



WSHIU

AKADEMIA NAUK STOSOWANYCH

**1ST INTERNATIONAL SCIENTIFIC
AND PRACTICAL CONFERENCE**

**“PLANNING AND ENSURING
SUSTAINABLE DEVELOPMENT OF
SOCIO-ECONOMIC SYSTEMS”**



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WSHIU
AKADEMIA NAUK STOSOWANYCH

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«PLANNING AND ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-
ECONOMIC SYSTEMS»**

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Intended for young people, doctoral students, degree seekers, researchers, lecturers, civil servants, practitioners, and all those interested in issues of sustainable development of socio-economic systems.

ORGANIZATIONAL PRINCIPLES FOR CONFERENCE

The purpose of the conference is to analyze and summarize new theoretical and applied results on planning and ensuring sustainable development of socio-economic systems, identify the scientific and creative potential of participants, create an online platform for professional exchange of opinions and research results.

The relevance of the conference topic is due to the increasing complexity of socio-economic processes, the strengthening of crisis impacts and structural imbalances, which require scientifically sound planning and coordinated management decisions to ensure sustainable development. At the same time, there is an increasing need for practical tools that allow combining economic efficiency with social responsibility and environmental priorities, ensuring the sustainability of socio-economic systems in the long term



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CONTENT

Ayala Mario Hugo. PROTECTION OF HUMAN RIGHTS IN THE MIGRATION POLICY OF AMERICAN COUNTRIES	10
Andrusyk Andriana. THE ROLE OF INVESTMENTS IN SUSTAINABLE TOURISM AS A DRIVER OF REGIONAL DEVELOPMENT	10
Alazzam Farouq Ahmad Faleh. E-COMMERCE AS A KEY BASIS OF MODERN LEGAL BUSINESS	12
Aristov Oleksiy. INNOVATIVE INVESTMENTS TO ENSURE SUSTAINABLE DEVELOPMENT OF THE EUROPEAN UNION COUNTRIES AND UKRAINE	13
Aldrou Khaled Khalaf Abed Raboo. LEGAL REGULATION OF COMMERCIAL ACTIVITIES AND THE MIDDLE EAST	14
Arych Mykhailo. FACTORS INFLUENCING THE USE OF GENETIC INFORMATION FOR INSURANCE RISK ASSESSMENT	15
Balaniuk Ivan, Shelenko Diana, Kuzeliak Roksolana. APPLICATION OF BUSINESS ANALYTICS TOOLS FOR THE ANALYSIS OF REVENUES AND EXPENDITURES OF BUDGETARY INSTITUTIONS	16
Baldzhy Maryna. FINANCING SUSTAINABLE DEVELOPMENT IN A RURAL TERRITORIAL COMMUNITY	18
Bayramov Eshgin. TRANSFORMATION OF BUSINESS IN THE CONTEXT OF GLOBALIZATION	19
Bay Oleksandr. STRATEGIC PATHWAYS FOR GLOBAL BUSINESS TOWARD A CIRCULAR ECONOMY	20
Bilovodska Olena, Panasenko Mariia. ECOSTORY PACKAGING MODEL AS A STRATEGIC TOOL FOR INTEGRATING SUSTAINABILITY AND CONSUMER ENGAGEMENT	22
Bilukha Mykhailo, Semeniuk Milana. ASSESSING THE IMPACT OF MARKETING EXPENDITURES ON THE ECONOMIC PERFORMANCE OF AN AGRI-FOOD ENTERPRISE IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT	24
Bayramova Gulshan. INTERNATIONAL COOPERATION AND INVESTMENT POTENTIAL OF AZERBAIJAN IN THE CONDITIONS OF GLOBALIZATION	26
Bodnar Oresta. FEATURES OF MANAGEMENT REPORTING FORMATION	27
Boiko Ruslan. THE ROLE OF MARKETING IN ACHIEVING MARKET SUCCESS FOR A COMPANY	28
Bosa Inna. INDICATORS OF ECONOMIC SECURITY IN ENSURING LOGISTIC PROCESSES	30
Bergmann Olaf. ORGANIC LABOUR IN WIELKOPOLSKA AS A SOCIAL, ECONOMIC AND CULTURAL PHENOMENON OF THE 19TH CENTURY	31
Belinska Yanina. THE SPREAD OF OPEN BANKING AS AN INNOVATIVE WAY TO ENSURE SUSTAINABLE DEVELOPMENT	33
Bosenko Yana. VECTOR OF SUSTAINABLE DEVELOPMENT IN THE MANAGEMENT OF COMPETITIVENESS OF OIL AND GAS PRODUCING ENTERPRISES	34
Bradul Oleksandr, Kompaniiets T. INNOVATIVE INSTRUMENTS FOR LABOUR REMUNERATION MANAGEMENT TO ENSURE SUSTAINABLE OPERATION OF AN ENTERPRISE	35
Bronitskyi Andriy. 3D MODEL OF THE PRINCIPLES OF INVESTMENT DECISION-MAKING TO ENSURE SUSTAINABLE ENTERPRISE DEVELOPMENT	36
Buriak Alina, Demyanenko Inna. ANALYSIS OF LARGE DATABASES FOR THE NEEDS OF ENTERPRISES	38
Bakradze Givi. PECULIARITIES OF FINANCIAL ACCOUNTING IN A DIGITAL ENVIRONMENT	39
Chaika Tatiana, Zaitseva Lyudmila, Klimenko Evgeniya. INTEGRATION OF SUSTAINABLE DEVELOPMENT AND REGENERATIVE ECONOMY PRINCIPLES INTO HOTEL HUMAN RESOURCE MANAGEMENT SYSTEMS	40
Chala Nina, Poplavska Oksana. RESILIENT TEAMS IN A VOLATILE WORLD: THE IMPACT OF GLOBAL MEGATRENDS ON EMPLOYEE MOTIVATION AND HR STRATEGIES	42
Cheberyako Oksana. IMPLEMENTATION OF ESG STANDARDS FOR SUSTAINABLE DEVELOPMENT IN THE EU COUNTRIES AND UKRAINE	44
Chmut Anna, Chmut Oleksandr. SUSTAINABLE DEVELOPMENT OF ENTERPRISES: THE SOCIO-ECONOMIC DIMENSION OF ESG REPORTING	46
Chuchmii Iryna. THE INFLUENCE OF MODERN HIGHER EDUCATION ON THE SUSTAINABLE DEVELOPMENT OF SOCIETY	47
Cherres Patricia Cecilia Viguera. HUMAN VS ARTIFICIAL INTELLIGENCE	50
Chukina Ivanna. MANAGERIAL DECISION-MAKING IN THE DESIGN OF LOGISTICS SYSTEMS UNDER CONDITIONS OF DIGITAL TRANSFORMATION AND TURBULENCE OF THE EXTERNAL ENVIRONMENT	51
Chunytka Iryna, Zahurska Alona. INTEGRATION OF EUROPEAN SUSTAINABLE DEVELOPMENT STANDARDS INTO THE FINANCIAL POLICY OF UKRAINIAN ENTERPRISES	53
Dakhno Mykola. TRANSFORMATION OF UKRAINE'S LOGISTICS INFRASTRUCTURE IN THE CONTEXT OF MILITARY CHALLENGES AND EUROPEAN INTEGRATION	54
Danyilevska Asia, Abashkin Maksym. DEVELOPMENT OF THE HOTEL AND RESTAURANT BUSINESS IN UKRAINE DURING WARTIME: FOCUS ON HOTEL SECTOR TRANSFORMATION	55
Denysenko Mykola, Breus Svitlana, Levchenko Oleksandr. THE PARADIGM OF INNOVATION DEVELOPMENT MANAGEMENT IN THE CONTEXT OF ENHANCING ECONOMIC SECURITY AND SUSTAINABILITY	57
Dergach Marharyta, Koldov Vladyslav. PROSPECTS FOR THE USE OF VIRTUAL CONVERSATIONAL AGENTS IN DEVELOPING COMMUNICATIVE ACTIVITY OF ADOLESCENTS WITH AUTISM SPECTRUM DISORDER	58
Derzhak Nataliia. MANAGEMENT INFLUENCE ON THE IMPLEMENTATION OF ORGANIZATIONAL SUSTAINABLE DEVELOPMENT MODELS	59
Didenko Anastasiia. THE IMPACT OF NON-FINANCIAL REPORTING ON THE INVESTMENT ATTRACTIVENESS OF ENTERPRISES	60
Dokienko Larysa. STRATEGIC GUIDELINES FOR THE FINANCIAL AND ECONOMIC TRANSFORMATION OF TRANSPORT ENTERPRISES IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT	62
Dyachenko Lidiya, Sadula Lyubomira. EVOLUTION OF CONSUMER BEHAVIOR IN THE MARKET OF GOODS AND SERVICES IN THE MODERN ECONOMIC CONDITIONS	63
Dykha Mariia, Dykha Valerii, Matiukh Serhii. MACROECONOMIC TRANSFORMATIONS OF UKRAINE AND POLAND UNDER CONTEMPORARY TURBULENT CONDITIONS	65
Dykoi Rostyslav. SOCIO-INFORMATIONAL FOUNDATIONS OF CREATIVE INDUSTRIES DEVELOPMENT IN THE CONTEXT OF THE GREEN ECONOMY TRANSITION	67
Dzhus Mykhailo. RETHINKING NBU'S MONETARY POLICY FOR ADDRESSING NATIONAL PRIORITIES	68
Dziubin Semen. YOUTH-LED INITIATIVES AS A DRIVER FOR SUSTAINABLE URBAN DEVELOPMENT: THE CASE OF "OPEN CITY" PROJECT	69
Espinoza Jorge Villasmil. PHILOSOPHY OF TOLERANCE AND EQUALITY IN THE CONTEXT OF DIGITALIZATION	71
Emmas Daria, Korohodova Olena. TRANSNATIONAL CORPORATIONS: DRIVING TECHNOLOGY, BUSINESS EXPERIENCE, AND SUSTAINABLE DEVELOPMENT	72
Fytsak Ivan, Shepel Tetiana. DROPSHIPING AS A FORM OF ELECTRONIC BUSINESS	73
Gorska Magdalena. ENERGY AND SOCIAL SECURITY ISSUES OF POLAND IN THE CONDITIONS OF DIGITALIZATION	74

Gerasyimiv Zoryana. THE ECONOMY OF SUSTAINABLE TOURISM AND ITS ROLE IN REGIONAL DEVELOPMENT	75
Goletiani Ketevan, Gechbaia Badri, Apkhazava Tengiz, Abashidze Giorgi. SUPPORTING THE SUSTAINABLE DEVELOPMENT OF THE BLACK SEA COASTAL ZONE IN THE CONTEXT OF COMPETITIVE ADVANTAGE	77
Gerchanivska Svitlana. RURAL DEVELOPMENT MANAGEMENT OF TERNOPIL REGION	77
Gorski Tomasz. PUBLIC MANAGEMENT SYSTEM FOR SMALL BUSINESS DEVELOPMENT IN POLAND IN THE CONDITIONS OF DIGITALIZATION	79
Girchenko Tetiana. DIGITAL TRANSFORMATION OF MARKETING IN THE MODERN COMPETITIVE ENVIRONMENT	80
Gurova Darya. ECONOMIC PRINCIPLES OF SUSTAINABLE TOURISM DEVELOPMENT IN POST-WAR UKRAINE	81
Gechbaia Badri. SMART MANAGEMENT AND SOCIAL INNOVATION FOR SUSTAINABLE AND COMPETITIVE REGIONS (THE CASE OF GEORGIA)	83
Haber Anna, Shepeliuk Vira. AUDITING AND FRAUD PREVENTION AS A CORNERSTONE OF SUSTAINABLE DEVELOPMENT	84
Hertsun Oleksandra, Chorna Tetiana. THE ROLE OF LABELLING IN THE FOOD PRODUCT TRACEABILITY SYSTEM FOR SUSTAINABLE CONSUMPTION	85
Hessen Anatol, Khanina Olena. SOCIO-ECONOMIC STRATEGIES FOR ENGAGING LOCAL COMMUNITIES IN SUSTAINABLE DEVELOPMENT THROUGH TOURISM	87
Hishchak Ostep. IT OUTSOURCING AS A COMPONENT OF THE ECONOMIC ARCHITECTURE OF SUSTAINABLE BUSINESS DEVELOPMENT	88
Hlushchenko Yaroslava, Chernenko Natalya, Korohodova Olena. RESILIENCE AND INCLUSIVENESS OF LOCAL COMMUNITIES AS A FACTOR OF NATIONAL AND REGIONAL SECURITY: THE UKRAINIAN-POLISH DIMENSION	90
Hryshkovets Volodymyr, Nazarenko Maryna . DEMOGRAPHIC GROWTH AND ITS IMPACT ON SUSTAINABLE DEVELOPMENT GOALS	91
Humeniuk Alla. FEATURES OF THE DEVELOPMENT OF DIGITAL MARKETING AT THE CURRENT STAGE	92
Hovhannisyan Hasmik. MACROECONOMIC SECURITY IN REGIONAL SUSTAINABLE DEVELOPMENT	94
Hurska Iryna. ORGANIZATIONAL AND ECONOMIC ASPECTS OF THE FUNCTIONING OF AGRICULTURAL ENTITIES UNDER MARTIAL LAW	95
Ihnatieva Viktoriia. INFORMATION SUPPORT FOR TERRITORIAL IMPROVEMENT PLANNING	96
Illiakhova Maryna. PROFESSIONAL CREATIVITY OF A MANAGER IN THE PROCESS OF INNOVATIVE DEVELOPMENT OF AN ENTERPRISE	98
Jun MoonSeog. INFORMATION TECHNOLOGIES FOR IMPLEMENTING COMMUNICATIONS IN ENTERPRISES	99
Kashpur Sofiia, Smolennikov Denys. APPROACHES TO RISK ASSESSMENT IN THE MANAGEMENT OF SUSTAINABLE DEVELOPMENT PROJECTS IN STATE-OWNED ENTERPRISES	100
Kazak Oksana. EVOLUTION OF DIGITAL TRANSFORMATION PROCESSES IN UKRAINE AND THE EU UNDER THE IMPACT OF WAR	102
Kharchenko Bohdan. FORMATION AND DEVELOPMENT OF THE ENTERPRISE COMPETITIVENESS MANAGEMENT SYSTEM IN THE CONTEXT OF SUSTAINABLE ECONOMIC DEVELOPMENT	104
Khliivnenko Maksym, Lukianova Valentina. SUSTAINABLE DEVELOPMENT OF RURAL COMMUNITIES IN UKRAINE AND POLAND: PROBLEMS AND THREATS	105
Khobta Mykhailo, Hrykun Tetiana. FINANCIAL AND ECONOMIC ASPECTS OF ENSURING SUSTAINABLE DEVELOPMENT	106
Khoma Svitlana, Siedlovska Olha. PROFESSIONAL JUDGMENT IN ACCOUNTING: THEORETICAL BOUNDARIES AND ETHICAL RESPONSIBILITY OF THE ACCOUNTANT	108
Kichurchak Marianna. ENTREPRENEURIAL RESILIENCE FOR SUSTAINABLE DEVELOPMENT IN WARTIME UKRAINE: ECONOMIC EVIDENCE FROM THE INFORMATION AND COMMUNICATION SECTOR	109
Klymenko Viktoriia, Yeroshenko Oleksandr, Proskurka Mykola. ENSURING INCLUSIVITY AT UKRAINIAN AIRPORTS IN THE POST-WAR PERIOD AS A FACTOR OF AIR TRANSPORT SUSTAINABLE DEVELOPMENT: SOCIO-ECONOMIC ASPECTS	110
Kolinsnichenko Paulina. ENSURING ECONOMIC STABILITY THROUGH INCREASING THE INNOVATIVE ATTRACTIVENESS OF REGIONS	112
Kochkodan Volodymyr, Maslii Nazarii. METHODOLOGICAL APPROACHES TO MANAGING THE FINANCIAL SUPPORT OF SUSTAINABLE DEVELOPMENT OF CONSTRUCTION INDUSTRY ENTERPRISES	113
Koliada Tetiana, Prozorov Yuriy. FINANCIAL PROVISION OF SUSTAINABLE DEVELOPMENT OF COMMUNITIES IN THE CONDITIONS OF DECENTRALIZATION AND DIGITALIZATION	114
Kopytko Marta. DEVELOPMENT OF SOFT SKILLS AMONG POLICE OFFICERS AS A FACTOR INFLUENCING UKRAINE'S EUROPEAN INTEGRATION PROCESSES	115
Korsunska Victoriia. FEATURES OF COMMUNICATION IN A NEW ENVIRONMENT	117
Komarowski Eligiusz Piotr. FEATURES OF THE FUNCTIONING OF LOCAL SELF-GOVERNMENT IN RURAL DISTRICT	118
Korzhenivska Nataliia, Ponomarenko Yevhenii. RENEWABLE ENERGY AS A SYSTEM-FORMING ELEMENT OF REGIONAL ECONOMIC SECURITY	119
Kostylov Illia, Baldzhy Maryna. FINANCIAL PLANNING AND COST CONTROL TO ENSURE SUSTAINABLE DEVELOPMENT OF ENTERPRISES IN THE AGRICULTURAL SECTOR OF THE ECONOMY	120
Kovalenko Liubov. TRANSFORMATION OF THE RESTAURANT INDUSTRY OF UKRAINE UNDER CRISIS CHALLENGES	121
Kovalenko Mykola. FINANCIAL AND ECONOMIC ASPECTS OF THE DEBTOR'S RECOVERY AND DEVELOPMENT IN THE PROCEDURE FOR DISPOSAL OF THE DEBTOR'S PROPERTY	123
Krakovska Ewa. PRIMARY TEACHER TRAINING IN THE CONDITIONS OF ACTIVE IMPLEMENTATION OF NEW DIGITAL PLATFORMS	124
Kovalenko-Chukina Iryna. LEGAL FOUNDATIONS OF DIGITAL TRANSFORMATION IN PUBLIC ADMINISTRATION AS A FACTOR OF SUSTAINABLE DEVELOPMENT	125
Krushynska Oksana, Andriienko Mariia. FINANCIAL INSTRUMENTS FOR STIMULATING SUSTAINABLE DEVELOPMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES	126
Krynitsia Sergii. SOURCES OF FINANCING FOR THE DIGITAL TRANSFORMATION OF THE FINANCIAL SYSTEM IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT: INTERNATIONAL EXPERIENCE AND UKRAINIAN REALITIES	127
Kucher Viktoriia, Lev Mykola, Sadula Lubomira. SUSTAINABLE DEVELOPMENT IN THE SPHERE OF HEALTHCARE AND ITS REFLECTION IN THE MARKETING STRATEGY OF McDONALD'S	129
Kuryshko Roman. FINANCIAL AND ECONOMIC MECHANISMS FOR THE IMPLEMENTATION OF INNOVATIONS IN THE MANAGEMENT OF LAND MANAGEMENT ENTERPRISES	130
Kuznietsov Kostiantyn. RISKS TO MEETING CONVERGENCE CRITERIA IN SELECT EU MEMBER STATES IN THE CONTEXT OF CONTEMPORARY GEOPOLITICAL AND ECONOMIC CHALLENGES	131
Leontieva Tetiana. THE IMPORTANCE OF A TEACHER'S SOCIAL COMPETENCE FOR SUSTAINABLE DEVELOPMENT	133
Likhonosova Ganna, Galashko Stanislav. CORPORATE SOCIAL RESPONSIBILITY FINANCING MODEL	133
Litynska Valentyna. FEATURES OF CONSUMER BEHAVIOR OF GENERATION Z IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT: INFORMATIONAL AND MARKETING ASPECTS	135
Liudovyk Daniil. INTERNATIONAL LOGISTICS NETWORKS FOR ENSURING SUSTAINABLE DEVELOPMENT	136
Lopatovska Oksana. MANAGEMENT OF BANK LIABILITIES AS A COMPONENT OF THE SUSTAINABLE DEVELOPMENT MECHANISM AND IMPROVING THE QUALITY OF FINANCIAL ANALYSIS	138
Lozinska Liubov. IMPACT OF CHANGES IN THE CONSULTING ENVIRONMENT ON ECONOMIC DEVELOPMENT	139
Lozinska Liubov, Sawchouk Tetiana. SPECIFIC FEATURES OF CROSS-CULTURAL COMMUNICATION IN MARKETING CONSULTING UNDER CONDITIONS OF SUSTAINABLE DEVELOPMENT	140

