но и содействовать долгосрочным программам гуманитарной помощи населению, пострадавшему в чрезвычайных ситуациях.

Вместе с тем, вопросы гуманитарного содействия не всегда входили в повестку дня ООН, несмотря на то, что одной из целей деятельности организации является «осуществление международного сотрудничества в разрешении международных проблем экономического, социального, культурного и гуманитарного характера» [1].

На протяжении десятилетий ООН концентрировалась в основном на миротворческой деятельности, однако с начала 1970-х годов начала уделять значительно больше внимания помощи слаборазвитым странам, борьбе с эпидемиями, голодом и т.д., и в целом вопросам гуманитарной помощи. Как отмечает А.В. Борисов, до 1986 г. ООН не пыталась выделить гуманитарную помощь как специфический вид деятельности, а уж тем более обусловить таковую необходимостью придерживаться определенных принципов [2, с. 69]. В 1986 году при рассмотрении в Международном суде ООН спора по делу «О военной и военизированной деятельности в Никарагуа и против Никарагуа» был затронут вопрос о принципах, применяемых при оказании гуманитарной помощи, а также о целях такой помощи.

Окончание «холодной войны» ознаменовало собой начало нового этапа сотрудничества в оказании гуманитарной помощи. Если ранее ключевую роль в оказании/не оказании гуманитарной помощи играл политический фактор, но падение «железного занавеса» привело к некоторому переосмыслению данной тенденции.



Задача решения проблем, возникающих в условиях чрезвычайных гуманитарных ситуаций, открыла перед ООН новое поле деятельности. С этой целью были сформулированы и новые инструменты координации.

В декабре 1991 г. Генеральная Ассамблея ООН приняла историческую резолюцию 46/182, призванную укрепить координацию деятельности системы ООН по оказанию чрезвычайной гуманитарной помощи [3]. Этой резолюцией были созданы всеобъемлющие рамки для оказания чрезвычайной гуманитарной помощи, причем с точки зрения как принципов, которыми при этом следует руководствоваться, так и условий и порядка оказания помощи; резолюцией предусмотрен и механизм координации этой деятельности.

Резолюция 46/182 учредила Управление по координации гуманитарных вопросов (далее – УКГВ), которое выступает в качестве основного координатора международных мер в случае гуманитарных кризисов [4]. Помимо УКГВ в системе ООН имеются и иные подразделения, ответственные за доставку гуманитарной помощи. Так, в зависимости от реципиента гуманитарной помощи, доставкой гуманитарных грузов могут заниматься УВКБ, ЮНИСЕФ и Всемирная продовольственная программа ООН (ВПП). За оперативную деятельность, направленную на смягчение последствий стихийных бедствий и готовности к ним отвечает ПРООН, а за координацию международных усилий в ответ на чрезвычайные ситуации в области здравоохранения отвечает ВОЗ. Последняя, в частности, приложила огромные усилия по оказанию гуманитарной помощи во время борьбы с пандемией COVID-19.

Следует отметить, что ООН является не единственным «донором» гуманитарной помощи. За последние десятилетия количество международных организаций (прежде всего – неправительственных), чьей задачей является гуманитарное сотрудничество, значительно возросло. Многие из них стремятся немедленно реагировать на сложные чрезвычайные ситуации. УКГВ работает с ними в целях обеспечения согласованной системы, в рамках которой можно своевременно и эффективно внести свой вклад в общее дело.

Таким образом, при возникновении чрезвычайной ситуации, УКГВ координирует меры, принимаемые в международном масштабе. Оно консультируется с соответствующей страновой группой ООН и проводит необходимые консультации в целях согласования приоритетных направлений действий.

В частности, Управление координирует деятельность учреждений ООН на местах с целью оценки потребностей: помощи в мобилизации ресурсов путем выпуска совместных обращений от разных организаций; контроля за состоянием средств, поступающих в ответ на запросы от нуждающихся стран; выпуска докладов о состоянии дел в целях информирования доноров и других участников и др. УКГВ работает со своими партнерами по гуманитарному сотрудничеству над согласованием политики и определением конкретных гуманитарных проблем на основе опыта работы на местах. Оно пытается обеспечить рассмотрение главных гуманитарных вопросов, в том числе вопросов, которые лежат за пределами мандатов существующих гуманитарных организаций (например, положение внутренне перемещенных лиц).

Центральный фонд реагирования на чрезвычайные ситуации (СЕРФ), учрежденный Генеральной Ассамблеей в 2006 году, призван обеспечить быстрое и наиболее эффективное реагирование на потребности людей, вызванные чрезвычайными ситуациями. Фонд является финансовым механизмом УКГВ, содействующим оперативной реакции на чрезвычайные ситуации. Следует отметить, что СЕРФ получает добровольные взносы круглогодично, чтобы обеспечить немедленное финансирование спасительных гуманитарных операций в любой точке мира.

В последние годы критика в адрес ООН слышится все чаще. Это касается и аспектов гуманитарной помощи. Так, например, многие гуманитарные организации, которые работали в Афганистане, упрекали ООН в смешении гуманитарных и политических аспектов деятельности. Как отмечалось в докладе, распространенном 12 апреля 2011 г. Управлением ООН по координации гуманитарных вопросов, ООН не придерживалось в Афганистане



нейтралитета, играя как гуманитарную, так и политическую роль. «Из-за двойственного характера ООН, выполняющей как политические, так и гуманитарные функции, агентствам ООН по оказанию гуманитарной помощи труднее позиционировать себя как нейтральным структурам, нежели многим другим организациям подобного профиля. В силу политической роли, исполняемой ООН в самых проблемных областях, организация прочно обосновалась в западном лагере, и как таковая считается неприятелем законной и значимой мишенью, – говорилось в докладе «Выполнение гуманитарными организациями своих функций: Должное управление в сложных условиях в сфере безопасности». – Гуманитарная деятельность поставлена под угрозу, но ни правительства, ни участвующие в вооруженном конфликте стороны, ни иные влиятельные игроки не предпринимают достаточных мер в том, чтобы прийти ей на помощь» [5].

Одной из проблем остается своевременный доступ к гуманитарной помощи. Следует подчеркнуть, что доступ участников гуманитарной деятельности к нуждающимся группам населения и наличие у этих групп населения возможности получать помощь – одно из основополагающих предварительных условий осуществления гуманитарных операций. В условиях сложных чрезвычайных ситуаций от государств ожидается, что они будут оперативно и своевременно содействовать безопасному прохождению гуманитарных грузов. Это предусмотрено нормами международного гуманитарного права и подтверждено в нескольких резолюциях Генеральной Ассамблеи ООН. Вместе с тем, на практике нередко происходят ситуации, когда получение гуманитарной помощи затруднено ввиду отсутствия согласия государства на доступ гуманитарных грузов на его территорию.

С каждым годом количество различных гуманитарных организаций возрастает, однако количественные показатели не всегда стремятся перерасти в качественные. К числу проблем, с которыми сталкивается ООН в вопросах гуманитарной помощи, относится рост расходов на гуманитарные операции и недостаток финансирования. Так, потребность в финансировании гуманитарной помощи на 2023 год ООН оценивала в 56,7 млрд. долларов, но получила лишь немногим более трети этой сумм. Расходы на 2024 год на гуманитарную помощь запланированы в объеме около 46 млрд. долларов, при этом сама организация оценивает перспективы в этой сфере как «мрачные» [6]. Более того, по состоянию 12 января 2024 года только **10 государств-членов** полностью выплатили свои взносы в регулярный бюджет [7].

Проблема обеспечения финансирования гуманитарной помощи тесно связана также с отсутствием четкого механизма распределения (перераспределения) средств между нуждающимися странами. Так, например, на оказание гуманитарной помощи Венесуэле на 2023 г. было запланировано 720 миллионов долларов, по состоянию на октябрь 2023 г. поступило лишь 30,5% от запланированной суммы. Программа помощи Сомали из запланированных расходов в объеме 2,6 млрд. долларов было профинансирована лишь на 42,7%. При этом программа помощи Ливии при необходимых расходах в 37,7 млн. долларов была профинансирована на 55,5 млн. долларов, что составляет 147% от запланированной суммы [8].

Таким образом, ведущая роль в сфере гуманитарного сотрудничества, в том числе оказания гуманитарной помощи, лежит на Организации Объединенных Наций. Несмотря на целый ряд недостатков и проблем, с которыми сталкивается ООН, именно она выступает координатором усилий международного сообщества по преодолению последствий чрезвычайных ситуаций, требующий гуманитарного вмешательства. Сегодня оказание гуманитарной помощи возможно и необходимо при выполнении ряда условий, одним из которых является наличие воли государств, то есть желания и интереса решить эту насущную проблему мирового сообщества.



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ОБРАЗОВАНИЕ В ПЕНИТЕНЦИАРНОЙ СИСТЕМЕ: МЕЖДУНАРОДНЫЕ СТАНДАРТЫ И ОПЫТ МОЛДОВЫ

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Abstract. This article explores the Republic of Moldova's participation in the Council of Europe and its strategic approach to ensuring human rights, democracy, and the rule of law. Special attention is given to reforms in the penitentiary system, examining statistical data on convicts, the conditions of their confinement, and the state's efforts to align the penitentiary system with international standards. The article also underscores Moldova's aspiration for European integration and emphasizes the significance of educational reforms in ensuring equal opportunities for all layers of the population.

Keywords: Republic of Moldova, Council of Europe, penitentiary system, human rights, democracy, education, reforms, statistics, international standards.



В современном обществе вопросы образования в пенитенциарной системе приобретают все большую актуальность. Международные документы признают, что образование играет ключевую роль в реабилитации и успешной реинтеграции осужденных в общество. Этот взгляд основан на убеждении, что образование и производственная деятельность должны быть неотъемлемой частью режима, обеспечивая заключенным равные возможности для качественного образования и развития навыков, необходимых для успешной адаптации после отбытия наказания.

В рамках данного контекста, международные стандарты не только подчеркивают важность образования, но также признают, что его интеграция в индивидуальные программы обучения заключенных нацелена на соответствие индивидуальным потребностям и способностям каждого осужденного. Это не только способствует получению заключенными образования, наиболее подходящего для их будущего, но и существенно повышает вероятность успешной реабилитации и последующей реинтеграции в общество. В данной статье мы рассмотрим обозначенные вопросы, а также анализируем связь между образованием и пенитенциарным режимом, в поиске наилучших практик для эффективного обеспечения равных образовательных возможностей и профессионального развития для осужденных.