Lukowski Karol. THE IMPORTANT ROLE OF THE SOCIAL ECONOMY AS A METHOD FOR PREVENTING SOCIAL EXCLUSION	141
Madryha Denys. EFFICIENCY OF CONCENTRATED FEED USE IN AGRICULTURE: ANALYTICAL ASSESSMENT AND IMPROVEMENT PATHWAYS	142
Pérez Murillo María Dolores. PROBLEMS IN THE HUMAN RIGHTS PROTECTION SYSTEM IN SPAIN	144
Martyn Orest. THE IMPORTANCE OF THE ROLE OF THE RULE OF LAW IN THE FORMATION AND DEVELOPMENT OF THE RULE OF LAW	145
Maliar Stanislav. HOUSING PROVISION AS A COMPONENT OF SUSTAINABLE DEVELOPMENT IN UKRAINE DURING WARTIME AND POST-WAR RECONSTRUCTION	145
Matusiak Maciej. THE ROLE AND IMPORTANCE OF THE NATIONAL BANK IN CURBING INFLATIONARY PROCESSES IN EU COUNTRIES	147
Mamontova Nataliya, Antoniuk Olena. MANAGEMENT OF FINANCIAL RESOURCES OF ENTERPRISES IN THE CONDITIONS OF SUSTAINABLE DEVELOPMENT	148
Martynenko Valentyna. SUSTAINABLE REGIONAL DEVELOPMENT OF UKRAINE: PROBLEMS AND PROSPECTS OF FINANCING UNDER MARTIAL LAW	149
Matrosova Victoria. CORPORATE CULTURE INFLUENCE ON THE ENTERPRISE ECONOMIC DEVELOPMENT	151
Manczak Anna. SOCIAL SECURITY IN MODERN SCHOOLS IN EU COUNTRIES	152
Mesnikovych Iryna, Undir Vitalii. METHODOLOGY OF FINANCIAL STATEMENT PREPARATION, ANALYSIS, AND AUDIT OF ITS INDICATORS: FINANCIAL AND ECONOMIC ASPECTS OF SUSTAINABLE DEVELOPMENT PROVISION	153
Maj Julian. THE IMPACT OF POLAND'S ENTRY INTO NATO ON ITS NATIONAL SECURITY	154
Mialiuk Oksana, Konoshchuk Ruslana, Ostapchuk Olha. ECONOMIC JUSTIFICATION FOR IMPLEMENTING LABORATORY MONITORING OF THE POPULATION'S NUTRITIONAL STATUS TO PREVENT CHRONIC DISEASES	155
Mikolajczak Stanislaw. THE ESSENCE AND CONTENT OF POLITICAL SECURITY IN TODAY'S CONDITIONS	156
Myronchuk Yurii. INCLUSIVENESS OF INSURANCE SERVICES IN THE UKRAINIAN LIABILITY INSURANCE MARKET	157
Myroniuk Ivan. SOCIO-INFORMATIONAL FOUNDATIONS OF SUSTAINABLE DEVELOPMENT PLANNING IN JAPAN	158
Myslik Andrii. ENVIRONMENTAL ASPECTS OF ENSURING SUSTAINABLE DEVELOPMENT	160
Mihus Iryna. ARTIFICIAL INTELLIGENCE AND ADVANCED ANALYTICS IN CORPORATE FRAUD DETECTION AND FINANCIAL RISK MANAGEMENT: FROM REACTIVE CONTROL TO PREDICTIVE GOVERNANCE	161
Nechyporenko Alina. THE IMPACT OF STATE FINANCIAL POLICY ON ACHIEVING SUSTAINABLE DEVELOPMENT GOALS	163
Nikolchuk Yuliia. THE STOCK MARKET IN THE DIGITAL ERA: DRIVERS OF SUSTAINABLE DEVELOPMENT	165
Novruzoglu Aydin. UNIVERSITY COOPERATION IN THE EU COUNTRIES AND BEYOND ITS BORDERS IN TODAY'S CONDITIONS	166
Nosatov Igor. BIG DATA AND ANALYTICS FOR FORECASTING AND PLANNING SUSTAINABLE ENTERPRISE DEVELOPMENT	167
Novalska Nadiia. EUROPEAN INTEGRATION IMPACT ON SOCIO-ECONOMIC ASPECTS OF GREENING TRANSPORT ENTERPRISES	168
Oleksienko Roman, Nesterenko Valeriia. IMPORTANCE OF SOCIAL-ETHICAL ANALYSIS OF ORGANIZATION'S LIFE CYCLE FOR RISK MANAGEMENT IN THE PROCESS OF SUSTAINABLE DEVELOPMENT	169
Oskoma Olena. ANTI-CRISIS FINANCIAL MANAGEMENT AS A FACTOR OF SUSTAINABLE ENTERPRISE DEVELOPMENT	171
Oliinyk Andriy. INVESTMENTS IN MARKETING STRATEGY TO INCREASE COMPETITIVENESS	172
Ostryanina Svitlana, Kornilo Yevgen, Lugovyi Maksym. FORMING A MECHANISM FOR ENTERPRISE RESILIENCE: SYNERGY BETWEEN MOTIVATIONAL MANAGEMENT AND SECURITY STRATEGIES	173
Ostryanina Svitlana, Zhaloba Tetyana, Puhlo Dmytro, Levchenko Oleksandr. FORMULATING A STRATEGY FOR DEVELOPING THE LOGISTICS SYSTEM OF NIBULON IN CONDITIONS OF CRISIS UNCERTAINTY	174
Pityn Marian, Kryshchanovych Svitlana. THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE OLYMPIC GAMES	175
Pazieceva Anna. ESG INDICATORS AS THE BASIS FOR MANAGERIAL DECISION-MAKING IN MODERN ORGANIZATIONS	176
Pomicinski Adam. MODERN FEATURES OF THE DEVELOPMENT OF ANTHROPOLOGY AS A SCIENCE	178
Payenok Andriy. E-VETERAN AS A TOOL FOR MODERNIZING STATE MEDICAL AND SOCIAL SECURITY FOR VETERANS IN UKRAINE	179
Perevozova Iryna, Malynka Oksana, Burachok Oksana. THE IMPACT OF DIGITAL MARKETING COMMUNICATION CHANNELS ON PROMOTING SUSTAINABLE DEVELOPMENT INITIATIVES AMONG YOUTH	181
Perevozova Iryna, Melnyk Natalia. THE IMPACT OF THE SERVICE SECTOR ON THE TRANSFORMATION OF THE MODERN ECONOMY IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT	182
Perevozova Iryna, Morozova Olena. CONCEPTUAL PRINCIPLES FOR THE IMPLEMENTATION OF ECONOMIC EXPERTISE IN THE STRUCTURE OF THE NATIONAL ECONOMY OF UKRAINE WITH AN ORIENTATION TOWARD THE SUSTAINABLE DEVELOPMENT GOALS	183
Przybyl Justyna. THE POWER OF THE NEGOTIATION PROCESS IN THE ACTIVITIES OF MODERN POLICE	185
Petiushenko V., Hlushchenko Y. FISCAL AUTONOMY AS A KEY FACTOR FOR SUSTAINABLE DEVELOPMENT OF REGIONS IN UKRAINE	186
Plotnikov Oleksiy. SUSTAINABLE DEVELOPMENT IN THE CONTEXT OF FRAGMENTATION OF THE WORLD ECONOMY	187
Popadynets Vasyl, Chorna Tetiana. DIVERSIFICATION OF EXPORT MARKETS FOR ENTERPRISES IN THE FLOUR MILLING AND CEREAL INDUSTRY AS A FACTOR IN THE STABILITY OF THE SECTOR	189
Posilkina Olga, Litvinova Olena. REENGINEERING OF BUSINESS PROCESSES IN HEALTHCARE INSTITUTIONS AS THE BASIS OF THEIR SUSTAINABLE DEVELOPMENT	190
Prisnyakova Lyudmyla, Zotova Anna. UNIVERSAL CORPORATE INTERACTION CODE AS A SOCIO-INFORMATIONAL BASIS FOR SUSTAINABLE DEVELOPMENT AND A PSYCHOLOGO-LEGAL TOOL FOR PREVENTING CROSS-CULTURAL CONFLICTS	191
Proskurovych Oksana. ANALYTICAL EVALUATION OF THE RESULTS OF THE ACTIVITY OF AN ENTREPRENEURSHIP SUBJECT USING COMPUTER TECHNOLOGIES	192
Protas Rostislav, Ponochovnyi Yuriy. APPLICATION OF MACHINE LEARNING ALGORITHMS IN FORECASTING ECONOMIC INDICATORS FOR SUSTAINABLE SUPPLY CHAIN MANAGEMENT	194
Prymushko Darya, Kaminskyi Serhii. MANAGEMENT OF ACCOUNTS PAYABLE	195
Purdenko Olena. INNOVATIVE FINANCIAL INSTRUMENTS IN THE ECONOMY FOR ENSURING SUSTAINABLE DEVELOPMENT: THE ROLE OF GREEN TECHNOLOGIES AND FINTECH	197
Remizova Olesia, Bespalova Olena. STANDARDIZED ANATOMICAL TERMINOLOGY AS THE BASIS FOR SUSTAINABLE DEVELOPMENT OF MEDICINE	198
Rohiv Mariia. THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT IN MODERN ECONOMIC SCIENCE	199
Roieva Olha. PROSPECTS FOR IMPROVING THE TAXATION SYSTEM FOR BUSINESS ENTITIES IN UKRAINE	200
Roieva Olha, Kostylev Matvii. COST CONTROL: TOOLS FOR INCREASING TRANSPARENCY AND JUSTIFICATION OF COST CALCULATION	202
Romanovska Yuliia. STRATEGIC DIRECTIONS FOR THE DEVELOPMENT OF SOCIO-ECONOMIC SECURITY OF CITIES (EUROPEAN EXPERIENCE)	203
Rozaronova Anastasiia, Kaminskyi Serhii. RISKS OF INSOLVENCY OF ENTERPRISES DURING WARTIME AND FINANCIAL MECHANISMS OF ACCOUNTS RECEIVABLE MANAGEMENT	204
Rumiantsev Anatolii, Kovbych Tetiana. DIRECTIONS OF REGULATORY ENSURANCE OF THE USE OF ARTIFICIAL INTELLIGENCE ON THE EUROPEAN LABOR MARKET	207
Ruprich Małgorzata. SUSTAINABLE DEVELOPMENT AS A COMMUNICATION CHALLENGE IN THE CONTEXT OF NEUROMARKETING	

AND BEHAVIORAL PROFILING	208
Rybak O., Popovych O. TAX INCENTIVES FOR GROWTH IN THE PASSIVE INCOME OF UKRAINIAN HOUSEHOLDS	210
Svysheh Yaroslav, Kryshchanovych Svitlana. DIGITALIZATION OF THE ATHLETICS COMPETITION SYSTEM	211
Sahaidak Iryna. DIGITALISATION OF GMP PROCEDURES AND CORPORATE SOCIAL RESPONSIBILITY	212
Salamini Oksana, Solomonko Dmytro. SUSTAINABLE DEVELOPMENT OF THE AGRICULTURAL MARKET AS A FACTOR OF ECONOMIC STABILITY	213
Sylkin Oleksandr. UNIQUE OPPORTUNITIES TO INCREASE WORK EFFICIENCY AT AN ENTERPRISE THROUGH THE IMPLEMENTATION OF A TIME MANAGEMENT SYSTEM	215
Sanchenko Alevtyna. TOWARDS RESPONSIBLE BUSINESS CONDUCT IN UKRAINE: SUSTAINABLE FINANCIAL SERVICES IN A NEW ECONOMIC AND LEGAL PARADIGM	216
Serdiuk Sofia, Hlushchenko Yaroslava. PROSPECTS FOR THE INTRODUCTION OF A MECHANISM FOR ISSUING 'GREEN' BONDS IN UKRAINE	218
Serdiuk Sofia, Hlushchenko Yaroslava. UKRAINE'S INTERNATIONAL IMAGE IN INCREASING INVESTMENT ATTRACTIVENESS	219
Szerer Oskar. MANAGEMENT OF NON-CURRENT ASSETS IN THE CONTEXT OF DIGITALIZATION	220
Shendryhorenko Maryna. THE ROLE OF THE ACCOUNTING SYSTEM IN THE FINANCIAL AND ECONOMIC SUPPORT OF SUSTAINABLE DEVELOPMENT OF ENTERPRISES IN THE CONTEXT OF A TRANSFORMATIONAL ECONOMY	221
Shevchenko Mykhailo. FORMATION OF AN EFFECTIVE MECHANISM FOR THE DEVELOPMENT OF HUMAN CAPITAL IN UKRAINE BASED ON THE EXPERIENCE OF THE WESTERN EUROPEAN MODEL	222
Shevchenko Nataliia. PROSPECTS FOR THE APPLICATION OF SMART TECHNOLOGIES IN FINANCIAL MANAGEMENT OF ENTERPRISES	223
Sylkina Maryna. CLINICAL DECISION-MAKING UNDER TIME PRESSURE IN PREHOSPITAL RESCUE MEDICINE	225
Shvets Alina. SUSTAINABLE DEVELOPMENT FOR RECONSTRUCTION OF UKRAINE	226
Sobczyk-Kolbush Anna. SUSTAINABLE DEVELOPMENT AS A STRATEGIC MANAGEMENT IMPERATIVE	228
Solovei Iryna. ECONOMIC MECHANISMS FOR THE FORMATION OF SUSTAINABLE DEVELOPMENT IN THE TOURISM SECTOR	229
Somochkina Tetiana. INTEGRATION OF THE SUSTAINABLE DEVELOPMENT CONCEPT INTO THE ACCOUNTING AND ANALYTICAL SYSTEM FOR MANAGING THE ECONOMIC POTENTIAL OF AGRICULTURAL ENTERPRISES	231
Tubishat Bassam Mustafa Abdel-Rahman. LEGAL REGULATION OF ELECTRONIC COMMERCE IN JORDAN	232
Tsetskhladze Sophiko. THE ROLE OF SOCIAL POLICY IN PENSION PROVISION	233
Vidovic Jorge. CRITICAL THINKING AND HISTORICAL ANALYSIS AS KEY METHODS OF MODERN SCIENCE	234
Verniuk Nataliia. METHODOLOGICAL ASPECTS OF EVALUATING THE EFFECTIVENESS OF MARKETING MANAGEMENT IN AGRICULTURAL ENTERPRISES IN THE CONTEXT OF ENSURING THEIR SUSTAINABLE DEVELOPMENT	235
Yashchuk Tetiana. PROJECT MANAGEMENT AS THE BASIS FOR INNOVATIVE DEVELOPMENT OF HIGHER EDUCATION INSTITUTIONS	237
Zieba Piotr. SECURITY ASPECT WHEN HOLDING OPEN MASS EVENTS	238

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PROTECTION OF HUMAN RIGHTS IN THE MIGRATION POLICY OF AMERICAN COUNTRIES

The protection of human rights in the migration policy of the countries of the Americas is formed at the intersection of two logics, state security and universal rights and freedoms. In this region, not only national constitutional guarantees are important, but also inter-American mechanisms, in particular the institutions of the Organization of American States, which set the framework for non-discrimination, access to justice, the prohibition of collective expulsion, the protection of family life and special guarantees for children. The practical dimension of this protection is manifested in the procedures for granting asylum and other forms of protection, in the rules of reception at the border, in the requirements for translation and information, in access to a lawyer, as well as in the provision of basic social rights when a person is already in the territory of the state. In many countries of the Americas, a human rights approach is declared as part of state policy, but the quality of implementation depends on the existence of independent supervision, judicial control and effective tools for appealing the decisions of migration authorities, especially in cases of detention, return or refusal of entry [1]. When looking at migration policy instruments in the Americas, the most acute human rights risks are usually associated with practices of control and coercion. These include the detention of migrants, conditions of detention, the length of procedures, limited access to legal aid, and expedited case processing processes in which it is difficult for an individual to fully demonstrate the risk of persecution or other harm. At the same time, the region is developing alternatives to detention, temporary residence permit programs, humanitarian admission mechanisms, family reunification procedures, and the protection of unaccompanied minors. The Canadian experience is often analyzed as an example of how policy decisions on “irregular arrivals” can quickly change the balance between guarantees and restrictions, in particular by expanding the grounds for mandatory detention and introducing categorizations that affect the speed and fairness of case processing.

Current trends in America demonstrate that human rights in migration policy are increasingly being tested “for strength” due to mixed flows, transit routes, the activities of criminal networks, the growth of climate-related displacement, and periodic crises such as pandemics. In such conditions, social rights, access to health care, minimum standards of social protection, and the prohibition of discrimination based on citizenship or migration status become particularly important.

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THE ROLE OF INVESTMENTS IN SUSTAINABLE TOURISM AS A DRIVER OF REGIONAL DEVELOPMENT

Tourism is a capital-intensive sector that requires long-lived assets (transport, accommodation, attractions) and is deeply embedded in local economies. When investment decisions internalize environmental and social constraints, tourism becomes a tool for sustainable regional development

rather than a source of leakage and degradation. The OECD argues that policy should aim not only to increase investment quantity but to improve the quality of investment so that it supports sustainable and inclusive growth [1, c. 8].

Investments in accommodation, visitor infrastructure and protected-area management increase local productive capacity and stimulate demand for local goods and services. The World Bank shows that sustainable tourism projects can channel revenue to local communities, support MSMEs, and stimulate backward and forward linkages in food, transport, and craft sectors-raising regional value added [3, c. 4]. Capital formation in tourism generates a range of jobs - from low-skill service work to specialized management of conservation and cultural assets. Investment that pairs physical assets with skills training raises labor productivity and wage premia over time; OECD evidence highlights the need for investment in human capital to future-proof tourism workforces, especially for green and digital transitions [1, c. 10–11]. Well-designed public investments (e.g., access infrastructure, destination marketing, regulatory reform) can crowd in private capital by reducing risk and improving expected returns. UNCTAD's guiding principles note that public enabling frameworks are essential to attract quality private investment aligned with sustainability objectives [2, c. 17–21].

Roads, sustainable transit, waste management and resilient energy systems are necessary pre-conditions for tourism that benefits whole regions. The OECD documents a range of policy levers (incentives, land-use clarity, public-private partnerships) that governments can deploy to make such investments effective and inclusive [1, c. 32–35]. To mobilize investment for small-scale, community-led sustainable tourism projects, innovative finance - microcredit, blended concessional finance, guarantees and green bonds - can bridge viability gaps. The World Bank and UN bodies highlight blended-finance mechanisms as practical ways to scale nature-based and cultural-heritage projects while safeguarding local benefits [3, c. 12–16]; [2, c. 9–12]. Because a large portion of tourism activity is delivered by micro and small enterprises, investments in MSME capacity (digitalization, product development, certification) multiply the sectoral benefits across regions; OECD case studies show MSME support as central to diffusing economic gains [1, c. 61–63].

Robust project appraisal is necessary to ensure that investments deliver additional, regionally-relevant benefits (job creation, value retention, resilience). The World Bank stresses the importance of indicators and monitoring frameworks to capture both economic and non-market benefits of sustainable tourism - e.g., multiplier effects, local income shares and avoided environmental costs [3, c. 7–9]. Empirical studies confirm the positive link between infrastructure/investment in sustainable practices and regional income growth: one recent empirical analysis finds that infrastructure investment and sustainable practice adoption significantly increase regional income and MSME revenues [5, c. 110–116].

Risks, trade-offs and governance challenges: 1. Over-investment: Excessive and unplanned investments can lead to overcapacity and environmental damage, reducing long-term regional benefits. The OECD recommends zoning and carrying-capacity controls to manage these risks [1, p. 246–251]. 2. Revenue Leakage: Foreign-dominated investments may result in significant leakage of tourism revenues. Evidence from the World Bank shows that local procurement and revenue-sharing help retain value within regions [4, p. 2–6]. 3. Financing Gaps: Small and community-based projects often lack access to finance. The OECD and UNCTAD highlight the need for tailored financial instruments and capacity building to support such initiatives [1, p. 62]; [2, p. 14–16].

The investments in sustainable tourism can be a powerful lever for regional transformation - if they are designed to be quality investments: aligned with sustainability principles, structured to retain local value, and supported by enabling public policy. The evidence and policy guidance from multilateral agencies and empirical studies converge on the need for integrated strategies that combine finance, governance and capacity building to convert tourism capital into durable regional development gains.

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E-COMMERCE AS A KEY BASIS OF MODERN LEGAL BUSINESS

E-commerce as the basis of modern legal business is that it combines sales, customer communication, payment, logistics and documentation of operations in a single digital process. For an entrepreneur, this means the ability to build a sales market not only around the point of sale, but around a system that works constantly, collects demand data, supports personalized offers, automates order processing and ensures predictability of cash flows. Legality in this context is not limited to the fact of business registration, it includes correct public terms of sale, transparency of prices and delivery, availability of return rules, confirmation of payment, correct record-keeping and fulfillment of obligations to the consumer. E-commerce makes these requirements more “visible”, because each action is recorded in the system, and therefore, the company gets the opportunity to build quality control of service and internal compliance in such a way as to reduce the risk of disputes and fines even before the problem becomes public. A separate block of issues concerns taxes and cross-border sales, where e-commerce is particularly demanding on discipline. Even a small online store selling outside its country faces taxation rules in the country of consumption, customs clearance, responsibility for the correctness of data in declarations, as well as control over tax evasion. A study on the new value added tax rules in the European Union highlights that the changes that came into effect on July 1, 2021, were aimed at overcoming the problem of value added tax evasion when importing small consignments, as well as simplifying procedures for market participants, while at the same time creating new challenges for customs authorities and control in supply chains.

For legitimate businesses, this means that investments in e-commerce should include not only marketing and a platform, but also a tax model, the right customer documentation, procedures for confirming the value of goods, interaction with postal and courier operators, and readiness for inspections. In digital sales, a company almost always processes personal customer data, such as contact details, delivery addresses, purchase history, and sometimes payment instrument data through payment providers, so compliance with requirements such as the General Data Protection Regulation is becoming a practical necessity. Research in the Journal of Cybersecurity and Privacy shows that strengthening data protection regulations and implementing organizational and technological approaches, in particular focusing on minimizing the exchange of personal data and using privacy-enhancing technologies, are seen as a way to reduce risks and restore consumer trust in e-commerce [1].

As a result, e-commerce for legal businesses becomes not just a sales channel, but a system where legal requirements for transparency, taxes, security, and data protection are integrated into the operating model, and it is this integration that creates a long-term competitive advantage.

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INNOVATIVE INVESTMENTS TO ENSURE SUSTAINABLE DEVELOPMENT OF THE EUROPEAN UNION COUNTRIES AND UKRAINE

At the current stage of global economic development, investment in innovation is becoming increasingly important as a key determinant of a nation's national competitiveness and economic growth. Innovation is the source of new and improved products, services and processes that can open up new markets and opportunities. The concept of a Common Innovation Area in Europe emerged as a response to the fragmentation of national innovation systems and the desire to enhance the European Union's global competitiveness. Europe has put innovation at the heart of its efforts for innovative, sustainable and inclusive growth. Europe is actively discussing and implementing policies to strengthen strategic autonomy and resilience. This includes measures such as investment screening, trade defence instruments, and initiatives such as the Net Zero Industry Act to encourage domestic production. The analysis reveals that European innovation spaces are being shaped by global megatrends, including accelerating technological change, climate and energy challenges, significant demographic shifts, and growing geopolitical fragmentation.

Capital and finance are critical to ensuring sustainable development through innovative investments. Access to finance, particularly for startups and high-risk projects (such as deep-tech), remains a persistent challenge for Europe. While public funding (EU programs such as Horizon Europe, EIC, EIB, national agencies) plays a vital role, especially in the early stages of innovation development and supporting strategic directions, mobilising sufficient private capital, especially venture capital, remains a bottleneck compared to competitors such as the US. Research indicates that geopolitical tensions, particularly the war in Ukraine, are causing changes in trade and investment flows, leading to the emergence of concepts such as “de-risking” and “friend-shoring.” Europe faces specific challenges, including an investment gap in deep-tech and strategic sectors, as well as weak links between academia and industry.

A key component of the EU's economic strategy is the European Innovation Area, which aims to strengthen competitiveness through investment in research and development (R&D), patenting and digitalisation. The main assessment tool is the European Innovation Scoreboard (EIS) 2025, which analyses 32 indicators across four dimensions: Framework Conditions, Investments, Innovation Activities and Impacts.

An analysis of the dynamics of Eurostat and EPO data for 2018–2025 was conducted using the time series analysis method (ARIMA model). The dynamics of research and development spending in the EU (R&D spending) are positive. R&D spending increased from 2.08% of GDP in 2013 to 2.22% in 2023 (nominally from €245 billion to €381 billion), with the business sector accounting for 66%. The dynamics of patent applications filed at the EPO are more stable: 199,264 in 2024 (compared to 199,452 in 2023). Of the patent applications filed, the number of applications focused on computer technologies increased by 3.3% in 2024, and on energy by 8.9% compared to 2023. The EU's innovation productivity increased in 2024 by 12.6% compared to 2018, but fell by 0.4% between 2024 and 2025 due to global uncertainties (war in Ukraine, trade frictions). Since 2018, all 27 EU countries have increased their investment in R&D, but the dynamics vary: Estonia by 30.0%, Croatia by 19.4%, and Poland by 18.0%. A drop in 7 indicators (connections -10.1%, innovators -7.5%), an increase in 5 (digitalisation +93.4% in high-speed Internet).

The primary tool for assessing innovation performance is the European Innovation Scoreboard (EIS), which provides a comparative analysis of the national innovation systems (NIS) of the EU member states. According to the Summary Innovation Index (SII), European countries are classified into four groups:

1. innovation leaders (>125% of the EU average): Sweden, Denmark, Netherlands, Finland;
2. strong innovators (100-125%): Ireland, Belgium, Luxembourg, Austria, France, Germany, Estonia;
3. moderate innovators (70-100%): Malta, Slovenia, Italy, Spain, Portugal, Cyprus, Lithuania, Czech Republic, Greece, Croatia;
4. emerging innovators (<70%): Hungary, Poland, Slovakia, Latvia, Bulgaria, Romania, Ukraine.

Innovation is concentrated in Western and Northern Europe, while Eastern and Southern Europe lag. Despite the challenges, there are promising niches where EU countries can be leaders, especially in strategic technologies, as outlined in Horizon Europe 2025 (€7.3 billion investment). These niches include green and digital transformation, as well as specialised sectors, with a focus on AI, biotechnology, clean energy, and defence technologies.

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LEGAL REGULATION OF COMMERCIAL ACTIVITIES AND THE MIDDLE EAST

The legal regulation of commercial activity in the Middle East is formed in conditions of legal pluralism, when the norms of state legislation, judicial practice and, in many countries, the principles of Islamic law operate side by side. This creates different rules for contracts, corporate relations and methods of protecting rights, depending on the jurisdiction, industry and status of the parties. It is important for an entrepreneur to understand that the legal systems of the region are often mixed, combining elements of continental law, Anglo-American tradition and religious norms. In practice, this means that the same business transaction, for example, the distribution of goods or the creation of a joint venture, may have a different level of formalization, different requirements for registration and a different approach to interpreting the terms of the contract [1]. In addition, commercial regulation is influenced by state economic priorities, the role of strategic sectors, as well as the policy of protecting the domestic market, which is sometimes fixed through licensing, localization requirements or special rules for agency and distribution relationships. At the applied level, the legal regulation of commercial activity covers the rules for the establishment and operation of companies, the admission of foreign capital, the registration of trade activities, customs procedures, taxation, consumer protection, competition, as well as the rules for negotiating and concluding contracts. Commercial agency and distribution agreements are a separate node, since in a number of countries they have an increased level of state control, special requirements for registration and special consequences of termination. For foreign companies, this directly affects the market entry models, the choice between direct sales, work through an agent, franchising or the creation of a local structure. The dispute resolution block is no less important, since the commercial practice of the region widely uses arbitration, but the effectiveness of such an instrument always depends on how a particular jurisdiction recognizes an arbitration agreement, how it treats public order and how it executes arbitration awards. That is why the legal design of contracts usually includes a thoughtful choice of law, arbitration regulations, place of arbitration and enforcement mechanisms.

In today's environment, a key trend is the desire of many countries in the region to simultaneously increase their attractiveness to investors and maintain control over sensitive sectors of the economy. This is stimulating reforms of corporate law, business registration tools, digitalization of government services, updating of agency rules, and development of arbitration infrastructure. At the same time, the challenge of fragmentation remains for businesses, when the

rules of different countries, and sometimes different legal regimes within the same country, create additional costs for compliance, verification, and adaptation of contract models. Scientific studies emphasize that differences in the levels and quality of the rule of law at different levels of regulation can increase transaction costs, complicate entry into foreign markets, and require companies to adopt more complex legal risk management strategies. The practical conclusion for entrepreneurs is simple: commercial success in the region often depends not only on the business model, but also on the accuracy of the legal setup, the depth of prior verification, and the ability to choose an effective mechanism for protecting rights in the event of a dispute.

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FACTORS INFLUENCING THE USE OF GENETIC INFORMATION FOR INSURANCE RISK ASSESSMENT

Modern developments in insurance market operations are increasingly shaped by emerging technologies that influence nearly all aspects of insurance relations. Particular attention is drawn to the groups of factors that must be considered when using genetic information to assess insurance risks in life and health insurance [1]. While many highly developed countries have already introduced clear regulatory requirements governing this area of the insurance market [2], Ukrainian legislation still lacks regulatory mechanisms that would establish principles and conditions for the use of human genetic data for underwriting purposes [3]. Moreover, despite the evident advantages of regulating the use of genetic information in life and health insurance risk assessment, numerous challenges remain, stemming from ethical, social, legal, and economic implications [4]. Therefore, to provide a sound theoretical foundation for the effective functioning of insurance markets in Ukraine and beyond, it is essential to analyse the groups of factors that must be taken into account when using genetic information in life and health insurance risk assessment.

International practice demonstrates that insurance companies have long relied on family medical history – also a component of an individual’s genetic information – for underwriting, even before genetic test results began to be incorporated into life and health insurance risk assessment [2; 4–5]. However, rapid advancements in genetic research technologies and the growing ability to interpret genetic data have significantly transformed both the insurance market and the set of factors that must be considered when using genetic information for underwriting purposes [6]. The principal groups of factors that should be accounted for when applying genetic information to insurance risk assessment can be formulated as a series of guiding questions, each of which reflects a critical dimension of such analysis [1-6]:

1. What are the age and gender of the insurance applicant?
2. What lifestyle characteristics and environmental conditions affect the applicant?
3. What is the duration of the insurance contract – short-term or long-term?
4. Which specific insurance risks are being assessed: mortality or morbidity?
5. Which categories of diseases are considered in the genetic assessment: monogenic or polygenic?
6. Which type of genetic information serves as the basis for the risk assessment: the applicant’s genetic test results or their family medical history?

Accordingly, when examining the role of genetic information in insurance risk assessment, it is necessary to consider the contextual factors and conditions under which such information is

applied. Even seemingly minor differences between insurance applicants, their genetic data, or the types of insurance products involved may have a considerable impact on the effectiveness and objectivity of using genetic information for underwriting. Current evidence indicates that advancements in genetic research technologies provide an increasingly effective tool for assessing life and health insurance risks.

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APPLICATION OF BUSINESS ANALYTICS TOOLS FOR THE ANALYSIS OF REVENUES AND EXPENDITURES OF BUDGETARY INSTITUTIONS

Currently, under the conditions of full-scale war, the ongoing decentralization reform, and inspections carried out by anti-corruption and audit-control bodies, there is a need for prompt and high-quality analysis of the revenues and expenditures of budgetary institutions. Depending on the type of their activity, budgetary institutions are non-profit organizations that receive funds from local community budgets or state budgets. Since they provide educational, medical, social, and other services, the analysis of their budget use is important [1, p. 133].

The accounting and analysis of budgetary institutions' estimates is a relevant research topic; however, the possibilities of applying modern business analytics tools in the process of monitoring budgetary institutions have not been sufficiently explored.

The main regulatory document that enables the regulation of the revenues and expenditures of budgetary institutions is the Budget Code of Ukraine. An estimate is the main planning financial document of a budgetary institution, which establishes, for the budget period, the authority to receive revenues and distribute budget allocations for assuming budget commitments and making

payments for the institution's performance of its functions and for achieving the results determined in accordance with budget appropriations [2].

The application of business analytics tools for the analysis of revenues and expenditures in budgetary institutions is currently at the development stage. Most budgetary institutions do not yet use the available analytical tools. Business analytics tools, as well as artificial intelligence-based analytical technologies, are applied insufficiently. The reasons for this include the high cost of their implementation and the lack of a sufficient number of specialists with the necessary skills to use such tools. However, despite these difficulties, effective analysis of the budgetary institutions' estimates is considered a strategic task for the coming years.

For the processing of available analytical information, including economic and financial data, spreadsheet tools such as MS Excel and Google Sheets are widely used in modern practice [3], [4, p. 186]. More complex and costly in use are business analytics tools (Business Intelligence) (BI applications). The use of BI applications currently has a number of advantages over more common reports in MS Excel. These advantages include:

- the ability to process large volumes of information;
- automatic updating of information;
- simplified access to analytical data in BI applications;
- visual presentation of results. BI applications offer more advanced tools for presenting results, such as dashboards, charts, graphs, and others;
- public access to results and the possibility of simultaneous editing by several users.

An example of the use of BI applications is the dashboard of local community budget execution created in 2025 on the website of the Ministry of Finance of Ukraine. The use of this dashboard makes it possible to obtain operational information on the financial segment of local budgets; the structure of local budget revenues; the financial results of consolidated local budgets; and the financial resources broken down by local budgets [5]. The information presented in the dashboard is automatically updated and is current.

At the beginning of 2020, a dashboard on budget expenditures for general education was created. This dashboard provides information on expenditures for basic secondary education by region; average expenditures per student; teacher workload; and school student capacity [6].

The relevance of using business analytics in budgetary institutions aligns with the trends reflected in modern scientific research. In particular, the publication on inclusive development of rural areas emphasizes the importance of processing large datasets for a comprehensive assessment of socio-economic processes [7, p. 105-106]. Similar approaches are also reflected in the study by Shelenko D. et al. [8, p. 505], which demonstrates the effectiveness of forecasting tools for decision-making, thereby substantiating the scientific and practical relevance of analytical technologies in the process of planning and controlling budgetary resources.

The use of BI applications has a number of advantages despite the complexity of using them for the analysis of budgetary institutions' estimates. The use of BI applications makes it possible to increase the level of transparency and publicity of information on the activities of budgetary institutions. However, problems arise when BI applications are used. They are mainly utilized by ministries and supervisory bodies that have higher levels of funding. As for the implementation of BI applications at the level of budgetary institutions and users of budget funds, difficulties in their implementation are observed. The reasons for this, as already noted, are the lack of a sufficient number of specialists and the cost of implementation.

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FINANCING SUSTAINABLE DEVELOPMENT IN A RURAL TERRITORIAL COMMUNITY

Sustainable development of rural areas is a key factor for ensuring Ukraine’s economic stability, as rural communities are responsible for food security, form a significant share of export potential, and constitute an essential social environment. Effective mechanisms for financing sustainable development enable rural communities to foster economic growth, improve residents’ quality of life, and implement environmental initiatives [1; 2]. Financing sustainable development in a rural territorial community involves a set of measures aimed at improving the economic, social, and environmental conditions of the territory, ensuring public welfare, and promoting the rational use of available resources, including financial ones.

Sources of financing in Ukraine include: the state budget (grants and subsidies; development programs for rural territories); local budgets (community tax revenues, reserve and stabilization funds supporting local projects); private investments; international aid and grants for environmental, educational, and social initiatives; financial instruments (green bonds; microfinance and loans for local farmers); and public–private partnerships.

Examples of international programs supporting sustainable development in rural communities of Ukraine include U-LEAD with Europe, the United Nations Development Programme (UNDP), and others. For instance, thanks to U-LEAD, several Ukrainian communities have been able to launch sustainable development projects: enhance social infrastructure, improve medical and educational services, and implement effective governance practices [3; 4]. The UNDP, supported by the Global Environment Facility (GEF), implements the innovative project “Promoting Sustainable Livestock and Ecosystem Restoration in Northern Ukraine” [5], thereby enabling the application of socio-ecological-economic principles of sustainable development.

The study of European experience in targeted inter-community cooperation offers rural communities of Ukraine opportunities for implementing similar projects in the future. For example, the practice of forming “community energy cooperatives,” widely used in Spain, could be applied in Ukraine. Through such cooperatives, residents jointly invest in solar, wind, or hydropower, reducing emissions, obtaining cheaper electricity, and increasing energy autonomy [6]. Another example is creating a “green cooperative” within a community that unites residents of a single locality [7]. Such examples illustrate that sustainable development can focus not only on economic growth but also on balancing social, economic, environmental, and institutional dimensions within the rural context. These cases serve as models for implementing sustainable development in which the community itself becomes the owner of energy resources and distributes the benefits among its residents.

Before the full-scale Russian–Ukrainian war, several rural territorial communities in Zakarpattia, Khmelnytskyi, Dnipropetrovsk, Kherson, Kirovohrad, and Poltava regions had successfully implemented similar projects. These initiatives were aimed at achieving energy independence, improving living conditions, meeting basic needs amidst challenges, and developing local businesses. However, military actions, occupation, and shelling across almost the entire territory of Ukraine have led to the destruction of many such innovations.

In Odesa region, energy and climate initiatives – such as solar installations, wind power plants, and biomass use – could be implemented to reduce energy dependence and lower long-term costs. Additional opportunities include the development of local businesses, crafts, and cooperatives (beekeeping, artisan production, handicrafts, tourism), which would create jobs within the community and, accordingly, ensure income generation and reduce the migration of working-age residents from rural areas. In such and other directions, the advantage lies in support from international and donor programs (U-LEAD, DOBRE, etc.), which can provide initial funding, yet long-term success depends on local leadership, resident participation, and their willingness to cooperate.

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TRANSFORMATION OF BUSINESS IN THE CONTEXT OF GLOBALIZATION

Business transformation in the context of globalization is manifested primarily in changing the logic of competition and scaling operations. Companies are increasingly planning to develop not within a single country, but through international value chains, where production, supply, marketing

and service are distributed between different jurisdictions. This provides access to wider markets and resources, but at the same time makes business more sensitive to currency fluctuations, trade barriers, political decisions and regulatory differences. A separate modern factor has been the tendency to partially revise globalization models, when companies rethink the degree of dependence on distant suppliers, diversify logistics and transfer some processes closer to sales markets. In scientific literature, this is often described as a transition to conditions in which economic interdependence is weakened and international business strategies change [1]. The second important line of transformation is associated with digitalization as a response to global competition and the growth of management complexity. In many industries, businesses are changing the way they create value through a shift to data, digital customer engagement, and integrated planning and partner coordination. This is changing cost structures, accelerating decision-making, and enabling faster time to market, but it also increases the risks of cybersecurity, technological dependency, and unequal access to digital resources. Researchers emphasize that digital transformation is a process in which digital technologies drive changes in the environment and organizations respond with strategic decisions, changing value creation trajectories, and overcoming internal barriers.

Companies are forced to simultaneously meet requirements for labor standards, data protection, supply chain transparency, tax rules and competition policies, which can vary significantly between countries. This stimulates the development of compliance, corporate governance, counterparty audit systems and more formalized approaches to partnerships. In parallel, societal expectations for ethical business behavior are growing, and companies are integrating environmental, social and governance practices into strategies to maintain the trust of investors, customers and regulators at a global level. As a result, globalization not only expands opportunities, but also increases the requirements for adaptability, transparency and sustainability of business models, especially in times of geo-economic tension.

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STRATEGIC PATHWAYS FOR GLOBAL BUSINESS TOWARD A CIRCULAR ECONOMY

Ensuring human well being within planetary ecological limits has become a core challenge of contemporary economic development. The prevailing linear model of extraction, production, consumption and disposal accelerates resource depletion and environmental degradation, increasing systemic vulnerability and undermining long term socio economic stability. In response, the circular economy has emerged as a strategic framework aimed at reducing material intensity and strengthening economic resilience through practices such as reuse, repair, remanufacturing and high quality recycling. International analytical assessments highlight the urgency of this transition. Global material extraction has more than tripled over the past five decades and now exceeds 100 billion tons annually, with a further increase of up to 60 percent projected by 2060 in the absence of decisive intervention [1]. Material use accounts for nearly two thirds of global greenhouse gas emissions and over 90 percent of biodiversity loss and water stress, while six of nine planetary boundaries have already been exceeded, confirming the incompatibility of current development trajectories with long term sustainability [2]. Within this context, businesses operate under increasing pressure, while investors and consumers increasingly expect transparent and low impact business practices. Circular strategies allow firms to enhance resilience, increase operational

efficiency and create new forms of value through services, reuse, refurbishment and remanufacturing. At the same time businesses encounter persistent barriers such as [3]: high upfront costs, technological uncertainty, limited market demand for secondary materials, fragmented regulatory frameworks.

In these conditions, three core challenges define strategic development pathways for global business in the transition toward a circular economic model.

First, strategic reorientation toward a sustainable bio transition. Biomass represents a substantial share of global material flows, with 21.5 percent classified as carbon neutral and 2.2 percent as non carbon neutral [4]. Its role in the circular transition remains underestimated, while rapid biomass extraction intensifies land use change and environmental pressures. For business, this necessitates a shift toward regenerative practices and circular bio based value chains, particularly across agriculture, food processing and retail.

Second, strategic decoupling from fossil fuel dependence. Although the relative share of fossil resources has declined, absolute extraction increased to 15.8 billion tonnes in 2023, accounting for 13.3 percent of global material inputs [1]. Fossil fuels continue to supply around 82 percent of global primary energy, and 73 percent of global greenhouse gas emissions [5]. The circular transition therefore requires business investment in energy efficiency, electrification, renewable energy integration and circular design to reduce long term energy and material dependence.

Third, strategic management of material stocks as future resource reservoirs. Material stocks in buildings, infrastructure, vehicles and machinery are a major driver of resource extraction, with 38 percent of extracted materials annually added to long term stocks. The mass of global material stocks has increased twenty three times over the twentieth century and continues to grow alongside urbanization [4]. For business, this challenge translates into extending asset lifetimes, promoting reuse and renovation, and investing in circular design and digital tools that enable future recovery of secondary materials.

Overall, advancing toward a circular economy requires a coherent set of business strategies focused on reducing material intensity and long term resource dependence.

Priorities include limiting material stock growth, extending asset lifetimes, embedding durability and circularity at the design stage, expanding the use of renewable and low impact materials, localizing production where feasible, and optimizing material flows through circular design. These strategic directions strengthen business resilience and competitiveness under increasing resource and environmental constraints.

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ECOSTORY PACKAGING MODEL AS A STRATEGIC TOOL FOR INTEGRATING SUSTAINABILITY AND CONSUMER ENGAGEMENT

The current market is marked by high competition and information overload, so packaging design is no longer just a visual addition and turns into an important tool for attracting attention. It is the design that forms the first impression of the product, affects emotional perception, helps to recognize the brand and understand its values even before interacting with the product. This is especially true in conditions where goods of the same category almost do not differ from each other in terms of functional properties. Eco-friendly design occupies a special place, because the public demand for responsible production and sustainable practices is growing. Brands are introducing recyclable materials, reducing the use of plastic, but these efforts do not always become a real motivator for a purchase. The reason is that consumers often lack clear information about the benefits of such solutions, because in most cases the buyer pays attention not to a separate element, but to its general visual image of the product, which is perceived as a signal of quality, safety and reliability. That's why design improvements often correlate with increased brand credibility, increased purchasing motivation, and willingness to pay more. The problematic point remains that eco-design, despite its popularity and positive attitude of consumers, does not always cause the expected behavioral effect. The reasons for this are: lack of transparency, lack of detailed explanations, overly generalized labeling and poor communication of preferences for the buyer himself.