В 2006 году Совет Европы обнародовал пересмотренные Европейские пенитенциарные правила, регулирующие некоторые вопросы, связанные с тюремным образованием и профессиональным обучением в статье 28. Однако эти рекомендации Комитета министров Совета Европы носят рекомендательный, а не обязательный характер, хотя и были одобрены Комитетом министров Совета Европы, который знаменует достижение консенсуса по этому вопросу среди стран-членов ЕС. Многие страны разработали национальные законы и программы, регулирующие образование и профессиональное обучение в тюрьмах, с учетом международных стандартов и рекомендаций. Кроме того, существуют международные организации, такие как Международная ассоциация директоров и администраторов тюрем (ICPA) и Европейское общество криминальной реабилитации (CESR), которые занимаются разработкой и распространением лучших практик в области образования и профессионального обучения в тюрьмах.

Изучив следующий ряд документов выявляем, что вопросы права на образование также упоминаются в документах СБСЕ: Итоговом документе Венской встречи 1986 г. (раздел «Сотрудничество и обмена в области образования»), Парижской хартии для новой Европы 1990 г. (раздел «Права человека, демократия и верховенство закона»)[6], в котором содержатся положения об экономических, социальных и культурных правах, а также о защите прав этнических, языковых и религиозных меньшинств и защите прав трудящихся-мигрантов и их семей, который признает и гарантирует все обязательства СБСЕ в области защиты и улучшения положения женщин. Из данного ряда документов можно сделать вывод, что вопросы права на образование имеют важное значение для СБСЕ, как одного из международных организаций, занимающихся защитой прав человека и содействием в укреплении демократии и правового государства в Европе. В этих документах подчеркивается значимость права на образование для социального и культурного развития, а также для защиты прав меньшинств и трудящихся-мигрантов. Это подтверждает необходимость развития образовательных программ и инициатив, которые способствуют повышению доступности и качества образования для всех слоев населения, включая осужденных и лиц, находящихся под наблюдением в пенитенциарных учреждениях.

Несмотря на различные формулировки определения концепции права на образование, так же нельзя не согласиться с подавляющим большинством ученых, которые согласны с тем, что это право является одним из основных прав человека и гражданина, тесно взаимосвязано с другими правами, способствует социализации и личностному развитию. При этом ученые подчеркивают, что государство должно не только воздерживаться от действий, препятствующих общему образованию и обучению, но и создавать условия для максимально полной реализации права каждого человека на образование.



Считаем важным отметить, что Республика Молдова стала полноправным членом Совета Европы 12 июля 1995 года. Основная цель Совета Европы - создать единое правовое и демократическое пространство на всем европейском континенте, гарантия уважения и соблюдения, основных прав и свобод человека, обеспечение демократии и верховенство закона. В настоящее время Республика Молдова является участницей 72 Конвенций Совета Европы [8] и придает большое значение соблюдению прав человека и готова работать на их защиту вместе с другими странами-участницами Совета Европы.

Правительство Республики Молдова направляет свою деятельность на европейскую интеграцию и укрепление демократических принципов общества, а также отмечает реформу пенитенциарной системы как приоритетную задачу в каждой из Программ деятельности. В рамках Программы деятельности Правительства Республики Молдова на 2016-2020 годы и плана действий Совета Европы на период с 2021 по 2024 год, уделяется особое внимание обеспечению непрерывности и завершения реформ в пенитенциарной системе и эффективной реализации стратегии реформы. Правительство Республики Молдова подтверждает свою роль в рамках общей системы отправления правосудия.

По данным Агентства по управлению судами, количество осужденных первой инстанцией в 2022 году составило 8,4 тыс. человек, или ежедневно было осуждено 23 человека. По сравнению с 2021 годом количество осужденных первой инстанцией уменьшилось на 27,1%. Лишение свободы, бесплатные общественные работы и условное осуждение являются основными наказаниями, применяемыми к осужденным по первой инстанции.

В 2022 году, по данным Национального управления пенитенциарных учреждений, в пенитенциарных учреждениях находилось 6079 человек, в том числе 1037 человек (17,1%) в предварительном заключении и 5042 человека осуждены окончательным приговором (82,9%). Из общего числа заключенных 5,4% составляли женщины и 94,6% мужчины [10].

В настоящее время наибольшее количество осужденных содержится в Пенитенциарном Учреждении № 18 Брэнешть, где находится 617 осужденных, а наименьшее - в ПУ № 10 Гоян, где содержится только 33 осужденных. В целом, Правительство Республики Молдова продолжает уделять особое внимание реформе пенитенциарной системы с целью утверждения демократических принципов и обеспечения благополучия нашего государства.

На территории Республики Молдова действует 17 типов пенитенциарных учреждений, включая пенитенциарные учреждения открытого, полужакрытого (2) и закрытого типа (9), центры содержания несовершеннолетних и молодежи (1), пенитенциарные учреждения для женщин (1), дома содержания под стражей (3) и пенитенциарные больницы (1).

Как один из важнейших аспектов в Республике Молдова пенитенциарная система нацелена на приближение к международным стандартам, особенно в части условий и порядка отбывания наказания осужденными к лишению свободы. В этой работе приоритет отдается педагогическим и психологическим методам воздействия на осужденных, которые помогают им решить социальные вопросы. Чтобы достичь этой цели, необходимо использовать индивидуально ориентированные подходы в сфере обучения и перевоспитания осужденных, опираясь на принципы гуманизма и соблюдение прав и свобод осужденных. Важной задачей пенитенциарной системы также является социальная адаптация осужденных.