According to these positions, the EcoStory Packaging Model is considered, which aims to transform eco-design from a formal element into a truly understandable and tangible value for the buyer. The core idea is that the sustainability of packaging should not be abstract, but concrete and explained, supported by facts and presented in such a way that the consumer can easily understand what the benefits are.

The model combines three levels of communication: rational (specific data and transparency), emotional (visual symbols and short stories), and behavioral (explanation of benefits for a person). This combination makes it possible not only to declare environmental friendliness, but to make it convincing. The first element of the model is the Eco Transparency Block: short, precise facts, for example: "60% recycled raw materials" or "minus 0.18 kg CO₂ during production". It is such data that strengthens trust and removes the impression of "empty" eco-promises. The second element is the Impact Visual Icon, i.e. simple symbols (leaf, drop, CO₂ indicator) that allow to quickly read the ecological sense. The third element is the Consumer Benefit Tagline, where the emphasis is no longer on the planet, but on humans: "easier to dispose of", "safer to store food", "more pleasant to the touch". This approach makes eco-design closer and clearer. The fourth element - Micro Story Element - is a short story about the creation or material of packaging that forms an emotional connection and adds humanity to the brand, for example: "Recycled plastic becomes new packaging instead of garbage" (Fig.1).

EcoStory Packaging

Transforming eco-design from a formal element into a tangible value for consumers

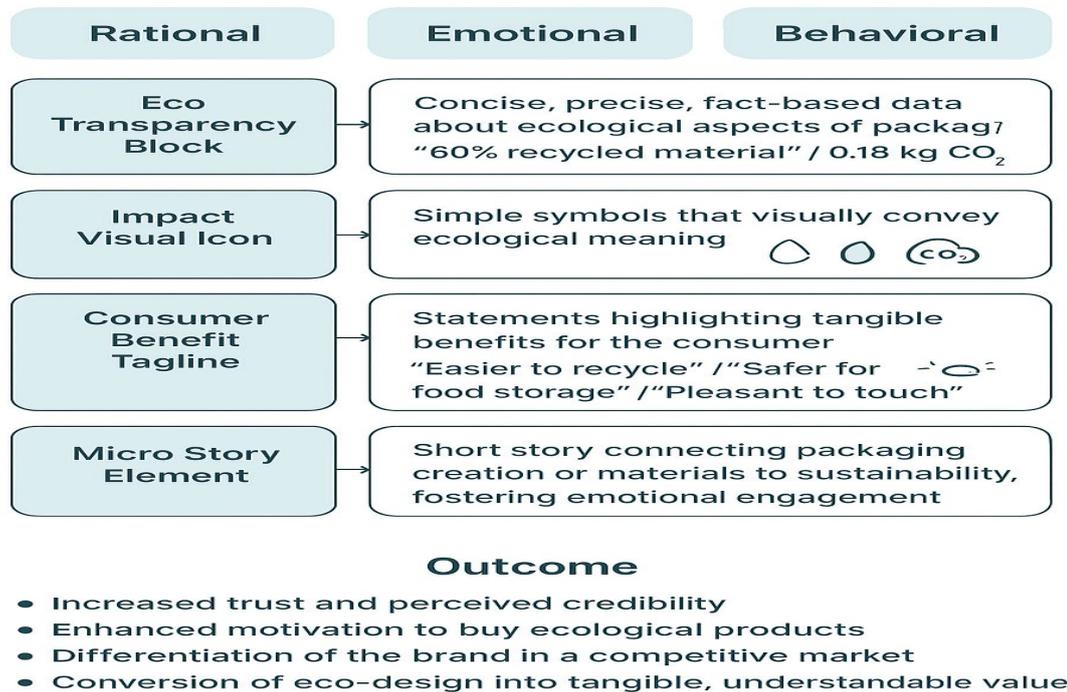


Figure 1. EcoStory Packaging Model

The EcoStory Packaging Model makes it possible to strengthen the role of eco-design in real buyer decisions. This approach makes brand communication more honest and understandable, increases trust, allows to stand out from competitors and increases the willingness of consumers to support environmentally friendly products even at a higher price. The model makes environmental friendliness not just a part of the design, but a real value that the buyer can see, feel and easily explain to himself. Thus, taking into account the fact that eco-design, despite the high positive assessment, remains insufficiently effective due to the lack of meaningful communication of its benefits, this model combines ecological design with personalized micro-storytelling, which gives ecological solutions meaningful content and turns them into a motivator of purchasing behavior. Unlike traditional eco-design, this model brings to the fore a specific, measurable and understandable benefit for the buyer, which increases trust and stimulates choice. That is why the EcoStory Packaging Model, which combines environmental friendliness with transparent facts, personalized benefits and micro-stories, allows to turn eco-design into a real factor of choice and strengthen brand communication in current competitive environment.

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ASSESSING THE IMPACT OF MARKETING EXPENDITURES ON THE ECONOMIC PERFORMANCE OF AN AGRI-FOOD ENTERPRISE IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

The contemporary development of the agri-food sector takes place under conditions of intense competition, an increasing role of innovative approaches to product promotion, and the need to adhere to the principles of sustainable development. For enterprises operating in this sphere, marketing expenditures serve not only as a tool for communicating with consumers but also as an important investment in strengthening their resilience and competitiveness. The rational and strategically justified use of a marketing budget can significantly affect the economic performance of an enterprise. From this standpoint, analysing the impact of marketing expenditures, particularly advertising, on the revenue and profit of an agri-food enterprise is a crucial prerequisite for improving managerial decision-making in a dynamic market environment.

To evaluate the influence of marketing expenditures on economic performance (revenue and profit), financial reporting data of PJSC “MHP” for the period 2022–2024 were used, including the sections “Strategic Report” and “Financial Statements” (Table 1).

Table 1. Advertising expenditures, revenue, and profit of PJSC “MHP” in 2022–2024

(in MLN USD)	Advertising expense	Revenue	Net profit
2022	13	2642	-231
2023	15	3021	142
2024	23	3046	144

Source: grouped on the basis of [1, 2].

For the analysis, Pearson’s correlation coefficient and covariance were applied to identify the relationship between advertising expenditures and profit. Data processing was carried out in Excel (Data Analysis tool) and StatSoft Statistica (Basic Statistics function), with visualization of the results using scatter plots and trend lines, accompanied by an assessment of statistical significance based on p-value (Table 2).

Table 2. Correlation analysis

Variable	Correlations (Spreadsheet1) Marked correlations are significant at p < .05000 N=3 (Casewise deletion of missing data)		
	Advertising expense	Revenue	Net profit
Advertising expense	1.000000	0.695395	0.658147
Revenue	0.695395	1.000000	0.998719
Net profit	0.658147	0.998719	1.000000

Source: results of calculations in StatSoft Statistica.

Table 2 shows that there is a positive correlation between advertising expenditures and revenue ($R = 0.695395$). This indicates that an increase in advertising spending leads to an increase in revenue, meaning that advertising influences customer purchasing behaviour regarding goods and

services. On the other hand, there is also a positive correlation between advertising expenditures and net profit ($R = 0.658147$). However, it was found that advertising is less effective for net profit than for revenue. In addition, revenue and net profit also positively correlate with each other ($R = 0.998719$), which suggests that an increase in revenue contributes to generating higher net profit (the red colour indicates a strong relationship between variables). Thus, there is a linear and positive correlation between advertising expenditures, revenue, and net profit.

The existence of a positive relationship between advertising expenditures, revenue, and the net profit of the enterprise is also confirmed by the results of the covariance analysis (Table 3).

Table 3. Covariance analysis

	<i>Advertising expense</i>	<i>Revenue</i>	<i>Net profit</i>
<i>Advertising expense</i>	18,66666667		
<i>Revenue</i>	555,3333333	34164,66667	
<i>Net profit</i>	501,3333333	32546,33333	31084,22222

Source: results of calculations in Excel (Data Analysis).

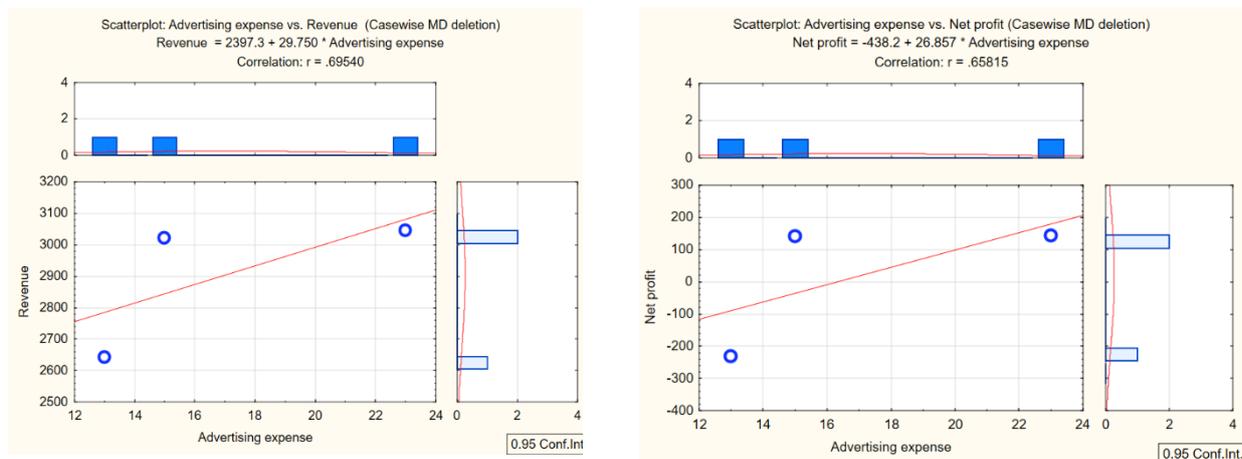


Figure 1. Dependence of revenue and profit of PJSC “MHP” on advertising expenditures
Source: developed in StatSoft Statistica

The analysis of the scatter plots illustrating the dependence of advertising expenditures on revenue and net profit of PJSC “MHP” (Fig. 1, 2) revealed a significant positive impact of marketing investments on both indicators.

For the relationship “Advertising expense vs. Revenue,” the correlation coefficient ($r = 0.695$) and the regression equation

$$\text{Revenue} = 2397.3 + 29.750 \times \text{Advertising expense}$$

indicate that each additional unit of advertising expenditure generates approximately 29.75 units of revenue, demonstrating high marketing effectiveness in revenue generation.

Similarly, for the relationship “Advertising expense vs. Net profit,” the correlation coefficient ($r = 0.658$) and the regression equation show that advertising expenditures positively affect profitability, although with a smaller effect (26.86 units of profit per unit of expenditure). Both graphs confirm a stable positive relationship, yet the wider confidence interval for net profit suggests the presence of additional factors that may influence final profitability.

$$\text{Net profit} = -438.2 + 26.857 \times \text{Advertising expense}$$

Thus, the research results indicate that PJSC “MHP” can increase advertising investments to stimulate revenue growth; however, maximizing profit requires determining an optimal spending level to avoid diminishing returns. The strong correlation and covariance with revenue underline the importance of marketing in attracting customers, whereas the weaker effect on net profit highlights the need for cost control and analysis of additional determinants, such as production costs or operating expenses. It is also necessary to examine in detail the effectiveness of individual advertising channels and their influence on business profitability.

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INTERNATIONAL COOPERATION AND INVESTMENT POTENTIAL OF AZERBAIJAN IN THE CONDITIONS OF GLOBALIZATION

Globalization makes international cooperation a key channel for unlocking Azerbaijan's investment potential, as access to capital, technology, markets, and corporate governance standards is increasingly formed through transnational value chains and partnerships with international institutions. For investors, not only natural resources are becoming important, but also the institutional capacity of the state, the predictability of regulation, the quality of the judicial system, and the availability of digital state services that reduce transaction costs and risks. In this context, Azerbaijan is building policies aimed at diversifying the economy and strengthening integration into the global economy, in particular through business environment reforms and the development of state-private sector interaction [1]. The most powerful magnet for international capital has historically been the fuel and energy complex, where investment attractiveness is supported by the scale of deposits, export orientation, and long investment cycles that stimulate the creation of consortia and risk-sharing models. Studies on the development of the oil and gas sector in Azerbaijan emphasize that foreign investment largely depends on the stability of the legislative and regulatory framework, as well as on transparent contracting rules, which is especially important for large-scale energy production and transportation projects. At the same time, international cooperation in the energy sector goes beyond trade, it includes infrastructure solutions, financing of

individual sections of energy corridors and political agreements that build confidence in long-term supplies, and therefore in the stability of investment flows.

The conditions of globalization strengthen the investment potential of Azerbaijan also through its role in land and multimodal connectivity between Asia and Europe, where the development of transport and logistics corridors increases the attractiveness of investments in ports, railways, warehouse infrastructure, customs services, insurance and digital solutions for managing cargo flows. The OECD analysis highlights that the so-called “Middle Corridor” has become the object of increasing attention since the change in geoeconomic conditions in 2022, but its competitiveness depends on regulatory alignment, trade facilitation, investment in bottlenecks and supranational coordination between countries along the route. For Azerbaijan, this means that the highest returns from international cooperation and investment will arise when energy revenues and international partnerships underpin structural diversification, productivity gains, human capital development and the “greening” of the economy, in line with the approaches currently supported by key international financial institutions.

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FEATURES OF MANAGEMENT REPORTING FORMATION

An organized and implemented management accounting and reporting system is aimed at providing internal users with relevant information necessary for different levels of management structures. This concerns management accounting data that accurately and timely characterize the current state of the business entity. Traditional accounting information formed according to standardized requirements does not always satisfy the needs of internal users. In various economic and analytical departments at enterprises, problems often arise with excessive or insufficient amount of accounting information and analytical breakdown of indicators, on the basis of which it is necessary to calculate and build balanced forecasts and plans for the further direction of the enterprise's activities and its future development or to make effective management decisions in the operating cycle.

In modern practice, the number of Ukrainian managers who are beginning to understand the need to implement management accounting and prepare special management reporting on its basis is increasing. Adaptive for a specific enterprise, such a system should be focused on meeting the information needs of managers at different levels, to form in an analytical context the necessary performance indicators in a specific time interval of the enterprise's activity. This system should take into account aspects of various innovative changes and innovations both in the production sphere and in the decision-making spheres. Organizational and structural features and the specifics of the functioning and nature of the enterprise's activity determine the differences in the structure of management reporting, which actualizes the solution of the problem of determining the methodology and identifying the features of the formation of management reporting at domestic enterprises.

The connecting link between traditional accounting data that reflect the processes of the enterprise's activity and external and internal users of such information is public reporting. To ensure direct managerial influence on the activities of the enterprise, in particular all operational

processes, management reporting is introduced, which is one of the most reliable sources of information that is implemented through its functions and tasks [1].

Today, in a large part of enterprises carrying out their economic activities in Ukraine, management reporting has not yet fully developed into a holistic system of accounting and analytical information to show the full range of interaction of various indicators, which are determined on the basis of summarizing and systematizing information on various types of activities of both the enterprise as a whole and each of its individual structural units or branches with the aim of making operational, tactical or strategic management decisions based on the data obtained.

In the works of modern Ukrainian and foreign researchers, there is no single approach to revealing the meaning of management reporting. Some authors use the phrase "internal economic reporting", others "internal organizational management reporting". Z.-M. Zadorozhny and I. Ometsinska believe that management reporting is a term that describes all types of reporting (financial, internal economic, tax, statistical, non-financial, integrated) [2]. There is also a diametrically opposite opinion, as S. Korol points out in his research that equating management reporting with internal, operational or other does not meet modern practice and requirements for information support for enterprise management and does not income into account the possibilities of accounting automation that exist today. In addition, he emphasizes that the main types of reporting differ not only in purpose, but also have their own characteristics in terms of their content, the level of detail of information, the frequency of its generalization and provision, the structure of indicators and user metrics [3].

Management reporting does not have a clearly established form or specific indicators that must be present in it, in addition, it can provide indicators not only in value terms, but also in natural units and even in time intervals. It is also worth noting that the frequency of compiling and submitting such reporting is regulated only by the internal need of users for information that is reflected in this or that specific report. Such flexibility of forms and indicators in management reporting is achieved due to the fact that it is intended only for internal users.

Management reporting has a significant advantage over financial, tax or other types of reporting, since unlike them, management reporting is flexible and can be improved and changed in accordance with the urgent needs of the business, and there is a clear and continuous feedback between the reporting system and its users.

The development and implementation of both the entire management reporting system and each individual report is inextricably linked with the planning and organization of work, the choice of methods, systems, and tools.

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THE ROLE OF MARKETING IN ACHIEVING MARKET SUCCESS FOR A COMPANY

Determining a company's competitive strategy and competitive position depends primarily on the level of compliance of the activities and goods of manufacturers with the value system of consumers. A competitive marketing strategy is an essential element of a company's management system.

Marketing technologies for market analysis (primarily market needs) allow a company to develop effective strategies aimed at specific consumer segments. This, in turn, gives the company certain competitive advantages.

Combining the processes of managing competitive advantages with the resource capabilities of the enterprise through the coordination and concentration of its marketing activities will allow for the effective implementation of marketing tools that provide opportunities to achieve and strengthen strategically formed competitive advantages, as well as acquire a number of differences:

- establishing long-term relationships between the elements and tools of the chosen strategy;
- improving the effectiveness of forecasting the consequences of implementing innovations characteristic of modern markets;
- forming long-term relationships with consumers and market participants;
- translating the chosen strategy into quantitatively structured operational processes and clearly defining performance criteria;
- monitoring and adjusting strategic measures if they are found to be inconsistent with the potential capabilities of enterprises;
- involving company employees in the implementation of strategic tasks with the subsequent distribution of responsibilities, development of necessary competencies, and appropriate motivation.
- establishing a feedback mechanism between changes in the external environment and the adjustment of strategic and tactical measures within the chosen strategy..

Marketing strategies answer the questions: what, when, and how will be done to most effectively achieve the company's goals, and how much it will cost. They consist of key decisions that determine the set of marketing tools, including tools for forming and adapting (updating) the range 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 management of 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 external qualified specialist. The process of developing a marketing strategy involves identifying target market segments and developing a positioning strategy. A strategy for maintaining and strengthening customer relationships and a strategy for planning new products should also be developed. The development of 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 areas of marketing activity are the development of marketing strategies, strict adherence to which ensures that companies achieve their marketing goals.

Thus, marketing strategies play a key role in the development of a company, as they determine the directions of its growth and ensure its ability to successfully adapt to market changes. A properly chosen strategy helps a company build competitive advantages, improve products, and work more effectively with target segments. Taking into account the product life cycle and constantly monitoring results allows you to quickly adjust marketing activities and ensure the stable development of the company.

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INDICATORS OF ECONOMIC SECURITY IN ENSURING LOGISTIC PROCESSES

Instability of the economic environment and the consequent transformation of logistics processes in industrial enterprises, especially under the influence of external risks, significantly increase the importance of logistics activities for maintaining the economic security of machine-building enterprises. Logistics processes form operational resilience, cost efficiency, production flexibility and supply stability, which is confirmed by both Ukrainian and international research.

In the course of the study, it was established that monitoring indicators of the economic security of logistics processes in machine building must include not only financial or production characteristics but also the level of technological innovation, risks of supply chain disruptions, and the impact of external threats. Given the regional specifics, seven machine-building enterprises of Vinnytsia region were selected, each demonstrating different levels of technological development, production capacity and logistics infrastructure.

On this basis, an integrated system of indicators for monitoring logistics processes has been formed. It provides a comprehensive assessment of the state of economic security and includes the following groups:

1. Indicators of material flow efficiency

- continuity of supply of key materials;
- volume and duration of warehouse inventories;
- turnover ratio of raw materials and components.

2. Financial and logistics indicators

- share of logistics costs within total production costs;
- share of transportation costs in the final price of products;
- investment support for logistics innovations (WMS implementation, GPS-transport monitoring, automated accounting systems).

3. Human and organisational indicators

- availability of qualified personnel within logistics departments;
- compliance of employees' competencies with the requirements of digital logistics;
- stability of internal regulations and control procedures [1].

Based on the generalised indicators obtained from the studied enterprises, the following tendencies were identified:

- **Material flows remain unstable:** irregular supplies from EU countries and national producers; periodic disruptions caused by insufficient transport accessibility; over 40% of enterprises face delays of 2–5 days.
- **Warehouse processes demonstrate low efficiency:** limited automation (15–25%); excessive warehouse area usage and surplus inventories (up to 30% above normative levels).
- **Financial risks of logistics are increasing:** logistics-related production costs have risen to 18–24%; energy expenses increase the cost of transportation; only 10–15% of enterprises invest in logistics modernisation.
- **Technological and information security remains vulnerable:** equipment wear and tear, insufficient integration of digital systems, high risks of data loss due to lack of backup infrastructure.
- **Human-resource issues significantly affect security:** shortage of specialists with digital logistics skills; staff turnover reaches 12% annually [2].

The conducted research demonstrates that machine-building enterprises of the Vinnytsia region are characterised by diverse models of logistics functioning, levels of digital maturity, cost

structures and responses to risks. This, in turn, enables the formation of a scientific basis for further modelling of monitoring systems, analytical tools and an integrated assessment of their development.

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ORGANIC LABOUR IN WIELKOPOLSKA AS A SOCIAL, ECONOMIC AND CULTURAL PHENOMENON OF THE 19TH CENTURY

The most distinctive and exceptionally important thread of the patriotism of the people of Greater Poland and their struggle for independence already in the first half of the nineteenth century developed in the field of the so-called organic work. The author of this term was only Jan Koźmian in 1848, and it referred to a completely new concept of the Polish path to independence, which after the defeat of the November Uprising, although these ideas began to be formulated even before 1830, started to be implemented by the inhabitants of the Grand Duchy of Poznań. The organicists assumed that armed uprisings, given the military and demographic superiority of the partitioning powers, were temporarily pointless, and that success was possible only in the event of a war between them. Therefore Poles should concentrate on educating a new society and strengthening national consciousness, the level of economic management, as well as material and spiritual culture. Supporters of organic work believed that only after the success of these long-term and arduous efforts would a Polish society composed of all classes and social strata, and nationally conscious, have a chance to regain its own independent statehood, including ultimately by way of a single, but victorious uprising. This idea was most aptly presented by Dr. Marcinkowski, who stated: Let us cease to count on weapons, on armed uprisings, on the help of foreign powers and peoples, and instead let us count on ourselves, educate ourselves in all fields, work not only in scholarly professions but also in trade, industry, and handicrafts, create a middle class, strive to rise morally and economically, and then they will have to reckon with us.

Initially, three social strata stood at the head of the organicists, the landed gentry of noble and aristocratic origin, representatives of the emerging intelligentsia, and a clergy that was exceptionally patriotic and aware of not only its pastoral functions. Slowly, over several decades, supporters of this idea were gradually joined by townspeople who had previously still lacked national awareness, merchants and craftsmen, as well as the rural population, peasants and agricultural laborers. It should be mentioned that the organicist movement was not any sort of organization, but above all a social and economic, and probably to the smallest extent political, idea, a thought, a concept of action, which in the period from 1830 to 1918 was taken up by three or four generations of Poles, and in total by at least several hundred thousand of their most active representatives. The diverse activities of the organicists meant that in the nineteenth century Greater Poland was gradually becoming the most modern, wealthiest, and most economically and socially modernized district of the Polish lands. It was also probably the only initiative in history, not only

of Poland, that, also in the name of national solidarity, united in joint undertakings, and in many fields of activity, all classes, strata, and social groups of the modern Polish nation that was then taking shape, not merely an estate-based one. The creator, originator, and first leader of the Greater Poland organicists was the already mentioned Dr. Karol Marcinkowski, and their most outstanding representatives became, in the organizational and cultural and scholarly sphere, Maciej and Seweryn Mielżyński and Gustaw Potworowski, in the field of agricultural development Dezydery Chłapowski, and in the sphere of laying the foundations of industry Hipolit Cegielski. In addition, the first generation of organicists was supported by members of the aristocratic elite, who did not fully consider themselves organicists, Edward Raczyński and Tytus Działyński. Symbols above all of the economic and social activity of supporters of organic work became the Citizens' Casino in Gostyń, established in 1835, and the Bazar in Poznań, opened in 1842. These initiatives, grounded both economically and socially, were also intended to bring closer two estates that had previously been separate and alien to each other, the coat-of-arms landed gentry and the townspeople, meaning merchants, craftsmen, and the intelligentsia.

The achievements of the people of Greater Poland in the sphere of national culture in this period appeared particularly interesting, and after the fall of the November Uprising and the emigration from the Kingdom of Poland of many of the most outstanding luminaries of Polish politics, science, culture, and art, it was precisely in this region, on the native Polish lands, that one could observe manifestations of the greatest cultural and scholarly activity. Its symbols became specific figures, as well as institutions established at that time, for example the Raczyński Library, the Poznań Society of Friends of Sciences, the Society of People's Reading Rooms, and the Society for Scholarly Aid, which annually granted more than one hundred scholarships for the education of talented but impoverished youth. The activity of these fully social or civic institutions, combined with the patronage of the Polish aristocracy, made it possible for numerous representatives of poor youth to be educated and to shape their national consciousness, many of whom in subsequent decades formed the foundations of the Greater Poland intelligentsia. In the 1840s and 1850s, the first Polish periodicals in the Prussian partition also appeared, in fact representing various political options, such as *Gazeta Polska*, *Przyjaciół Ludu*, *Orędownik Naukowy*, *Tygodnik Literacki*, *Rok*, *Przegląd Poznański*, and in 1859 *Dziennik Poznański*, one of the most important and most influential Greater Poland newspapers until 1939. It should also be mentioned that in the initial period when the ideas and concrete initiatives connected with organic work were germinating, Greater Poland was visited by the most outstanding representatives of Polish culture of the Romantic era, Fryderyk Chopin, Adam Mickiewicz, and Juliusz Słowacki.

Theses of the work:

Organic work was one of the Polish paths toward independence, standing as an alternative in opposition to the loyalist current and above all the insurrectionary one.

In accordance with the principles of social solidarity and under the leadership of elites, it united ever wider circles of Polish society in Greater Poland under Prussian rule.

Conducted within the limits of the law in force in the Prussian state, the activities and initiatives of the organicists were visible in all spheres of collective and individual activity, social, economic, cultural, and in some cases also political.

Organic work was also a nineteenth-century modernization and democratizing current within society.

Over several decades it made almost all inhabitants of Greater Poland conscious Poles, led to the formation of a modern nation, and made them "ready for freedom and independence", which was finalized, among other things through the victorious uprising of 1918–1919, by the incorporation of Greater Poland into the reborn Second Polish Republic.

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THE SPREAD OF OPEN BANKING AS AN INNOVATIVE WAY TO ENSURE SUSTAINABLE DEVELOPMENT

In today's world, open banking (OB) is seen not just as a technological upgrade but as a fundamental shift in how the financial sector operates. The traditional closed banking model is being replaced by a platform architecture where banks are required (with the client's consent) to provide account data access to authorized third-party service providers. This access is carried out through standardized application programming interfaces (APIs), which are a critical infrastructure innovation ensuring compatibility. The spread of OB is a powerful driver for achieving sustainable development goals, as it increases economic efficiency, social inclusion, and quality of governance by integrating ESG criteria into financial operations [1].

One of the most important aspects of OB is its impact on social sustainability through enhanced financial inclusion [2]. First, information asymmetry decreases. In the traditional system, many people lack a credit history or have insufficient data to create an accurate credit score. OB allows access to a wider range of client financial data (for example, regular payments for utilities, rent, subscriptions). This enables the development of alternative credit scoring models that are more precise and less discriminatory. As a result, the entrance barrier to the market lowers for new financial players, and high-risk borrowers under the old model gain access to capital on fairer terms. Thus, OB promotes democratization of lending.

Second, financial literacy and rational consumption improve. Thanks to APIs, FinTech companies can provide tools for account aggregation and automated financial planning. By analyzing detailed transactions, these tools offer clients hyper-personalized advice on optimizing expenses, managing debt, and saving. This helps people make more rational economic decisions, which forms the microeconomic foundation for macroeconomic stability.

The influence of OB goes beyond social goals, affecting environmental sustainability (E) and governance quality (G) [2]. OB creates infrastructure for spreading green finance by providing detailed transaction data that allows financial institutions to develop tools that:

Visualize the carbon footprint of clients' consumption by integrating environmental metrics directly into daily financial behavior.

Automatically suggest environmentally responsible alternatives (for example, switching to green energy providers or investing in funds that meet ESG indexes).

Thus, OB helps internalize environmental externalities, turning them from an abstract idea into a measurable factor in financial planning.

Regulatory introduction of OB, such as PSD2 in the European Union, requires standardization of data exchange protocols and strengthens security requirements, increasing the transparency of the entire financial ecosystem. Shared access to standardized data improves monitoring efficiency, allowing financial institutions and regulators to detect and prevent fraud and money laundering (AML) more quickly. Strengthening financial supervision and transparency is a key part of good corporate governance and systemic stability.

Despite clear benefits, the spread of OB creates two critical challenges.

Cybersecurity and data privacy, because exponential growth of data exchange points increases the surface for cyberattacks. The success of OB depends directly on consumer trust, which is very fragile. Solving this challenge requires ongoing investments in cryptographic security, stronger regulation, and innovative solutions like privacy-preserving technologies that process data without fully revealing it.

Transition to open finance, which will cover not only bank accounts but also data on investments, insurance, pension assets, and other non-banking financial products. Such data integration will allow development of comprehensive financial strategies aimed at macroeconomic stability and system resilience to global challenges.

Therefore, open banking is an innovative mechanism that institutionalizes data sharing, transforming the financial sector from a closed system into an open, competitive, and inclusive platform. It supports sustainable development through social inclusion via fair lending, environmental responsibility by internalizing ESG criteria, and improved governance with transparency and effective oversight. Recognizing the critical importance of managing privacy-related risks, it can be argued that OB is an irreversible process and a necessary condition for building a 21st-century financial system capable of effectively supporting global sustainable development goals.

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VECTOR OF SUSTAINABLE DEVELOPMENT IN THE MANAGEMENT OF COMPETITIVENESS OF OIL AND GAS PRODUCING ENTERPRISES

Sustainable development in modern conditions is a key vector for shaping the competitiveness of enterprises. Mario Draghi's report "The Future of European Competitiveness. Part A" states that the long-term competitiveness of the European economy is impossible without the integration of sustainable development principles. The principles of sustainable development combine economic efficiency, technological innovation and environmental responsibility. Sustainable development stimulates the modernisation of management models and increases business resilience in the context of energy market transformation [1].

Competitiveness management in the context of sustainable development involves not only the growth of financial and production indicators, but also ensuring the efficient use of natural resources, minimising man-made risks, forming partnerships with stakeholders, and investing in human capital and technological innovation. Oil and gas companies in Ukraine, operating in an environment of significant resource depletion, fluctuations in global energy prices, changes in regulatory standards and increased competition from private companies, are forced to adapt their management approaches to the sustainable development model. [3, p. 290].

The application of the concept of sustainable development in competitiveness management involves the formation of a sustainable decision-making model that ensures a balance between economic performance and environmental constraints. The competitive advantages of enterprises are increasingly formed not only by production efficiency or capital investment volumes, but also by rational use of natural resources, the introduction of digital technologies for field management, and the improvement of internal management processes.

In today's environment, value-oriented management, which focuses on long-term decision-making and ensuring added value, is becoming increasingly important. Such management is based on evaluating performance through financial indicators that truly reflect value creation, the key ones being free cash flow (FCF) and economic value added (EVA). The FCF indicator allows assessing the amount of funds available for investment and strengthening financial stability, while EVA reflects the extent to which the enterprise's activities create or do not create additional value for capital owners. The use of these indicators in the management system allows enterprises to develop effective investment programmes and determine strategic directions for development that are consistent with the principles of sustainability [4].

The sustainable development vector involves environmental modernisation through the rational use of resources, minimisation of environmental impact, geosystem safety and accident prevention, which are critical to competitiveness. The concept of decoupling promotes technological modernisation while reducing environmental impact and increasing production efficiency. An important element is the development of human capital, value culture and internal communication, which determine the quality of management decisions and the readiness of personnel to implement changes [3, p. 95].

Thus, managing the competitiveness of oil and gas companies in the context of sustainable development combines economic, environmental and social aspects, based on modern decision-making models and innovative approaches to production and corporate responsibility. The implementation of this vector requires the institutionalisation of sustainability values, the introduction of new technologies, the optimisation of resources and the development of partnerships. Only a balance between these elements ensures sustainable competitiveness, strengthening market positions and contributing to sustainable development at the national and global levels.

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INNOVATIVE INSTRUMENTS FOR LABOUR REMUNERATION MANAGEMENT TO ENSURE SUSTAINABLE OPERATION OF AN ENTERPRISE

The sustainable functioning of an enterprise in conditions of economic instability and fierce competition depends on effective human capital management, where the wage system plays a key role. Outdated forms of wage calculation cannot cope with modern tasks such as productivity growth, adaptability and the attraction of highly qualified specialists. There is a need to introduce innovative remuneration management tools to achieve long-term competitiveness and social responsibility.

This study aims to provide a theoretical basis and develop practical recommendations that will enable enterprises to effectively implement innovative wage management tools to achieve sustainable operations.

The following problems are characteristic of the remuneration system in Ukrainian enterprises:

- The lack of clear rules for determining bonuses and incentives causes demotivation and leads to the departure of employees, especially young specialists who value fair treatment.
- Inflexibility and disregard for individuality - the use of uniform tariff systems limits the ability to respond quickly to the shortage of highly qualified specialists in the labour market and does not take into account the unique value of each employee's contribution.

- Weak focus on long-term goals - the remuneration system is focused only on current quantitative results (e.g., volume of production), but does not encourage employees to innovate, improve quality, or participate in projects aimed at social and environmental responsibility.

Companies should pay attention to the identified problems, as a well-established remuneration system is a key factor in increasing productivity, motivating employees and retaining valuable specialists. In the current difficult economic climate, competition for talent is intensifying, and market instability requires companies to adapt quickly.

Effectively addressing these issues requires the implementation of innovative tools that promote long-term stability and eliminate the shortcomings of existing systems.

One of the key tools is the grading system of remuneration. It provides for an objective assessment of each position based on criteria of complexity, responsibility and strategic value to the company. This, in turn, contributes to increasing internal fairness, forming a transparent career path and minimising conflicts related to remuneration levels, which is a necessary prerequisite for ensuring the social sustainability of the organisation [1].

To strengthen the focus on sustainability, special KPI systems (Sustainability-linked KPIs) are being introduced. They stipulate that part of the variable remuneration (bonuses for management and ordinary employees) depends on the achievement of long-term strategic goals. These goals include not only financial indicators, but also environmental, social and governance (ESG) indicators. For example, this could be reducing energy consumption, increasing the proportion of recycled waste or improving staff satisfaction. In this way, the entire team is motivated to take a conscious and responsible approach to business [2].

Among the flexible remuneration models, the Cafeteria plan stands out, which gives employees the freedom to choose the elements of their social package. They can independently decide whether they want to receive additional leave, invest in training or save for retirement, within a specified amount. This opportunity for personalisation significantly increases employee satisfaction, engagement and desire to remain with the company.

Big Data and artificial intelligence technologies are used to maximise the effectiveness of these systems. Thanks to modern IT tools, companies can analyse how pay affects productivity, optimise payroll funds in real time and ensure fair, individualised compensation that reflects each employee's actual contribution.

The introduction of innovative remuneration management tools is a key step for the long-term success of a company. Moving away from outdated pay scales in favour of flexible, transparent and targeted approaches (such as grading, ESG-KPI, "cafeteria") transforms remuneration costs into a powerful incentive for employees. This motivates them to achieve both financial and social goals, which ultimately increases the company's attractiveness to investors and its stability in the future.

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3D MODEL OF THE PRINCIPLES OF INVESTMENT DECISION-MAKING TO ENSURE SUSTAINABLE ENTERPRISE DEVELOPMENT

Sustainable development of an enterprise requires not only financially sound investments but also due consideration of their social and environmental consequences. For this reason,

multidimensional (in particular, 3D) models for assessing decisions have become widespread in the academic literature, as they make it possible to abandon the one-dimensional logic of “profit at any cost”.

For example, V. Mauerhofer a 3D sustainability model is proposed, in which the economic dimension is viewed as “embedded” in the social one, and together they are encompassed by an ecological “cone” of sustainability. The model is used to measure outcomes in three dimensions and to determine environmental limits [1].

P. Kranabitl and co-authors, in turn, when analysing technical solutions, apply a three-dimensional “model cube” within the SMH approach, where technical, economic and human aspects of decisions are structured within a single space [2].

V. Petrenko, A. Mazak, I. Ozminska and others propose a 3D model for managing the sustainable development of a territorial community, where the coordinates reflect economic, social and environmental indicators relative to national average values; the state of the community is represented as a point in three-dimensional space [3].

Furthermore, F. Methling, in his study of thematic investments, applies a tri-dimensional optimization model that adds non-monetary investor values (ESG, megatrends) to classical financial parameters, thereby effectively expanding the objective function of the portfolio [4].

A common feature of these approaches is the attempt to transfer decision-making into a three-dimensional space, where each axis reflects an important component of sustainability. At the same time, most of these models concentrate on what is being assessed (economic, social, environmental aspects), while paying less attention to how the internal process of investment decision-making within an enterprise is organised.

The model we propose is a 3D model of the principles of investment decision-making: Data / Discipline / Diversification.

This model shifts the focus from measured outcomes to the principles of investing. It describes not so much the characteristics of a project but the quality of the process through which an enterprise selects investments that ensure its sustainable development.

The model distinguishes three mutually complementary dimensions:

- Data – reflects the quality, completeness and relevance of the information on which the investment decision is based. For sustainable development this implies going beyond standard financial indicators and incorporating:
 - ✓ environmental metrics (emissions, energy efficiency, waste management);
 - ✓ social indicators (employment, working conditions, impact on the community);
 - ✓ risk indicators (scenarios, sensitivity to regulatory or market changes).
- Discipline – describes the degree to which the enterprise adheres to clear rules for making investment decisions that are aligned with its sustainable development strategy. Key elements of this dimension include:
 - ✓ a formalised investment policy with clearly defined selection criteria;
 - ✓ the work of an investment committee with a clear allocation of roles and responsibilities;
 - ✓ standardised procedures for due diligence and post-investment monitoring;
 - ✓ mechanisms for managing conflicts of interest and reducing behavioural biases.
- Diversification – characterises the structure of the enterprise’s investment portfolio and the degree of risk distribution among different types of projects. For sustainable development, diversification of sources of value creation is important, not only financial diversification, in particular:
 - ✓ by technologies (traditional vs. “green-innovative” solutions);
 - ✓ by time horizons;
 - ✓ by type of effect (projects that primarily strengthen the economic, social or environmental dimension).

Each investment decision or portfolio of an enterprise can be represented as a point within the space of the model. The higher the coordinates along all three axes, the more likely it is that the decision will be not only financially justified but also resilient in the long-term perspective.

In our view, the proposed 3D model is a logical extension of the ideas of multidimensional decision analysis presented in classical 3D models of sustainability and investment. It shifts the emphasis from three “what” (which types of effects are measured) to three “how” (how data are collected, how decision discipline is organised, and how the portfolio is structured).

The advantage of the model lies in its universality: it can be used to assess both individual projects and the entire investment process of the enterprise, and it can be easily integrated with existing tools.

In strategic terms, sustainable development of the enterprise within this model may be interpreted as the aspiration for all key investment decisions to be located in the “positive plane” (high Data, Discipline and Diversification). This forms not only a financially robust but also a socially and environmentally responsible profile of growth.

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ANALYSIS OF LARGE DATABASES FOR THE NEEDS OF ENTERPRISES

Informatization of the economy, digitalization of financial relations of society is increasing every year and permeates all industries and spheres of life. This trend is positive for the development and functioning of post-industrial society, but it is endowed with specific features. The introduction of modern information systems allows the management of the enterprise to have operational access to large amounts of information in order to generalize and promptly make a management decision, whether marketing, production, resource use, or financial support. The main factor that encourages the use of information systems in the process of making management decisions is to speed up routine actions aimed at processing large amounts of information and its analysis, to reduce the time and financial costs associated with the collection, systematization and analysis.

The modern business environment of Ukraine, more than ever during the war, is quite turbulent. Information overload, constant changes in the business environment, the insane amount and rapid variability of information data is constantly growing, its complexity is also growing, which causes problems with structuring. That information that yesterday seemed to have little impact suddenly becomes extremely important today, and it is this factor that puts pressure on the final financial result of doing business.

Existing old approaches and methods of information processing data no longer fully cope with their functions, play a less relevant role, and there is a permanent need for new sources,

technological support, and opportunities. This is precisely what Big Data Analytics methods are designed for, they are best adapted to such fast-paced challenges.

Big Data Analytics is a certain set of approaches using specific techniques aimed at detecting and identifying, collecting, systematizing, processing and analyzing a large number of diverse, multi-vector data with different characteristics and based on them forming certain conclusions and alternative hypotheses.

It is obvious that the functional relationships of Big Data Analytics are significantly branched and multifactorial and consist of the following elements: statistical analysis methods, artificial intelligence, pattern recognition technologies, databases, visualization of phenomena and processes, and in their totality, systematization and classification occur, and as a result we get a list of certain Big Data methods: Data Mining, Text Mining, MapReduce and data visualization.

Data Mining is responsible for the process of recognizing the necessary data, their collection and accumulation in the repository, their analytical processing. Its tools that work according to certain algorithms that are part of it help to implement this process. The following Data Mining methods are most often used: basic methods, genetic algorithms, fuzzy logic, neural networks.

MapReduce effectively processes previously collected multi-vector data that are poorly suited for relational models, such as web logs, text or sensors. The process looks like this - the overall task is divided into a large number of identical elementary tasks that are performed on cluster nodes and then collected into a final result [2].