Что касается задач реформ, проводимых до сих пор в сфере образования в Молдове, отмечаем, что это было расширение доступа ко всем уровням образования и повышение качества образования. Равный доступ важен для вовлечения всех детей и молодежи, включая детей с особыми образовательными потребностями, в образовательный процесс, обеспечивая тем самым равные шансы на достойный уровень жизни и адекватные возможности для включения и участия в общественной жизни [7]. Данные реформы проводятся в образовании с целью обеспечения равного доступа ко всем уровням образования и повышения качества образования. Это важно для обеспечения равных возможностей для всех на достойный уровень жизни и участие в общественной жизни.



В течение нескольких ряда лет ведутся споры о целях лишения свободы. Некоторые утверждают, что данную меру наказания стоит использовать только для лиц, совершивших преступление, у других мнение, что лишение свободы предназначено для предупреждения совершения данными лицами новых преступлений, и является мерой противодействия против тех, кто склонен к совершению рецидива. Также есть мнение, что помещают в пенитенциарное учреждение для исправления или перевоспитание человека. На практике большинство официальных представителей пенитенциарной системы рассматривают цель лишения свободы как совокупность вышеуказанных причин. Относительная важность каждого из них варьируется в зависимости от обстоятельств отдельных преступлений.

В соответствии с международными правовыми актами осужденные обладают особыми правами, присущими только лицам данной категории. Нормативные предписания, содержащиеся в этих актах, отражают специфику их правового статуса и раскрывают содержание этих прав и свобод. Международно-правовые акты, регулирующие отношения, права, свободы, обязанности, законные интересы определенной группы лиц в определенной отрасли права, представляют собой особые международные стандарты.

Иными словами, осужденные - особая категория граждан, для регламентации прав которых созданы отдельные международно-правовые документы.

Одно из основных мест среди специальных международных актов, касающихся осужденных к лишению свободы, занимают Минимальные стандартные правила обращения с заключенными, принятые на I Конгрессе ООН по предупреждению преступности и обращению с правонарушителями 30 августа 1955 г. в Женеве.

Так, параграф 77 Правил рекомендует предоставлять дополнительное образование заключенным, которые могут получить от него пользу, считать, что образование неграмотных и молодых людей считается обязательным и призывает администрацию тюрьмы уделять этому особое внимание, подчеркивает, что образование заключенных должно, насколько это, возможно, быть увязано с существующей в стране системой образования, чтобы освобожденные заключенные могли без проблем продолжать учебу без затруднений. Минимальные стандартные правила гласят, что «интересы заключенных и их подготовка не должны подчиняться соображениям прибыли от тюремного производства» (Правило 72, п. 2) и что профессии и квалификации, приобретенные (или повышенные) в местах лишения свободы должны быть востребованы после их освобождения [1]. Здесь уместно отметить, что данные положения являются свидетельством того, что с точки зрения всего общества образование является не только правом осужденных, но и одним из факторов социальной адаптации осужденных лиц после освобождения.

В декабре 2015 года вступили в силу Минимальные стандартные правила обращения с заключенными Организации Объединенных Наций (Правила Манделы) [2], которые, по сути, являются пересмотренными Минимальными стандартами обращения с заключенными (осужденными). Пункт 104 этих Правил почти полностью дублирует пункт 77 Минимальных стандартных правил обращения с заключенными 1955 года. Однако в соответствии с новыми Правилами образование неграмотных и малолетних осужденных рекомендуется считать обязательным (пункт 1 правила 104).

Так, основные принципы обращения с заключенными, принятые 14 декабря 1990 г. Резолюцией 45/111 Генеральной Ассамблеи ООН, содержат положение о том, что «все заключенные имеют право участвовать в культурных и образовательных мероприятиях, направленных на всестороннее развитие человеческой личности» (с. 6). Минимальные стандартные правила Организации Объединенных Наций для отправления правосудия в отношении несовершеннолетних (Пекинские правила), подчеркивают особую важность обучения несовершеннолетних в исправительных учреждениях. Правило 26 обращает внимание на цели воспитания несовершеннолетних осужденных, которые должны способствовать их полноценному развитию, усвоению социально конструктивных и продуктивных ролей. Подчеркивается необходимость межминистерского и



межведомственного сотрудничества при организации обучения в исправительных учреждениях для несовершеннолетних [3].

Анализ показал, что Резолюцией Генеральной Ассамблеи ООН от 14 декабря 1990 г. № 45/113 утверждены Правила ООН, касающиеся защиты несовершеннолетних, лишенных свободы [5]. Раздел «Е» Постановления, состоящий из девяти пунктов (пункты 38–46), посвящен воспитанию, профессиональному обучению, подготовке и трудовой деятельности несовершеннолетних осужденных.

Обратим внимание, что параграф 38 закрепляет право каждого несовершеннолетнего на получение образования, соответствующего его потребностям и способностям, а цель образования - подготовить осужденного несовершеннолетнего к возвращению в общество. Поэтому рекомендуется, чтобы образование проводилось, по возможности, вне пенитенциарного учреждения и было интегрировано в систему образования страны, чтобы после освобождения несовершеннолетние могли беспрепятственно продолжать его.