Text Mining is both statistical and linguistic analysis using artificial intelligence methods. This technology is used to perform recognition, analysis, pattern search, provide navigation and search in unstructured texts, automatic summarization, clustering, and analysis of ties [1].

Visualization methods allow you to clearly understand informative data in the form of animations and graphs with diagrams using interactive capabilities for the effectiveness or quality of the source data for further analysis.

Analyzing the multifunctionality and complexity of existing Big Data Analytics methods, it can be clearly stated that this process requires automation. Big Data Analytics software can be classified by areas and tasks that they solve at different stages of the process of forming a management decision of the enterprise: storage; management; processing; visualization methods and tools; methods and tools of analytics [2]. The creation of a Business Intelligence (BI) platform as a “hierarchical-synergistic complex of automated tools for non-trivial analysis of primary data and visualization of its results for decision support (Decision Support)” [1] allows you to systematically approach solving problems of a large flow of information. It provides accumulation, systematization, analysis, and building trends and forecasts for the future based on this data, and is widely used in financial forecasting, planning, and budgeting.

Of course, the specifics of each business entity's business require an individual approach to selecting the necessary and sufficient software package that will accompany Big Data processing.

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PECULIARITIES OF FINANCIAL ACCOUNTING IN A DIGITAL ENVIRONMENT

Research Objectives and Motivation. In the context of modern economic transformation, digital technologies are fundamentally changing business processes. The aim of this study is to

identify and analyze the specific features of financial accounting in companies in a digital environment. The motivation for the study is the challenges (such as cybersecurity, Big Data) and opportunities (automation, artificial intelligence) that the digital era creates for accounting and financial reporting.

Research methods. The paper uses qualitative and quantitative research methods. Namely: Comparative analysis: comparison of traditional and digital accounting systems. Documentary analysis: review of international standards and existing literature. Inductive approach: study of the impact of digital tools (ERP systems, Cloud technologies) on the example of specific companies.

Hypothesis. The main hypothesis of the study is the idea that a complete digital transformation of financial accounting processes not only reduces operating costs and human errors, but also fundamentally changes the role of the accountant - from a technical executor to a strategic advisor.

Conclusions and Suggestions. The study revealed that the digital environment requires a new vision of accounting. In conclusion, it can be said that real-time data processing increases the transparency of financial information. The following suggestions are presented: Companies should prioritize increasing the digital competencies of employees. Stricter data protection mechanisms should be implemented when using “cloud” services. Accounting policies should be adjusted to automated algorithms in order to maintain compliance with International Financial Reporting Standards (IFRS).

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INTEGRATION OF SUSTAINABLE DEVELOPMENT AND REGENERATIVE ECONOMY PRINCIPLES INTO HOTEL HUMAN RESOURCE MANAGEMENT SYSTEMS

Under the conditions of a new global economic paradigm, the hospitality industry faces the need for a profound transformation of not only operational but also management models. Traditional human resource management approaches, primarily focused on operational efficiency and short-term financial returns, prove insufficient for ensuring long-term business sustainability and competitiveness. The response to this need is the strategic integration of sustainable development principles and, even more importantly, regenerative economy principles into hotel human resource management systems [1; 2]. Graphically, this transition and its impact on various levels of the organizational system can be represented by a diagram illustrating the evolution of the HR model (Fig. 1).

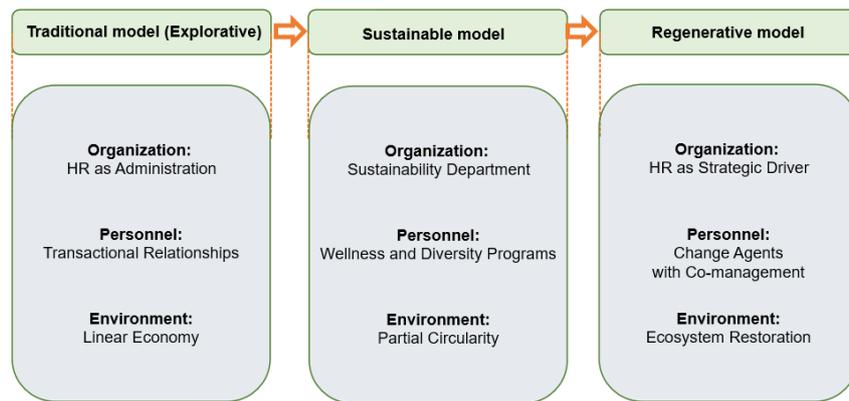


Figure 1. Evolution of the HR Model in the Hospitality Business

The first block represents the traditional, or exploitative, model. Its foundation is a philosophy that perceives human and natural resources primarily as tools for extracting short-term financial profit. At the organizational level, the HR department performs purely administrative and accounting functions, focusing on hiring, payroll calculation, and labor law compliance. Interaction with the environment occurs within the paradigm of a linear economy, where resources are irrevocably extracted, used, and turned into waste. The main outcome of this model is the depletion of both human and natural capital.

Under growing pressure from the market, guests, and regulators, a transition occurs to the second block – the Sustainable model, based on ESG principles (Environmental, Social, and Governance) [3]. At this stage, the organization creates a separate department or appoints a sustainability manager to oversee environmental and social projects, which often remain somewhat detached from the core business process. This model allows the company to reduce risks, improve reputation, and increase loyalty, but its impact is typically localized and aimed at mitigating negative consequences.

The culmination of evolution is the third stage – the Regenerative model. Its fundamental philosophy shifts from minimizing damage to actively creating positive value for all systems. HR ceases to be a support function and becomes a strategic driver of business transformation, integrating restoration principles into its core activities. Employees transform from hired executors into "change agents" – engaged and responsible participants who are delegated authority and participate in co-managing sustainable development projects. The most radical changes occur in the interaction with the environment: the hospitality enterprise rethinks its role in the ecosystem, becoming an active participant in its restoration. The ultimate result of such a model is the formation of a sustainable competitive advantage through restored natural and social capital, maximum team engagement, and deep loyalty from guests who share these values.

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RESILIENT TEAMS IN A VOLATILE WORLD: THE IMPACT OF GLOBAL MEGATRENDS ON EMPLOYEE MOTIVATION AND HR STRATEGIES

Global megatrends influence governments, businesses, and citizens, regardless of their level of economic or technological development. They represent an objective reality of modern development, making it essential to account for them in both strategic planning and day-to-day operations. In 2014, KPMG's review grouped global megatrends into three categories: (1) Economic behavior of citizens (demographics, individual empowerment, the adoption of new technologies); (2) State-level decision-making (rising public and corporate debt, the growing interconnectedness of the global economy, shifting centers of global influence); (3) Business environment transformation (climate change, resource scarcity, and urbanization) [1]. Neglecting the impact of global megatrends at the state, organizational, or individual level can lead to crises and conflicts of varying scales and, in some cases, even trigger disasters. The influence of global megatrends on business transformation is now visible in every country, regardless of economic standing or political system. The past five years, in particular, have been marked by instability and permanent crises, ranging from pandemic-related restrictions to escalating armed conflicts [2], as well as natural disasters and environmental catastrophes [3]. While these events may seem unrelated at first glance, together they amplify uncertainty and profoundly reshape the business environment. Therefore, in such conditions, the key for businesses is not to avoid crises, but to build resilience and ensure stable operations under any circumstances.

Among business processes, employee motivation is the least predictable, as it is shaped by the subjective perceptions of management regarding the socio-economic environment. Managers often overlook emerging risks that can undermine productivity and overall performance. In Ukraine, the labor market has been reshaped by the pandemic, military operations, demographic shifts, and technological innovation, all of which have directly influenced employee motivation. Priorities have shifted toward physical and psychological safety, flexibility, and work-life balance. While material rewards remain important, they are no longer decisive, leading many employees to seek stable employment with social guarantees, even at lower pay [4]. Flexible work formats and remote arrangements have gained value, allowing better integration of professional and personal needs.

The resilience of businesses in times of crisis depends largely on their teams. Employee motivation and retention have become critical to a company's survival. A flexible, motivated, and united team can sustain operations even during large-scale upheavals. A striking example comes from the Ukrainian gas station network OKKO in February 2022, at the onset of the war. As people fled dangerous areas toward safer regions or abroad, stations along evacuation routes faced a surge in demand and severe staff shortages. To ensure uninterrupted service, OKKO's HR team called on office employees, who did not normally work at stations, to temporarily reinforce frontline staff. Many volunteered, setting aside their usual duties to assist operators for several weeks. This case not only enabled stations to handle the overwhelming flow of visitors but also strengthened team cohesion, proving that shared values can outweigh job titles. Thanks to these efforts, despite long queues and a fuel shortage in the first three days of the war, OKKO restored stable service within a week [5].

A pressing HR-challenge in Ukraine is the reintegration of veterans, for whom work often provides both income and a pathway to civilian self-realization. The share of veterans fearing unemployment rose from 51% in 2022 to 64% in 2024, with 59% citing a mismatch between military and civilian skills [6]. This trend increases demand for training, retraining, and entrepreneurial skills development, including starting a business. Generational diversity adds another layer of complexity: four generations now coexist in the labor market, each with distinct

motivational drivers: salary dominates for Generation X, while flexibility and work-life balance are central for millennials. Addressing this diversity requires adaptive HR strategies that balance material and non-material incentives, psychological and career development, as well as social benefits and workplace conditions.

The key features of an effective employee motivation management system in today's conditions include flexibility in motivational approaches, alignment with the values of different age groups, avoidance of rigid hierarchies of motives, alignment of employee and organizational interests, and dynamic management. Motivation is not a standalone system but is integrated within the overall business structure and management processes, manifesting throughout the entire employee lifecycle: from recruitment to dismissal. During recruitment, an organization assesses a candidate's motivational profile and compatibility with corporate culture and values. At the adaptation stage, motivation is shaped through orientation to company rules and ethics, followed by traditional mechanisms such as rewards, recognition, and performance evaluation. Modern employees' motivational profiles are increasingly influenced by social responsibility, reflecting a shift driven by global megatrends. Today, social responsibility goes beyond environmental and quality standards; it encompasses fair and inclusive treatment of personnel, decent work conditions, and engagement with the social life of the community. Many employees seek work that is meaningful and socially significant. Given that people remain the primary value of organizations and the key creators of added value, personnel development strategies must adapt to changing employee priorities and motivational drivers. Building resilient, motivated, and cohesive teams is essential for business sustainability, especially under conditions of permanent uncertainty, crises, and rapid technological and societal change. Organizations that align HR strategies with global trends and employee values gain a competitive advantage and ensure long-term operational stability.

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IMPLEMENTATION OF ESG STANDARDS FOR SUSTAINABLE DEVELOPMENT IN THE EU COUNTRIES AND UKRAINE

In modern economic science, ESG standards are considered to be a set of regulatory and voluntary norms, methodologies and indicators that consider the environmental, social and governance impacts of companies' and financial institutions' activities. They also contribute to achieving the UN Sustainable Development Goals and implementing sustainable finance policies, particularly within the European Union.

ESG (Environmental, Social and Governance) is a widely used approach among investors, financial institutions and government agencies for assessing the resilience and responsibility of companies. ESG standards act as critical stability markers that guide modern institutional and private investors around the world. Environmental factors assess a company's environmental impact and include emissions of carbon dioxide and other greenhouse gases, energy efficiency, use of renewable sources, waste and water resources management, environmental risks, and climate strategy. Social factors demonstrate how a company interacts with people and society, including working conditions and labour protection, respect for human rights, gender equality and inclusion, relationships with communities and consumers, and business social responsibility (CSR). Management factors characterise the quality of a company's management, focusing on the structure and independence of the board of directors, transparency and financial reporting, anti-corruption policy, shareholder rights protection, and the control and risk management systems.

In the EU, the systematic development of the legal framework for integrating environmental, social and governance factors into financial and corporate processes began in 2018. In Ukraine, the process of establishing a national legal and institutional framework for ESG began in 2020-2021 in parallel with international initiatives and technical assistance, when international organisations such as the UNDP, IFC and SBFN launched projects to support the green instruments market and prepare guidelines for issuers and financial institutions. Table 1 shows the sequence of formation and development of ESG legal regulation in the EU and Ukraine.

Table 1. The main stages in the development of the EU and Ukraine's ESG legal frameworks

Year	Country	Document/Initiative	Essence of Regulation
015	EU	Paris Agreement and UN Sustainable Development Goals (SDGs) - Initial International Benchmarks	Set climate and sustainable development goals, which have catalysed the development of EU regulations in the fields of sustainable finance and corporate reporting.
018	EU	Action Plan on Financing Sustainable Growth	A comprehensive 'action plan' on sustainable finance is being created, which includes the development of a taxonomy and disclosure requirements, as well as the integration of ESG into financial decisions. Technical and regulatory work has begun.
019	EU	European Green Deal	The strategy to achieve net zero emissions by 2050 sets priorities and accelerates the adoption of ESG/sustainability regulations.
019	EU	SFDR, Regulation (EU) 2019/2088	It establishes ESG disclosure obligations for financial market participants, such as investment managers, pension funds and advisors, to ensure transparency regarding their products, policies and risks, and to combat 'greenwashing'.
020	EU	EU Taxonomy Regulation (EU) 2020/852	It defines the criteria that constitute 'environmentally sustainable' economic activity and creates a framework for classifying and reporting on 'taxonomic' compliance.
022	EU	Corporate Sustainability Reporting Directive CSRD, (EU) 2022/2464	The introduction of mandatory enhanced non-financial reporting in accordance with the ESRS standards.

023	EU	ESRS - European Sustainability Reporting Standards	The Technical Standards for CSRD detail disclosure requirements on environmental, social and corporate issues.
023	EU	ESG Rating Transparency Regulation (Proposal COM (2023)314)	Regulation of ESG rating providers to increase transparency of their methodologies.
3 5	202 202 EU	Phased implementation of CSRD / SFDR / Taxonomies (reporting phases, technical standards, revision)	Phased timelines for various groups of companies and financial institutions: large companies first, followed by small and medium-sized enterprises throughout the supply chain. There is constant technical refinement and updating of standards.
019	Ukraine	Sustainable Development Goals of Ukraine for the period up to 2030	These guidelines ensure that draft forecast and programme documents, as well as draft regulations, strike a balance between the economic, social and environmental dimensions of Ukraine's sustainable development.
021	Ukraine	National Economic Strategy for the period until 2030	It provides for the need to take into account the Sustainable Development Goals to achieve economic results.
021	Ukraine	Sustainable Finance Development Policy 2025, NBU	The priorities for the integration of ESG risks into banking supervision, the development of the market for 'green' instruments and increased transparency are to be achieved by 2025. This document is a fundamental roadmap for the financial sector.
021	Ukraine	Ukraine Appendix to the NSSMC Corporate Governance Code	Implementing ESG-Based Recommendations in Company Management Strategy.
021	Ukraine	Law of Ukraine "On the Fundamentals of Climate Policy"	Establishing disclosure requirements regarding the impact of activities on the climate.
023	Ukraine	Ukraine Adaptation of the directive 2010/75/EU on industrial emissions	Reducing industrial pollution and increasing enterprises' environmental responsibility.
024	Ukraine	Ukraine Strategy for the Implementation of Enterprise Reporting on Sustainable Development	The enterprise's access to non-financial information is defined as a key factor in ensuring sustainable development and increasing its investment attractiveness and competitiveness.

Source: compiled by the author on the basis of [1-5].

ESG standards are a key element of modern investment policy, influencing companies' development strategies and competitiveness in the global market. The EU has already established a comprehensive system of ESG regulations, comprising strategic documents and clear reporting standards, to ensure transparency and consistency. Ukraine is moving towards harmonising its own legislation with European requirements by implementing the first systemic steps and adapting international standards such as GRI and TCFD. However, the practical implementation of ESG in the domestic business environment remains selective and requires significant resources. Despite these challenges, developing ESG in Ukraine creates the conditions necessary for strengthening investment attractiveness, improving corporate governance, and transitioning to a more sustainable economic model.

The implementation of ESG standards provides companies with comprehensive strategic advantages:

- systematic consideration of environmental and social factors reduces operational, reputational and regulatory risks, thereby making the business more sustainable in the long term;
- integrating ESG into corporate strategy improves financial performance: companies with high ESG performance tend to demonstrate more stable revenues, higher management efficiency, and a better reputation in the market;
- investors who are focused on sustainability are more likely to be attracted to such companies because responsible businesses are less likely to face sanctions or regulatory restrictions

and are able to ensure predictable development. High ESG ratings also facilitate access to capital, as companies receive more favourable financing conditions when placing shares and attracting loans, since banks and credit institutions favour enterprises that adhere to the principles of sustainable development.

Thus, ESG standards are becoming a vital tool for responsible management and an important factor in strengthening companies' competitiveness in the global market.

However, the implementation of ESG standards in Ukraine is hindered by an imperfect regulatory environment, a lack of mandatory reporting standards, poorly developed market infrastructure, limited access to quality data, a lack of clear rules, the advisory nature of existing initiatives, and an insufficient number of financial instruments, particularly ESG funds and green bonds. The ongoing large-scale war in Ukraine poses significant challenges to the country's economy and environmental stability. The attraction of 'green finance' could be a vital means of promoting sustainable development and facilitating post-war economic recovery [6]. War risks have further slowed development, narrowed the information base and complicated the practical implementation of sustainable approaches within companies. Many enterprises struggle to collect ESG data due to a lack of IT solutions and qualified personnel, creating serious methodological and technological barriers.

At the same time, these challenges highlight the need for systemic changes. Business and expert organisations emphasise the importance of introducing uniform standards, digitising processes, developing support infrastructure and investing in staff training. Gradual regulation of the ESG sphere, clearer reporting requirements, and the emergence of new financial instruments could accelerate Ukraine's transformation, making it more attractive to investors and creating the conditions for a sustainable and transparent sustainable finance market in the post-war period.

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SUSTAINABLE DEVELOPMENT OF ENTERPRISES: THE SOCIO-ECONOMIC DIMENSION OF ESG REPORTING

In the context of the ongoing global transformation of the economy, the concept of sustainable development of enterprises is gaining strategic importance, as it combines economic

efficiency with social responsibility and environmental security. One of the key instruments for implementing these principles is ESG reporting, which ensures business transparency and strengthens trust among investors, public authorities, and society. The issue of non-financial reporting is particularly relevant for Ukraine in the context of European integration and post-war economic recovery.

ESG reporting encompasses three interrelated components (environmental, social, and governance), reflecting the impact of enterprises on socio-economic development, the labor market, management quality, and the investment climate. According to the European Commission, the implementation of the Corporate Sustainability Reporting Directive (CSRD) extends mandatory non-financial reporting to approximately 50,000 companies in the European Union, indicating the systemic integration of the ESG approach into EU economic policy [1].

The socio-economic effects of ESG reporting are manifested through increased investment attractiveness of enterprises. Companies that disclose non-financial information in accordance with international standards gain improved access to capital and green financing instruments. In line with the provisions of the European Green Deal, sustainable business development is considered a key factor in achieving the EU's climate objectives, particularly the reduction of greenhouse gas emissions by at least 55% by 2030 [2].

In Ukrainian practice, large enterprises have been voluntarily applying GRI, SASB, and TCFD standards for several years, thereby creating a foundation for a gradual transition to the European ESRS standards. Academic research by Ukrainian scholars confirms that ESG reporting serves as an effective tool for enhancing business transparency and social trust, as well as for improving corporate governance systems [3]. In addition, ongoing studies focus on the development of organizational and economic mechanisms for ensuring sustainable development of enterprises [4]. At the same time, the lack of unified methodologies and shortages of qualified personnel remain significant barriers to the wider implementation of ESG reporting.

Thus, ESG reporting constitutes an important instrument for the socio-economic support of sustainable enterprise development, contributing to greater transparency, investment attractiveness, and corporate responsibility. For Ukraine, the advancement of non-financial reporting should become an integral component of the strategy for sustainable economic recovery and integration into the European economic area. Further dissemination of ESG practices requires the harmonization of national regulation with the requirements of CSRD and ESRS, as well as the development of institutional and methodological support for enterprises.

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THE INFLUENCE OF MODERN HIGHER EDUCATION ON THE SUSTAINABLE DEVELOPMENT OF SOCIETY

Higher education today is undergoing constant change and is currently at a turning point. Being a means of personal advancement and disciplinary scholarship, modern universities and

colleges are increasingly recognized as critical driving force for sustainable development — shaping policy, cultivating the workforce of tomorrow, advancing technology, and engaging communities in systemic change. Therefore, it is important to analyze and evaluate how higher education contributes to sustainable development across three interlocking arenas: education and human capital, research and innovation, and community engagement and governance. It draws on international frameworks and concrete institutional practices to sketch both potentials and persistent challenges.

Modern education is critical for sustainable development because it shapes environmental awareness, critical thinking, and new values, preparing citizens to address global challenges, promoting innovation, economic viability, and social balance, rather than just economic growth, by developing responsible behavior and smart consumption. It transforms society from the present to the future by nurturing creativity and evolution.

One can mention the following Key aspects of impact:

- *Awareness raising*: education for sustainable development (ESD) aims to change mindsets, raise environmental awareness, promote respect for resources, and encourage responsible consumption.
- *Development of skills and competencies*: teaches how to solve problems, adapt to change, and implement the innovations necessary for balanced development.
- *Changing the role of the educator*: transforms the teacher into an organizer and mentor who encourages independent problem-solving and responsibility.
- *Socio-economic development*: creates human potential, provides an information base for accelerating development, and increases the competence and social responsibility of citizens.
- *Promoting sustainable development goals*: supports the achievement of UN Goal 4 (Quality Education) by providing lifelong learning opportunities for all.

One of the clearest pathways by which higher education supports sustainable development is through the production of human capital — not just technically skilled graduates, but citizens with the knowledge, critical thinking, and values needed to navigate complex social-ecological trade-offs. The United Nations' Sustainable Development Goal 4 (quality education) explicitly emphasizes lifelong learning and the need to equip people with skills relevant for decent work and active citizenship; higher education institutions (HEIs) are central to achieving these targets. By integrating sustainability topics into curricula, offering interdisciplinary degrees (e.g., sustainability science, environmental policy), and promoting experiential learning, universities can mainstream sustainability competencies across cohorts and disciplines [1].

Across regions, ministries and university systems have responded by embedding the SDGs into program frameworks and learning outcomes. For example, UNESCO and other international bodies have advocated for Education for Sustainable Development (ESD) initiatives that “green” curricula and build climate literacy. When universities require sustainability modules or encourage community-based projects, they not only transfer knowledge but also model collaborative problem-solving - a core skill for navigating the multi-dimensional problems embodied in the SDGs [2].

Beyond teaching, universities are knowledge factories. Research produced in HEIs underpins technological advances (clean energy, circular materials, water treatment), informs policy (urban planning, climate adaptation), and generates social science insights about governance and inequality. International funders and development agencies — including the World Bank — have long recognized that higher education investments can yield broad social and economic returns, particularly when research aligns with local development needs and is shared with policymakers and industry partners [3].

Modern HEIs are experimenting with new models to accelerate impact: interdisciplinary research hubs, public-private partnerships, and “living labs” where campus operations become testbeds for sustainability solutions. University-led consortia often serve as convenors, bringing together scientists, civil society, and local governments to co-design interventions that are both scientifically rigorous and socially acceptable. These translational approaches increase the

likelihood that academic discoveries will be adopted at scale and contribute tangibly to sustainability objectives.

No one will deny that universities do not exist in a vacuum. Their campuses, procurement choices, outreach programs, and extension services interact directly with local communities. Service-learning, community-based research, and extension networks are proven mechanisms for transferring knowledge to marginalized groups, strengthening local economies, and co-producing solutions to environmental and social problems. European and global toolkits on community engagement document many successful cases where student projects and faculty expertise led to measurable local benefits — from small-scale renewable projects to capacity building for municipal planning [4].

Despite their potential, higher education systems also risk reproducing inequalities. Access barriers — financial, geographic, linguistic — can mean that the benefits of university-driven development accrue disproportionately to already-advantaged groups. If research agendas are dominated by elite institutions or Western priorities, locally relevant problems may be overlooked. International reports and evaluations stress the need for policies that expand equitable access, strengthen regional universities, and align research priorities with community needs to avoid exacerbating social divides.

It is important to note that the promise of HEIs for sustainable development depends on inclusivity: curricula must be culturally sensitive; research partnerships must be equitable; and outreach should prioritize underserved communities. When these conditions are met, higher education contributes not only to environmental goals but also to social justice and resilience.

Several systemic barriers hinder the full realization of higher education's role in sustainable development. These include underfunding for interdisciplinary research, siloed academic structures that discourage cross-sector collaboration, misaligned incentive systems that privilege publication over societal impact, and weak mechanisms for translating research into policy. International organizations recommend a suite of policy levers: targeted funding for SDG-related research, incentive structures that reward societal impact and community engagement, capacity-building for teaching sustainability, and stronger partnerships between universities, governments, and civil society [2].

Practical levers implemented in some contexts include mandatory sustainability coursework for all students, dedicated impact units within universities that coordinate outreach, and national strategies that link higher education funding to societal outcomes. These measures help shift institutional culture and align academic outputs with public needs.

So, modern higher education has a genuinely transformative role to play in sustainable development — but that role is neither automatic nor uniform. When HEIs adopt an integrated approach that combines inclusive education, mission-driven research, and meaningful community engagement, they become catalytic actors for the SDGs. Success requires reflexive institutions that are willing to break disciplinary silos, redirect incentives, and commit to equity. International frameworks (UN SDG 4, UNESCO's ESD agenda) and concrete institutional innovations (research hubs, impact rankings, campus greening) provide both a roadmap and a growing set of examples that demonstrate what is possible when universities take sustainability seriously. The challenge now is scaling these practices, ensuring they are inclusive, and maintaining rigorous evaluation so higher education's contribution to a resilient, equitable future continues to grow.

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HUMAN VS ARTIFICIAL INTELLIGENCE

Artificial intelligence technologies quickly process large amounts of data, find patterns that humans do not notice, and provide stable results in repetitive tasks. That is why there is a sense of competition, especially in professions where there are many routine operations, standard checks, classifications, and predictions. At the same time, humans retain strong positions where meaning, values, ethics, responsibility, explanation of motives, and the ability to act in situations where data is insufficient or contradictory are important. The conflict is intensified when AI systems are used in high-risk areas, such as medicine, finance, recruitment, and law enforcement, because an error or bias in the model can have real consequences for people's lives and rights. Therefore, the question is not who is stronger, but who has the final say, who is responsible, and how to ensure that decisions remain fair, understandable, and verifiable. The feeling of confrontation also feeds into the psychology of trust. Research shows that people may avoid algorithms after seeing them make mistakes, even if the algorithm's predictions are generally more accurate, an effect described as algorithm aversion [1]. At the same time, there is also an opposite pattern, when people are more willing to accept advice from algorithms than from other people, especially in evaluation and forecasting tasks, an effect called algorithm appreciation. This means that confrontation often depends not only on the quality of the model, but also on how people see its performance, how uncertainty is presented, whether there is an explanation, whether the decision can be appealed, and whether it is perceived as a mere replacement for a human. If AI technologies are implemented as a support tool, with clear boundaries, with the right of the human to check, correct, and take responsibility, then tension is reduced and the quality of decisions increases. If they are presented as the final arbiter, without transparent procedures, then even accurate models cause resistance, because people feel a loss of control.

The most realistic trajectory of development is to move from the logic of competition to the logic of role distribution. A person should determine the goals, rules, criteria of fairness, as well as the boundaries of application, while systems based on artificial intelligence can be responsible for the speed, scale and variability of analysis. In practice, this leads to a model where key decisions with high consequences are made under human supervision, and algorithmic recommendations are checked for bias, data errors, deterioration of quality over time, and compliance with legal and ethical requirements. For society, this means the need to update education, develop digital literacy, train specialists who can work with models, and form rules of responsibility, when it is clear who is responsible for the result. As a result, the confrontation "human versus AI technology" is better understood as a competition for control over decisions, which can be reduced through transparency, accountability and preserving the role of humans as bearers of values and responsibility.

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MANAGERIAL DECISION-MAKING IN THE DESIGN OF LOGISTICS SYSTEMS UNDER CONDITIONS OF DIGITAL TRANSFORMATION AND TURBULENCE OF THE EXTERNAL ENVIRONMENT

In the modern economy, logistics systems have acquired the status of strategic management components that determine the resilience of enterprises, the efficiency of operations, the speed of response to external changes, and the ability to ensure the continuity of supply chains. Between 2022 and 2025, Ukraine's logistics infrastructure experienced an unprecedented impact from military actions: destruction of transport routes shifts in supply channels, disruptions in global trade flows, and reformatting of transport corridors. These challenges intensified the need for enterprises to adopt new managerial decision-making approaches that integrate digital technologies, big data analytics, risk management, and adaptive modelling. As emphasized by contemporary Ukrainian researchers, logistics has transformed from a purely operational function into a multidimensional management system that shapes the competitiveness of enterprises under conditions of crisis and uncertainty.

The design of logistics systems encompasses a wide range of managerial decisions — from selecting the configuration of supply networks and warehouse locations to optimizing inventory, transportation routing, implementation of digital platforms, risk assessment, and ensuring ecological sustainability. Digital transformation is radically transforming the methodology of decision-making: modern logistics systems increasingly rely on machine learning, predictive analytics, Internet of Things (IoT) technologies, real-time data synchronization, and the use of digital twins to model complex scenarios. The application of these technologies enables companies to reduce costs, improve forecasting accuracy, and promptly respond to market fluctuations.

Modern logistics systems operate in an environment where information has strategic value, and the speed of its processing determines the competitive advantages of an enterprise. Managerial decisions can no longer rely solely on retrospective analysis, as logistics flows have become more complex, dynamic, and interconnected. Managers are required to work with large data sets, combine operational analytics with long-term forecasting, and take into account the influence of global trends — from digitalization to changes in consumer behavior. These changes lead to the formation of new managerial competencies in which analytical thinking, the ability to interpret complex models, and the capacity for rapid response play a critical role.

A key challenge for contemporary enterprises is the integration of heterogeneous elements of a logistics system into a unified management framework. Warehousing complexes, transport divisions, information platforms, suppliers, and consumers can function as an integrated network only when managerial decisions are based on synchronized data and clearly defined interaction parameters. In today's environment, enterprises face the need for process standardization, implementation of end-to-end digital traceability, and the creation of flexible communication channels between all participants of the supply chain. Such integration reduces operational errors, decreases costs, and ensures the stability of logistics flows in crisis conditions.

Another essential aspect of management is the formation of logistics system resilience strategies that account for a wide range of potential threats — economic, political, technological, and natural. Modern enterprises increasingly develop multi-level protection systems that include diversification of supply channels, creation of reserve capacities, application of autonomous transport solutions, and implementation of early risk-detection systems. This approach not only

accelerates the recovery of logistics processes after crises but also helps prevent disruptions, transforming logistics into a strategic tool for long-term development.

A particularly important issue is the adaptability of logistics systems. Under wartime threats, force majeure circumstances, port blockades, changes in transport corridors, and unstable energy supply, enterprises must rapidly reroute flows, form alternative transportation paths, increase strategic inventories, and apply scenario planning models. According to Ukrainian scholars, the ability of a logistics system to flexibly reorganize and support rapid decision-making determines its resilience under turbulence.

The events of 2025 are shaping a new paradigm for the development of logistics systems both in Ukraine and worldwide. Following the transformations initiated in 2022–2024, the year 2025 highlights the increasing role of technological integration of supply chains and their resilience to long-term shocks. The shift from individual digital solutions to full digital convergence of logistics systems is accelerating, with enterprises integrating ERP, TMS, WMS, and SCM platforms into a unified information environment. This integration ensures real-time synchronization of data among all participants in the supply chain and enables decision-making based on predictive analytics. In 2025, Ukrainian companies are increasingly using digital twins of logistics processes, allowing them to test routing options, model risks, and develop anti-crisis plans in real time.

Moreover, 2025 marks a significant rise in the role of artificial intelligence in logistics risk management. AI algorithms predict potential disruptions, analyze route vulnerabilities, assess political and economic risks, optimize warehouse processes, and build scenario-based models of future developments. Under conditions of war and instability in Ukraine's transport markets, such instruments have become indispensable for managerial decision-making. Logistics decisions are increasingly supported by automated recommendation systems.

At the same time, 2025 has intensified the relevance of ecological logistics. The European Union's requirements for "clean" supply chains and decarbonization necessitate the implementation of green transport solutions, reverse logistics, energy-efficient warehouse technologies, and environmentally oriented management models. In the coming years, logistics systems are expected to evolve into network-based adaptive ecosystems capable of autonomously redistributing flows, responding to demand fluctuations, and maintaining resilience to global threats.

The analysis of events from 2022 to 2025 demonstrates that the effectiveness of logistics decisions depends on the system's ability to integrate digital tools, adapt flexibly to external influences, implement environmentally oriented approaches, and ensure the resilience of supply chains. Managerial decision-making in the design of logistics systems requires a comprehensive approach that combines digital technologies, adaptive models, ecological criteria, and contemporary management methodology. It is precisely the combination of these factors that ensures the stability, efficiency, and development of logistics systems under conditions of global and national turbulence.

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INTEGRATION OF EUROPEAN SUSTAINABLE DEVELOPMENT STANDARDS INTO THE FINANCIAL POLICY OF UKRAINIAN ENTERPRISES

The integration of European sustainable development standards into the financial policy of Ukrainian enterprises has gained particular importance within the context of Ukraine's European integration path, post-war reconstruction, and the implementation of the European Green Deal. Directives (EU) 2022/2464, European Sustainable Development Reporting Standards, the EU Taxonomy, and related regulations are radically changing the informational framework for investors and creditors, enhancing the role of non-financial indicators in accessing capital. Ukraine is gradually establishing a national framework for the implementation of these approaches. The Decree of the Cabinet of Ministers of Ukraine No. 1015-r, dated October 18, 2024, approved the Strategy for the Introduction of Sustainable Development Reporting by Enterprises, which outlines a phased alignment with the requirements of CSRD (Corporate Sustainability Reporting Directive) and ESRS (European Sustainability Reporting Standards), as well as the development of methodological recommendations for the preparation of non-financial reports [1].

National legislation does not yet establish a general obligation for all companies to prepare comprehensive ESG (Environmental, Social, Governance) reports. However, for enterprises integrated into European supply chains or present in EU capital markets, such requirements are essentially becoming mandatory through contractual and regulatory mechanisms. This situation necessitates the adaptation of internal financial policies to European standards, even before the formal implementation of the relevant regulations across the corporate sector.

The development of sustainable finance and green financial instruments is of particular importance for the transformation of financial policies in enterprises. V. Sapozhnikov links them to the formation of special financing channels for projects aimed at reducing emissions, enhancing energy efficiency, and resource conservation, through the issuance of green bonds, targeted credit lines, and blended finance mechanisms [2, p. 610]. I. Chugunov considers green financial instruments as a necessary condition for the implementation of the European Green Deal in Ukraine, emphasizing the role of the state and international financial institutions in creating a favorable institutional environment for such operations [3]. The private sector can also become a key driver of green and sustainable reconstruction, provided that it has access to transparent, predictable, and EU-aligned financial instruments [4].

It is worth noting that the integration of sustainable development standards is gradually transitioning from a declarative level to influencing financial decisions and management approaches. Companies like Vodafone Ukraine, LLC «INTELIAS», LLC SP «NIBULON», AB «UkrGasbank», and several others regularly publish sustainable development reports, aligned with GRI (Global Reporting Initiative), SASB (Sustainability Accounting Standards Board) standards, and the principles of the UN Global Compact. The content of these reports reflects the integration of ESG factors into the system of key financial performance indicators: target indicators for reducing emissions, energy consumption, water use, environmental expenditure structures, as well as metrics related to gender equality, labor safety, and corporate governance.

It is important to emphasize that successful integration of European standards requires substantial modernization of accounting systems, management reporting, and internal control systems. Barriers remain, including insufficient training of financial managers and accountants in sustainable development, the lack of standardized national methodological documents, and significant transaction costs for implementing systems to collect and verify ESG data, especially for small and medium-sized businesses.

Therefore, the integration of European sustainable development standards into the financial policy of Ukrainian enterprises involves not just formal compliance with the requirements of Directive (EU) 2022/2464 but a rethinking of approaches to strategic planning, budgeting, and risk

management in line with environmental and social objectives. Aligning financial decisions with decarbonization principles expands access to sustainable financial instruments, strengthens reputational capital, and increases corporate resilience. However, it also requires the modernization of accounting systems, staff training, and the development of effective communication with stakeholders. In the long run, these transformations could significantly enhance the competitiveness of Ukrainian enterprises in EU markets and contribute to the sustainable recovery of the economy.

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TRANSFORMATION OF UKRAINE'S LOGISTICS INFRASTRUCTURE IN THE CONTEXT OF MILITARY CHALLENGES AND EUROPEAN INTEGRATION

The sustainable development of socio-economic systems in modern conditions is directly linked to the financial stability of logistics infrastructure and its ability to generate new innovative business models. Global transformations in world logistics in 2024–2025 are driven by increased geopolitical risks, fragmentation of supply chains, and a rethinking of the role of transport infrastructure in creating added value [1].

Maritime transport, while remaining a key element of international trade, is characterized by growing financial risks, volatility in freight rates, and increased transaction costs, which stimulate the search for alternative logistics solutions and more cost-effective routes [2]. In these conditions, the spread of nearshoring and reshoring strategies contributes to the emergence of new business models focused on regionalizing production, reducing logistics costs, and increasing the investment attractiveness of territories [3].

A key factor in the transformation of logistics is the development of automation and digital technologies, which form the basis of platform-based and service-oriented business models. The development of automated warehouses, on-demand warehousing, and digital inventory management systems increases capital turnover, reduces operating costs, and creates new sources of income for logistics operators [4; 5]. In financial and economic terms, logistics is increasingly becoming not a supporting function, but an independent, innovative sector of the economy.

Under martial law, Ukraine is demonstrating accelerated adaptation of its logistics infrastructure to new financial and economic realities. The development of alternative transport corridors, the integration of railway infrastructure with European standards, and the attraction of international financing are creating the conditions for the emergence of innovative business models in logistics, infrastructure development, and public-private partnerships [6].

The results of analytical data on investment opportunities in infrastructure and logistics in Ukraine [5], as well as indicators from a detailed analysis of the logistics automation market [7], indicate significant multiplier potential for the transformation processes of Ukraine's logistics infrastructure. According to estimates by international organizations, Ukraine's total reconstruction needs exceed US\$500 billion, with transport and logistics infrastructure accounting for one of the largest items of investment needs. At the same time, the global market for logistics automation and flexible warehouse solutions is showing stable growth rates, confirming the high return on investment in digital and service-based logistics business models.

The post-war reconstruction of Ukraine is seen by international financial institutions as an opportunity for structural modernization of the economy, where logistics infrastructure acts as a catalyst for investment, entrepreneurial activity, and financial integration into the European economic space [7]. Thus, the transformation of logistics is a key factor in the formation of innovative business models and ensuring the sustainable financial and economic development of the state.

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DEVELOPMENT OF THE HOTEL AND RESTAURANT BUSINESS IN UKRAINE DURING WARTIME: FOCUS ON HOTEL SECTOR TRANSFORMATION

The full-scale military aggression of the Russian Federation against Ukraine since February 2022 has provoked an existential crisis in the hospitality industry and restaurant business. The hotel business, as a sector with significant, immobile fixed assets and high dependence on security and migration flows, has found itself under unprecedented pressure. The problem lies in the destruction of the classical hotel business model, the collapse of tourist demand, physical destruction of

facilities, and a sharp change in the demand structure, namely, the replacement of tourism with social accommodation.

However, it is the hotel sector that has taken on the primary burden of fulfilling the state's social mission — providing shelter to internally displaced persons and accommodating international humanitarian missions. In central regions, hotel survival has been ensured through functional reorientation of demand. Traditional tourism has been replaced by compensatory business trips of relocated Ukrainian businesses and a stable segment of journalists, volunteers, and staff of international humanitarian missions.

Hotels that promptly invested in security and energy autonomy have been able to maintain higher average revenue per room, positioning themselves as hubs of resilience and reliability under conditions of constant threat [1]. Hotels have effectively transformed into social and humanitarian hubs, providing not only accommodation and meals but also secure workspaces and co-working facilities within their shelters for their guests.

Infrastructural resilience has become the key factor determining a hotel's ability to operate and attract solvent clients. The availability of certified shelters, which are exceptionally reliable and adequately equipped with ventilation systems, communications, and sanitary facilities, has become one of the key selection criteria for international organisations and relocated companies. Energy autonomy has necessitated hotels' investment in powerful diesel and gas generators to ensure continuous 24/7 operation.

The hotel business has suffered substantial losses due to the outflow of frontline staff, particularly housekeepers and reception personnel [2]. In response to staff shortages, establishments have implemented adaptive measures, including simplification of cleaning and service standards, the recruitment and training of internally displaced persons as temporary staff, and the introduction of multifunctional employees by combining several positions.

Restaurant establishments operating within hotel structures have undergone significant transformations. In particular, hotel kitchens have been reoriented towards social catering, functioning as centres for the preparation of substantial volumes of food for internally displaced persons and military personnel, which has enabled the retention of some staff and ensured a minimum level of capacity utilization [3]. Simultaneously, restaurants have been compelled to limit service volumes, reduce operating hours, abandon complex import-dependent menus, and transition to simplified service formats in order to compensate for staff shortages and rising costs.

The experience of Ukrainian hotel business operations demonstrates that, under martial law conditions, investments in security infrastructure, particularly the establishment of shelters and ensuring energy autonomy, acquire greater significance for the establishment's survival than traditional marketing strategies.

As a result, a new standard of hotel service has emerged—a hospitality model oriented toward consumer safety. The strategic priority for post-war development of the hotel sector is identified as the formation and development of rehabilitation hospitality as a new socially significant segment, particularly rehabilitation tourism for veterans and civilian populations affected by the war.

Implementation of this direction will require reconceptualisation of hotels in resort and spa areas, as well as their integration with the system of medical and rehabilitation services.

Overcoming staff shortages requires the implementation of comprehensive programmes for professional training and personnel reintegration, particularly with the participation of veterans, which will contribute to the restoration of the industry's labour potential.

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THE PARADIGM OF INNOVATION DEVELOPMENT MANAGEMENT IN THE CONTEXT OF ENHANCING ECONOMIC SECURITY AND SUSTAINABILITY

The paradigm of innovation development management in this particular context involves the formulation and implementation of an innovation strategy that not only ensures competitive advantages and economic growth but simultaneously strengthens the enterprise's internal and external economic security and contributes to the achievement of sustainable development goals (ESG factors).