Следует подчеркнуть, что несовершеннолетние с трудностями в обучении имеют право на специальное образование. Так, в пункте 39 рекомендуется не только предоставлять возможность, но и стимулировать к получению образования несовершеннолетних, вышедших из возраста обязательного школьного образования и желающих продолжить свое образование. Это подчеркивает необходимость сделать все возможное, чтобы несовершеннолетние осужденные имели доступ к соответствующим образовательным программам [5].

Пункт 40 гласит, что в дипломах или свидетельствах об образовании, выдаваемых несовершеннолетним осужденным, не должно быть указано, что они учились в пенитенциарном учреждении. Пункты 42–43 особо выделяют право несовершеннолетних на получение профессионального образования и право на выбор профессии с учетом возможностей, имеющихся в исправительном учреждении. В соответствии с Правилами ООН по защите несовершеннолетних, лишенных свободы, профессиональное образование должно предоставляться по профессиям, которые могут быть полезны для их будущего трудоустройства [5]. По своей сути Европейские пенитенциарные правила представляют собой пересмотренную и обновленную версию Минимальных стандартных правил ООН обращения с осужденными. По сравнению с Минимальными стандартными правилами обращения с заключенными, Европейские пенитенциарные правила устанавливают более важную роль, которую образование должно играть в обращении с осужденными лицами.

Безусловно, в документе подчеркивается, что цели образования в тюрьмах напрямую связаны с целями исправления, а само образование признано важным элементом режима, имеющим «такой же статус в рамках этого режима, что и работа, при условии, что оно осуществляется в течение обычного рабочего дня и является частью утвержденной индивидуальной программы перевоспитания» [8, с.20]. Таким образом, Европейские пенитенциарные правила являются пересмотренной и обновленной версией Минимальных стандартных правил ООН обращения с осужденными, и в них придается большое значение образованию как важному элементу режима, имеющему такой же статус, что и работа, при условии, что оно является частью утвержденной индивидуальной программы перевоспитания и осуществляется в течение обычного рабочего дня. Цели образования в тюрьмах напрямую связаны с целями исправления, а социальная реабилитация осужденных и их социальная адаптация являются одной из главных целей пенитенциарной системы.

Анализ международных документов показывает, что "элементарное образование" (примерно соответствующее общему базовому образованию в нашей республике) должно быть обязательным в соответствии с Всеобщей декларацией прав человека, а также с Минимальными стандартными правилами обращения с заключенными 1955 года, которые предусматривают, что образование для неграмотных и молодых людей должно быть обязательным и уделяться особому вниманию пенитенциарному управлению. В Республике Молдова образовательные программы для лиц, отбывающих наказание в ПУ не являются обязательными и не всегда предоставляются должным образом. Чтобы достичь лучших



результатов в реабилитации и социальной адаптации заключенных, необходимо уделить большее внимание образованию осужденных и включить его в обязательную программу перевоспитания.

Вывод: Таким образом, получение образования является неотъемлемой частью процесса перевоспитания и реабилитации осужденных, а также предотвращения повторных преступлений. Однако, необходимо уделить внимание не только образованию осужденных, но и другим средствам исправления, которые закреплены в Исполнительном кодексе РМ.

Предоставление возможностей для обучения и профессиональной подготовки лицам, отбывающим наказание в ПУ должно стать обязательным и надлежащим образом, организованным в пенитенциарной системе Республики Молдова. Это позволит не только снизить уровень рецидива, но и обеспечить социальную адаптацию осужденных после отбытия наказания.

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СРАВНИТЕЛЬНЫЙ АНАЛИЗ ДЕТСКИХ ДОМОВ СЕМЕЙНОГО ТИПА В РМ И ДРУГИХ СТРАНАХ

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Abstract. A family-type orphanage, hereinafter referred to as “DDST”, is a social program in order to provide favorable conditions for the living and development of children in the format of family relationships. This social program is implemented at the expense of municipal funds and grants from European Union countries. The relevance of DDST in the Republic of Moldova is due to the problem of population migration. Population migration increases every year. And the analysis of the forms of social protection of children left without parental care, carried out according to data from Romania, Ukraine, and Moldova, confirmed the rationality of the further development of DDST. Key words: family-type orphanage, social protection, population migration, parental care, social programs.

Keywords: family-type orphanage, social program, municipal funds.

В ходе реформирования детских учреждений интернатного типа в Молдове, за период с 2000 по 2017 годы было выведено около 11000 детей, содержащихся в 53 интернатах и детских домах, в биологические семьи или альтернативные формы.

По данным «*unicef*», с 2006 года количество детей в специализированных учреждениях сократилось в семь раз, при этом возросло использование альтернативных семейного типа, как патронатный уход. Данные реформы привели к сокращению количества несовершеннолетних в пенитенциарных учреждениях, снизив уровень преступности несовершеннолетних.

Детский дом семейного в дальнейшем «ДДСТ», это социальная программа, в целях обеспечения благоприятных условий для проживания и развития детей в формате семейных отношений. [1]

Данная социальная программа осуществляется за счет муниципальных средств и грантов стран европейского союза, в том числе, для соблюдения следующих международных актов, ратифицированных в РМ:

- ✓ Конвенция «О правах ребенка»;
- ✓ «Всеобщая декларация прав человека»;
- ✓ Международный пакт «об экономических, социальных и культурных правах»;
- ✓ Международный пакт «О гражданских и политических правах»;
- ✓ Международная конвенция «О ликвидации всех форм расовой дискриминации»;
- ✓ Конвенция «против пыток и других жестоких, бесчеловечных или унижающих

достоинство видов обращения и наказания»;

- ✓ Конвенция «О защите прав человека и основных свобод».

Указанные международные нормативные акты формируют организационно-правовые основы функционирования детских домов семейного типа.

Бенефициарами детских домов семейного типа:

- 1) Дети, лишены заботы родителей, в случаях, обусловленных их отсутствием, кроме случаев нахождения за границей.
- 2) Дети, изъяты из неблагополучных семей.
- 3) Дети с временным статусом «ребенка без попечения родителей»
- 4) Ребенок несовершеннолетнего родителя.



Родитель – опекун обеспечивает условия для существования и развития детей, воспитывает с соблюдением всех положенных прав и свобод ребенка, лишь на определенный период времени, в зависимости от вида размещения. Чрезвычайное размещение рассчитано до 72 часов, с возможностью последующего продления, но не более 45 дней. Плановое размещение предполагает более длительный срок до наступления совершеннолетия или возраста 23 лет, в случае продолжения образования в средних специальных и высших образовательных заведениях [2].

Задачи ДДСТ конкретно сформулированы в положении о детском доме семейного типа:

- a) уход и рост ребенка в условиях подстановочного семейного окружения в соответствии со стандартами качества;
- b) обеспечение развития ребенка, помещенного в детский дом семейного типа, согласно его личностным и возрастным особенностям;
- c) способствование по возможности (ре)интеграции ребенка в его родную, расширенную семью либо в семью, где он будет усыновлен;
- d) оказание содействия при социализации ребенка и его подготовка к ведению независимого образа жизни по достижении им совершеннолетия.

II. ДДСТ в других странах

Роль ДДСТ в США выполняют фостерные семьи.

Задачей ДДСТ в США является предоставление ребенку необходимых условий для семейного воспитания, но не целенаправленное формирование семейных отношений.

По данным Управления по делам детей и семьи США (ACF), в 2017 году фостерная система насчитывала около 443 тысяч детей, из которых более 195 тысяч (45%) проживали с фостерными родителями – неродственниками. Фостерная система предполагает возможность перемещения детей из одной семьи в другую. Однако в случае множественных переводов из одной семьи в другую, данный алгоритм защиты также может навредить формированию стабильных отношений [3].

Родители-опекуны получают пособие, предназначенное для обеспечения всех необходимых нужд ребенка.

В США существует иной вид социальной опеки за детьми «интернатная группа». Функционирование осуществляется на основе разделения детей по возрастным и интеллектуальным признакам развития, проживающих в разных специализированных домах, но в пределах одного городка. Педагогический персонал не живет с детьми на постоянной основе, а работает посменно. Данная система отличается от типичных интернатов в странах СНГ участием специалистов из разных областей, а также лучшим уровнем проживания.

Основной задачей социальных служб в США и Европе является реинтеграция детей в кровную семью [4]. С этой целью проводится много работы по оказанию психологической поддержки, а также социальной помощи семьям.

На законодательном уровне также закреплено право ребенка на возвращение в кровную семью. Потому замещающие семьи являются мерой временного характера на период разрешения кризисной ситуации в кровной семье.

Определенную специфику правового регулирования усыновления представляет отсутствие в зарубежных странах понятия «тайны усыновления», ответственность за нарушение которой предусмотрена в УК РМ.

Относительно особенностей функционирования фостерных семей в разных странах, можно выделить политику Великобритании.

В случае, если ребенок находится под опекой социальных служб, родители из замещающих семей и иные лица согласно закону, обязаны содействовать поддержанию контакта ребенка с его кровными родителями или родственниками. Таким образом, в Великобритании около 85% детей после пребывания в фостерных семьях возвращаются в родные семьи.



Схожей политике в опеке за детьми следует Швеция, где функционируют специальные учреждения с штатным педагогическим персоналом в целях создания благоприятных условий для детей, временно не проживающих в кровных семьях. Дети посещают обычные сады и школы, что способствует их социализации в обществе, позволяет избежать их изоляции. По истечению срока от 8 недель до 6 месяцев ребенка могут вернуть в кровную семью, если установлены положительные изменения в поведении родителей. В обратном случае, ребенок передается в замещающую семью сроком на 1 год, при этом дети могут на протяжении всего года могут встречаться со своими биологическими родителями, а спустя год и вовсе вернуться.

В Финляндии, детей, оставшихся без опеки, отправляют в SOS-деревню, по подобию интернатных групп [4]. За родителями сохраняется право вернуть детей, после выполнения предписаний социальных служб. Родителям предоставляется право видеться и общаться с детьми. В период нахождения ребенка в SOS-деревне социальные службы оказывают поддержку в решении социальных проблем, в целях скорейшего воссоединения с кровной семьей.

Таким образом, можно сделать следующий вывод:

ДДСТ или замещающие семьи обеспечивают нормальное развитие детей в период разъединения с кровной семьей. Как показывают научные исследования, неудовлетворение естественной для ребенка потребности в заботе непременно влечет негативные последствия для личностных характеристик ребенка. Одним из главных преимуществ ДДСТ является эмоциональная близость, благодаря участию профессионального педагогического персонала.

Развитие ДДСТ в АТО Гагаузия представляется наиболее доступным в рамках НПО. Это способствовало бы привлечению расширенного штата специалистов по опыту Европы, Америки, Великобритании [5].

Актуальность ДДСТ в Республике Молдова обусловлена проблемой миграцией населения. Ежегодно миграция населения увеличивается, а в совокупности с ростом инфляции, в ближайшее время высокие показатели миграции едва ли обещают снизиться. Помимо этого, анализ форм социальной защиты детей, оставшихся без родительской опеки, проведенный по данным Румынии, Украины, Молдавии подтвердил рациональность дальнейшего развития ДДСТ. Так, институциональная опека обходится государству в 6 раз дороже в сравнении с расходами на социально уязвимые семьи, а также в 3 раза дороже относительно профессиональных замещающих семей, и в 2 раза дороже по сравнению с малокомплектными детскими домами. Такая разница обусловлена выплатой заработных плат работникам, не принимающим прямое участие в контактах с детьми, иными словами недостаточной оптимизацией.

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СООТНОШЕНИЕ И РАЗЛИЧЕНИЕ УГОЛОВНО-ПРОЦЕССУАЛЬНОЙ И СПЕЦИАЛЬНОЙ РОЗЫСКНОЙ ДЕЯТЕЛЬНОСТИ

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Summary. The author analyzes the different forms of interaction between criminal procedure and investigative activities.

The necessity of strengthening guarantees of the individual as in the production of criminal proceedings and investigative work, primarily dealing with the limitation of constitutional rights of citizens.

Keywords: the special investigation activity, the special investigation process, the criminal process, criminal investigations, the investigation ofcer, evidence, crime fighting.

Европейская интеграция является стратегической целью внешней и внутренней политики Республики Молдова, направленной на обеспечение создания внутренней системы безопасности, стабильности и процветания, основанной на демократических ценностях и соблюдении основных прав и свобод человека. В результате усилия Республики Молдова были и остаются направленными на ответственное выполнение внешних обязательств, взятых на себя в отношениях с Европейским Союзом, таких как Соглашение об ассоциации [4].

Преступность в самых разнообразных и жестоких проявлениях затрагивает граждан и сообщества. Жизнь, физическая неприкосновенность, свобода, имущество, покой и уверенность в собственной безопасности, экономическая и социальная жизнь граждан находятся в опасности до тех пор, пока сохраняется и множится явление преступности.

Уголовно-процессуальная и специально розыскная деятельность находятся в тесной связи между собой.

Нужно отметить, что эта связь обуславливается, прежде всего, общими отправными моментами, характерными для любого вида деятельности, подпадающего под правовую регламентацию. Они продиктованы сложившимся в науке представлением о деятельности вообще [7].

Важное значение в правовом регулировании специальной розыскной деятельности имеет определение соотношения специально розыскной деятельности со смежными видами деятельности. Такое видение специальной розыскной деятельности позволяет рассматривать ее в виде конкретной системы взаимосвязанных и взаимозависимых элементов (действий, мер, методов и т.п.), направленных на достижение общей цели путем реализации задач уголовной политики государства.

Как правило, процедуры специальной розыскной деятельности формализуются в нормативных актах на уровне закона или ведомственных актах. Однако специально розыскную деятельность не следует официально отождествлять с процессом уголовного преследования [2, ст.1].

Правовыми нормами определенного вида деятельности, как правило, реализуются различные нормы (части норм) уголовного права и уголовного процесса, однако данный вид специфики лишь подчеркивает их единство в главном – предназначенном для целей уголовной политики государства.

В настоящее время назрела необходимость переосмысления вопроса о соотношении и различении «уголовно-процессуальной» и «специальной розыскной» деятельности с точки



зрения понятий и терминов, используемых в теории и практике для определения деятельности в анализируемой сфере.

Проанализировав их отношения в целом, можно сделать определенные выводы. Нельзя полагать, что:

1) специальная розыскная деятельность – это деятельность исключительно внутри уголовного процесса, а также вне его;

2) специальная розыскная деятельность носит исключительно вспомогательный характер и служит одним из «подручных» средств лишь уголовного процесса, «задачей является защита личности, общества и государства от преступлений, а также защита личности и общества от противозаконных действий должностных лиц при расследовании предполагаемых или совершенных преступлений с тем, чтобы каждый совершивший преступление был наказан в меру своей вины и ни один невиновный не был привлечен к уголовной ответственности и осужден» [1, ст.1, ч. (2)].

Специальная розыскная деятельность «означает деятельность субъектов специальной розыскной деятельности по осуществлению специальных розыскных мероприятий и специально-оперативных методов, применению специальных средств и принятию различных решений в этой связи в целях выполнения задач специально розыскной деятельности, а также обеспечение уголовного процесса» [5, с. 229].

Данное понятие предусматривает задачи специальной розыскной деятельности, которые складываются из общих и частных задач специально розыскной деятельности, а именно:

1) выявление и предупреждение преступности;

2) розыск без вести пропавших лиц, лиц, уклоняющихся от уголовного преследования или суда, скрывающихся от органа уголовного преследования или судебной инстанции, уклоняющихся от исполнения наказания или совершивших побег из мест заключения;

3) сбор информации о возможных деяниях или событиях, могущих создать угрозу общественному порядку или безопасности в местах заключения;

4) обеспечение защиты свидетелей и других участников уголовного процесса;

5) обеспечение защиты субъектов специальной розыскной деятельности.

По своей сути специальная розыскная деятельность представляет собой определенные правоотношения процессуально-оперативного характера, которые рождаются в ходе специальной розыскной деятельности. В то же время данные отношения представляют собой взаимосвязь между субъектами специальной розыскной деятельности в целях выявления и предупреждения преступности.

Кроме цели, в состав структурной характеристики уголовно-процессуальной и специально розыскной деятельности входят раскрывающие их сущность «субъекты», «действия», «способы», «средства», «объект». Единство, многообразие компонентов, нахождение их в отношениях и связях между собой предопределяют целостность рассматриваемых видов деятельности.

Каждый из рассматриваемых видов деятельности проявляется в форме правоотношений, в рамках которых осуществляются права и обязанности их участников. Уголовно-процессуальная и специально розыскная деятельность урегулированы правовыми нормами. Это объясняет их подчинение установленным соответствующим законом требованиям, предусматривающим порядок, условия реализации отдельных действий и в целом всей деятельности.

Специально розыскная деятельность тесно связана с некоторыми положениями уголовного процесса, но при этом имеет свои отличительные признаки [5, с.231]:

1) специально розыскная деятельность обеспечивает задачи уголовного процесса;

2) специально розыскная деятельность связана со сбором фактических данных, соответствующих объекту доказывания (то, что необходимо доказать);

3) специально розыскная деятельность и уголовный процесс строятся на принципе «презумпции невиновности»;



4) некоторые результаты специальной розыскной деятельности используются в уголовном процессе;

5) общность конечных целей обоих процессов и т. д.

В то же время, будучи подчиненным уголовному процессу, специально розыскная деятельность имеет свои специфические особенности, отличающие его от первого. Специальную розыскную деятельность осуществляют органы, специализированных подразделений, указанные в статье 6 Закона РМ «О специальной розыскной деятельности», а уголовный процесс – исключительно субъектами, указанными в УПК РМ. Специально розыскная деятельность, как правило, осуществляется в порядке, предусмотренном секретными ведомственными нормативными актами, а уголовный процесс - в порядке, регламентированном УПК РМ. При осуществлении специальной розыскной деятельности применяются силы и средства, составляющие государственную тайну, при этом их применение в уголовном процессе не предполагается и даже не допускается [6, с.120].

Составляющие государственную тайну сведения о силах, средствах, методах, специальной технике, источниках, планах и результатах осуществления специальной розыскной деятельности, об организации и тактике проведения специальных розыскных мероприятий, а также о личности агентов под прикрытием и конфиденциальных сотрудников могут быть рассекречены в соответствии с Законом о государственной тайне № 245/2008 [3, ст.24, ч. (2)].

Анализируя взаимосвязь этих двух процессов комплексно, можно сделать вывод, что: специальная розыскная деятельность обычно начинается до начала производства процессуальных действий, продолжаясь с началом уголовного процесса [1, ст.1, ч. (1)]. специальная розыскная деятельность не только продолжается параллельно уголовному, но и продолжается после его окончания. Таким образом, вначале он сопровождает некоторые уголовные процедуры, а в дальнейшем - осуществляется самостоятельно.

Самостоятельный характер специальной розыскной деятельности отражает его двойную сущность: с одной стороны, он выступает «помощником» уголовного процесса в достижении их единственной цели — реализации уголовно-правовых норм, с другой стороны - специальная розыскная деятельность выступает в роли их «конкурента», мобилизуя ту деятельность, которая осуществляется в рамках уголовного процесса [6, с.122].

Взаимодействие уголовно-процессуальной и специально розыскной деятельности прослеживается и по другим вопросам, носящим в определенной мере проблемный характер.

Важно отметить, что борьба с преступностью зависит не только от точности теоретической концепции, от структур, программ и методов, с помощью которых осуществляется стратегия борьбы с преступностью [4], но и от эффективности специально розыскной деятельности и органы уголовного преследования могут дать им эту цель. Следовательно, соотношение и эффективность принимаемых решений по предупреждению и борьбе с преступностью зависят от развития анализируемых процессов, их реальной мощности и, что не менее важно, от применения достижений специально розыскной и уголовно-процессуальной деятельности. Совместные усилия (достигнутые двумя видами деятельности) будут успешными и эта цель будет достигнута [6, с.123].

Сходство и различие специально розыскной и уголовно-процессуальной деятельности являются важной предпосылкой их взаимодействия, одна из форм которого связана с формированием базы для самого уголовного процесса.

В заключении следует подчеркнуть, что специально розыскная деятельность обычно начинается до начала уголовного процесса. Однако запуском последнего дело не заканчивается. Специально розыскная деятельность не только продолжается параллельно с уголовным процессом, но и продолжается после завершения последнего. Таким образом, специально розыскная деятельность сначала сопровождает уголовное производство, а затем вновь протекает самостоятельно.



Самостоятельный характер специально розыскной деятельности отражает его двойственную сущность: с одной стороны, он является «помощником» уголовного процесса в достижении общей для всех цели – реализации уголовной политики государства, и с другой стороны, специально розыскная деятельность выступает «конкурентом», мобилизуя и «подталкивая» деятельность, осуществляемая в рамках уголовного процесса.

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