In the contemporary environment of global competition, the innovation development of enterprises is emerging as a key vector of strategic management, linked not only to increasing competitiveness but also to the level of economic security in the long term. Innovations are increasingly viewed as a mechanism for risk minimization and business adaptation to the volatility of the external environment, which largely determines the operational efficiency of production systems [1-2].

The innovation management paradigm necessitates the reorientation of enterprises towards the creation of new knowledge, digital products, and high-tech procedures for organizing activities. Academic research indicates that the openness of innovation processes, particularly the implementation of the open innovation concept, facilitates the expansion of access to resources, enhances the quality of managerial decisions, and optimizes investment flows [3-4].

Furthermore, the enhancement of innovativeness is unattainable without a corresponding institutional environment, which must encompass systems for supporting scientific developments, state incentives, intellectual property instruments, and the functioning of innovation clusters. It has been proven that the effectiveness of innovation policy is determined by the level of strategic flexibility and adaptability of enterprises to technological changes [5-6]. Digital technologies play a significant role in shaping the innovation potential, transforming business models, increasing the speed of information processing, and reducing transaction costs. Consequently, innovation development becomes an integrated component of the risk management system, as it ensures the timely response to external threats, thereby enhancing the level of economic security [7].

Recent studies confirm that the implementation of strategic innovativeness mechanisms directly impacts the financial stability and competitiveness of enterprises. Digital tools, data analytics, machine learning, and the use of automated decision support systems are becoming particularly crucial, serving as the foundation for the formation of new managerial models [8-9]. Thus, it should be noted that the paradigm of innovation development management in enterprises directly correlates with their state of economic security, establishing the prerequisites for ensuring technological independence, increasing resilience to external shocks, and strengthening competitive positions in the global market.

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PROSPECTS FOR THE USE OF VIRTUAL CONVERSATIONAL AGENTS IN DEVELOPING COMMUNICATIVE ACTIVITY OF ADOLESCENTS WITH AUTISM SPECTRUM DISORDER

The modern development of artificial intelligence (AI) and social robotics opens new opportunities in correctional and developmental work with adolescents diagnosed with autism spectrum disorder (ASD), particularly in enhancing communicative activity – a key indicator of social functioning. Current research in the field of AI demonstrates that the use of socially assistive robots and AI-based dialogue platforms in the educational process can improve adolescents' skills in social interaction, dialogue construction, emotion recognition, and confidence when interacting with peers [1; 2].

For instance, in a pilot study conducted by a team of developers of a music-therapy robotic platform [1], children diagnosed with ASD who experienced difficulties in emotion recognition and maintaining interaction in dialogue were involved. The results showed that most participants demonstrated more stable turn-taking and improved recognition of partners' emotions, indicating positive dynamics in the development of social communication skills.

The integration of large language models (LLMs) into robotic systems enables dynamic and context-adaptive dialogue. In a recent study conducted by a team of developers of interactive robotic interventions [2], a system was implemented in which a robot controlled by an LLM performed the roles of initiator and moderator of social interaction. The participants – children with ASD who required support in developing socio-communicative skills – showed increased engagement in social initiatives, improved ability to maintain interaction, and development of elements of perspective-taking. Experts also noted the high acceptability and safety of implementing such systems when working with children with ASD.

In this context, we propose a conceptual framework for the use of virtual conversational agents in the systematic development of communicative activity among adolescents with ASD. The

approach is based on the analysis of research conducted by organizations and author teams working in the field of inclusive and special education [3; 4], which emphasize the importance of clearly structured pedagogical interventions. Studies focused on pedagogical conditions and interaction protocols highlight that purposeful use of virtual and robotic agents can enhance emotional engagement, foster more stable patterns of social behavior, and contribute to overall improvements in the social adaptability of adolescents with ASD.

Thus, the main conclusions are as follows:

1. AI-based dialogue platforms and robotic agents can provide structured, repetitive, and emotionally moderated social interactions that are often challenging for adolescents with ASD to acquire independently.
2. The flexibility and adaptability of LLM-driven dialogues allow communication scenarios to be tailored to the individual needs of adolescents with ASD, which creates a comfortable communicative environment and strengthens motivation for social practice.
3. With proper pedagogical design and monitoring, virtual agents can supplement traditional correctional and developmental work, offering additional resources for the development of communicative activity without altering the role of the educator.
4. The integration of such technologies contributes to long-term improvements in social integration, self-regulation, and psychological well-being, aligning with the goals of sustainable and inclusive educational development.

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MANAGEMENT INFLUENCE ON THE IMPLEMENTATION OF ORGANIZATIONAL SUSTAINABLE DEVELOPMENT MODELS

Organizational sustainable development has evolved from a concept of corporate social responsibility into a comprehensive tool for managing strategic sustainability and competitiveness. Management influence on the implementation of organizational sustainable development models in Ukraine, especially after 2022, has taken on new critically important dimensions: ensuring business continuity and rapid adaptation to external interference. The implementation of organizational sustainable development at the level of an individual organization today is not just a matter of corporate ethics, but a vital prerequisite for its economic resilience and access to international capital. These principles, which encompass internal fairness, human capital, transparency, and data governance, are direct levers of managerial influence in the context of constant external shocks, especially in Ukraine. Digital transformation is seen as a powerful management tool that can boost the effectiveness of all pillars of organizational sustainable development. S. M. Ilyashenko and Y. S. Shipulin, Ie. Golyshева [2] emphasize that digital technologies contribute to the formation of an innovative model of sustainable development by optimizing resources in the direction of accurate monitoring of energy and raw material consumption, which directly reduces the environmental footprint, transparency, which implies the automation of data collection for ESG-reporting, and “green” logistics in the supply chain management system to minimize emissions.

Management influence is becoming formalized through the introduction of ESG-management systems. O. Dyugovanets, T. Kulynich, and O. Popovich emphasize the need to transition to mandatory non-financial reporting. Management does not simply report on social projects, but implements management control systems that measure environmental, social, and management indicators. The creation of an ESG-rating is necessary to attract investment, which is a direct economic lever for organizational sustainable development, and to form a socially responsible culture that ensures the preservation of human capital in times of crisis [3].

Another area of organizational sustainable development is the transition to a circular economy. The environmental component of organizational sustainable development requires more decisive action from management. Levandivsky O.T., Ivasyshyn M.O., and Savych O.V. have developed conceptual foundations and roadmaps for this transition [4]. Management influence here consists of a strategic review of the entire product life cycle — from raw materials to disposal — with the aim of minimizing waste and maximizing recycling. This requires significant investment in innovation and changes in operational logic, which are a direct consequence of management decisions.

The current managerial influence on the implementation of organizational sustainable development models in Ukraine is multidimensional and dynamic. It is based on the strategic integration of resilience and digital technologies to ensure ESG-transformation. Management is responsible for adapting to unpredictable conditions, using digitalization for optimization, and formalizing sustainability through ESG standards. Thanks to the work of Ukrainian scientists such as Zabarna, Ilyashenko, and Levandivsky, modern Ukrainian management is receiving the necessary tools to build sustainable and responsible organizations.

At the same time, it should be noted that human capital is currently the most critical asset and, at the same time, the most vulnerable part of an organization during crises. Management focused on social justice, inclusiveness, and decent work is becoming a strategic mechanism for resilience. Organizations that invest in employee support programs, their safety, and continuous training build not only loyalty but also internal resilience. This resilience allows the organization to adapt quickly, maintain high productivity, and avoid a significant outflow of key specialists even in the face of external shocks. Management thus uses its influence on social processes to minimize social risks that could paralyze operations.

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THE IMPACT OF NON-FINANCIAL REPORTING ON THE INVESTMENT ATTRACTIVENESS OF ENTERPRISES

The current global economy prioritizes transparency in business operations, corporate social responsibility, and environmental impact. Non-financial reporting is increasingly essential for building trust between enterprises and stakeholders and enhancing competitiveness. Investors now focus on both financial results and environmental, social, and governance (ESG) factors, which

increasingly influence competitive positions and the ability to secure long-term investment. Non-financial reporting serves as an indicator of quality management and systemic risk management.

Attracting international financing and external investments for reconstruction projects in Ukraine certainly requires the implementation of ESG standards, as leading international financial institutions (World Bank, EBRD) will require confirmation of compliance. According to [1], Ukrainian enterprises are aware of the need to implement these criteria (over 87% support their implementation), but only a small proportion of companies (about 7-9%) are well aware of international ESG standards. A significant problem is that non-financial reporting has different [2]: forms of preparation (from those defined by international standards to those compiled in a free form) and names. This is a significant challenge for enterprises, especially small businesses.

The following international standards are used to systematically disclose non-financial information: GRI Standards, which allow any organization to understand and report on its impact on the economy, environment, and society; SASB Standards enable organizations to clearly communicate industry-specific risks and opportunities for sustainable development; the European CSRD Directive is the most modern regulatory approach to mandatory ESG reporting. The Directive requires companies to disclose more information about their sustainable development performance in their reporting than in other documents used in this area. To implement these standards and increase the investment attractiveness of Ukrainian companies in international markets, the Cabinet of Ministers of Ukraine approved the Strategy for the introduction of sustainable development reporting by enterprises [3]. Its adoption confirms that the implementation of sustainable practices is a priority area of the country's policy, which in turn creates a new reality for doing business both in the European Union and in Ukraine.

A key element of non-financial reporting is its "dual materiality" nature, which combines two complementary dimensions of impact, providing a holistic understanding of environmental, social, and governance (ESG) factors. The first is the environmental impact dimension, which involves assessing the external effects of the organization's activities on the environment and society, covering aspects such as the intensity of natural resource consumption, emissions, compliance with human rights standards in the supply chain, and the quality of working conditions. The second is the financial impact dimension, which analyzes how environmental, social, and governance trends can affect financial sustainability, operating profitability, assets, and overall business risks. This approach transforms the reporting process from a purely formal compliance into a strategic tool that ensures the long-term sustainability and competitiveness of the business.

The practice of non-financial reporting and the implementation of ESG standards play a crucial role, as confirmed by the experience of both Ukrainian and international companies. In Ukraine, DTEK Renewable Energy took pioneering steps by successfully issuing Green and Sustainability-linked bonds. Metinvest publishes sustainability reports to maintain high corporate governance ratings and trust of international financial institutions. For Samsung Electronics, non-financial reporting is critical to building global reputation and investor confidence, particularly in the US and EU markets.

Non-financial reporting thus transforms investment attractiveness by reducing information asymmetry (providing investors with more complete data to assess risks) and reducing the cost of capital (as high ESG ratings are perceived as less risky), and also broadens the investor base.

Thus, non-financial reporting is a strategic resource of a modern enterprise, which determines its competitive position and investment attractiveness. The mandatory spread of ESG reporting in Ukraine will become one of the most important drivers of increasing trust in the national business environment and integration into the global economy.

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STRATEGIC GUIDELINES FOR THE FINANCIAL AND ECONOMIC TRANSFORMATION OF TRANSPORT ENTERPRISES IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

In the contemporary globalized world, characterized by an escalating focus on environmental and social issues, the sustainable development of transport companies is undergoing a transformation from an ethical norm to a pivotal factor for competitiveness and financial and economic growth. The transport and logistics sector is a pivotal driver of the global economy; however, it is concurrently a substantial contributor to CO₂ emissions and a significant consumer of resources. The integration of the principles of sustainable development – economic and financial efficiency, social responsibility and environmental safety – necessitates a profound financial and economic transformation [1].

The maintenance of *economic stability and the optimization of financial efficiency* are of paramount importance. The objective of this benchmark is to ensure the long-term viability and competitiveness of transport companies. To this end, the following measures are recommended: diversification of financial sources to attract green financing, investments in sustainable infrastructure and innovation; optimization of operating costs, including the introduction of energy-efficient technologies, optimization of routes and logistics processes, and the use of artificial intelligence to forecast demand and load; risk management, including the integration of climate and ESG risks into financial modeling and business planning; increase in investment attractiveness, ensuring transparency of financial reporting and disclosure of ESG indicators to attract responsible investors.

The concept of *environmental responsibility* encompasses the reduction of carbon footprints in order to mitigate the impact of transportation activity on the natural environment. This benchmark is critical, given the transport sector's role as a significant source of greenhouse gas emissions. Key actions to address this challenge include: transitioning to low-carbon technologies (strategic investments in replacing the vehicle fleet with electric, hydrogen or biofuel equivalents); developing intermodal and multimodal transport (promoting the use of rail and water transport for freight as more environmentally friendly alternatives to road transport); energy management and resource efficiency (introducing fuel/energy and water consumption monitoring systems, using renewable energy sources to power infrastructure); and waste management and circular economy.

The concept of *social responsibility* encompasses a commitment to inclusivity, safety, and the assurance of service quality. This commitment is manifested through investments in technological advancements aimed at enhancing passenger and cargo safety. Furthermore, it involves the development of human capital through ensuring fair working conditions, providing vocational training, and retraining staff in accordance with the demands of the green economy. In addition, accessibility and inclusivity are pivotal aspects of social responsibility. This commitment is evident in the development of transport infrastructure and services that are accessible to all population groups, including individuals with disabilities.

The general *strategic guidelines for the financial and economic transformation of transport companies* can be summarized as follows: investments in decarbonization and digitalization (financing of green assets; digitization of supply chains); the use of new financing models

(attracting Green Bonds, Social Bonds and Sustainability-Linked Loans, where the rate depends on the achievement of ESG indicators); the formation of public-private partnerships for the development of sustainable infrastructure; the integration of ESG criteria into the management system (including ESG indicators in the KPI system for management and investment decisions; assessment and hedging of climate and social risks, such as the risk of carbon tax) [2,3].

In order to successfully implement the aforementioned guidelines, it is essential to develop clear mechanisms. Such mechanisms should include the integration of ESG into the corporate strategy of transport companies. Furthermore, key performance indicators should be developed in the context of sustainable development. Such metrics may include the use of indicators such as carbon intensity per unit of transport, occupational safety ratio, and share of green investments in the overall investment portfolio. Finally, the introduction of innovations is paramount. Consequently, the strategic priorities of the financial and economic transformation of transport companies in terms of sustainable development involve a paradigm shift: from a focus on immediate profitability to the creation of long-term value that integrates economic results with environmental stability and social responsibility. Such an integrated approach will enable transport companies to maintain their competitive positions and become a driving force for a new type of global economy.

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EVOLUTION OF CONSUMER BEHAVIOR IN THE MARKET OF GOODS AND SERVICES IN THE MODERN ECONOMIC CONDITIONS

Researching the evolution of consumer behavior in the market of goods and services is a multifaceted issue. Let us consider the meaning of the category "evolutionism" below. Evolutionism (from the Latin "evolution" - unfolding) is the doctrine of development as a process of continuous change, merging into one another without interruption [1]. The peculiarities of the modern economic conditions in which commercial enterprises operate in the market of goods and services include constant change and risk, which influences their management decisions. There is a need to study these changes because consumer behavior in the market of goods and services is constantly evolving.

The category "consumer behavior" includes the actions people take when purchasing goods or services. The principles that guide consumers in the market for goods and services include the following: complete power of consumers in making final decisions about purchasing (or not purchasing) goods or services; consumers have rights; consumers must be understood, etc.

As has been discovered, a number of authors have studied consumer behavior regarding the decision to purchase (or not purchase) certain goods and services and the factors influencing their decisions. It should be noted that the content of the Angel-Blackwell-Kollat model is the

influence of a number of factors on the consumer's final decision to purchase goods or services: the problem that consumers want to solve; information search for decision-making; external stimuli and the selection of information from them; media and experience; anticipated and unforeseen circumstances; lifestyle; consumer beliefs and intentions regarding the purchase of a product or service; personality, conformity, memory, attention, motives, social influences, etc. A distinctive feature of J.Sheth's model is that the decision to purchase goods or services is made by the family [2, pp. 51-52].

Scientists J. Howard, J. Schett, and J. Bettman propose a model of consumer behavior that reflects their intentions to purchase goods or services through the following process: information, attention, perception, attitude toward the offered product or service, purchase intention, and purchase. The interchangeable variables of this model are psychological, input, and output factors of influence [3]. Research on this topic by scientist James Bettman led to the emergence of the "consumer information processing model," which suggests the following: the consumer's decision-making process to purchase a product or service is carried out under the influence of such factors as: information processing ability, which may be limited; accessibility and evaluation of information; clear functioning of internal regulatory actions; experience of preliminary purchases on decision-making; the influence of the decision on consumption processes, the accumulation of new experience and knowledge [4, p. 44].

It has been studied that the development of information and communication technologies and innovations introduced by commercial enterprises in their activities make it possible to influence consumer behavior. Let's consider some computer programs used by market participants to study consumer behavior in the current economic environment: 1 - CRM (Customer Relationship Management) - a customer relationship management system that helps businesses organize, automate, and analyze all customer interactions. CRM is a "repository of all customer data," allowing businesses to better serve them, increase sales, optimize sales and marketing processes, and maintain loyalty; 2 - DMP (Data Management Platform) - a platform for collecting, storing and managing user data from various sources, which helps create precise audiences for advertising and marketing campaigns. This is essentially an "audience data hub," combining information from websites, applications, CRM, social media and third-party sources to help marketers display advertising to precisely those users who are likely to be interested [5-6].

In conclusion, the following should be noted: consumer behavior in the market of goods and services can be managed in the current economic conditions by introducing innovative communication technologies and using modern software. A number of such models and tools that allow for a better study of consumer behavior in the market of goods and services include the following: CRM, DMP, etc. Objectively and ethically interpreted results of marketing research on consumer behavior in the market of goods and services allow commercial enterprises to achieve the following: prevent certain risks; forecast future sales volumes of goods (services); increase the level of competitiveness; adapt the properties of goods and services in accordance with the wishes of consumers, etc.

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MACROECONOMIC TRANSFORMATIONS OF UKRAINE AND POLAND UNDER CONTEMPORARY TURBULENT CONDITIONS

Ukraine and Poland find themselves at the crossroads of profound geopolitical and security changes, which directly affects their macroeconomic transformations. The geopolitical situation after 2014 and especially after 2022 has shaped a new security architecture in Europe, in which the role of Central and Eastern Europe has increased. Ukraine and Poland have found themselves at the forefront of changes in global production, logistics and energy chains, which directly affects macroeconomic processes. The war caused one of the largest macroeconomic shocks in Europe since World War II. Its impact on Ukraine and Poland varies in scale, but for both countries it is systemic.

Ukraine is experiencing a large-scale impact caused by a full-scale war, which has changed the structure of public finances, the labor market, production chains, trade flows, etc. Poland, as a neighboring state, is experiencing indirect impacts: migration, transport and logistics, investment and energy. Both economies are carrying out structural rearrangements in conditions of geoeconomic instability (change of logistics corridors, restructuring of energy markets, investments in the defense-industrial complex).

The analysis of macroeconomic indicators of Ukraine, described in the publication [1], indicates the large-scale impact of the Russian Federation's war against Ukraine on macroeconomic processes in Ukraine and people's lives. Ukraine has undergone profound structural changes (relocation of production, change in the export structure, transformation of the energy sector), macro-financial transformations. In the conditions of a full-scale war, defense spending increased and in 2023-2024 amounted to more than 50% of the state budget of Ukraine; the budget deficit of Ukraine in 2024 amounted to 17.74% of GDP. Given the great needs for financing the country's defense capabilities, as well as the need to finance current expenditures on education, healthcare, social protection, etc., Ukraine's dependence on external support from partners has increased, which, on the one hand, has become the basis of Ukraine's stability, and on the other hand, as a result, Ukraine's state and state-guaranteed debt has increased (in 2024 it reached a critical level - 91.2% of Ukraine's GDP, which indicates a difficult situation with the level of financial security of Ukraine). Ukraine's foreign trade balance of goods and services has also significantly deteriorated [1; 2; 3]. Migration and internal population displacement have led to regional employment imbalances, while digitalization and business relocation contribute to the emergence of new employment segments.

The analysis of the main macroeconomic indicators of Poland under the influence of the war in Ukraine and global turbulence is analyzed in the publication [4]. Poland's GDP shows generally positive dynamics, although the annual growth rates are insignificant. Poland is increasing its foreign trade opportunities, achieving a positive foreign trade balance in 2023-2024. The impact of Russia's war against Ukraine on the socio-economic development of Poland is ambivalent. Among the key effects for Poland, it is necessary to note the migration effect. Poland accepted about 1.6 million Ukrainian refugees, which reduced the labor shortage in the short term and supported consumer demand. The fiscal consequence was additional budget expenditures related to the social integration of migrants, defense programs and investment in critical infrastructure. Poland has become a key transit and trade partner of Ukraine, which increased bilateral trade and demand for transport services. Investments in the defense sector contribute to structural shifts in industry and stimulate economic growth in Poland [4; 5].

The main aspects that affect the macroeconomic trends of Ukraine and Poland in the context of war and global turbulence are described in Table 1.

Table 1. Macroeconomic transformations of Ukraine and Poland in terms of key characteristics

Aspect	Ukraine	Poland
Key issues and challenges	Direct military shock, destruction of infrastructure, demographic losses, aid dependence, rising public debt, changing economic structure	Indirect impacts of the war in Ukraine: inflation, energy risks, integration of migrants, energy modernization needs, financing of the defense industry
Economic sustainability	Resilience is ensured by international assistance and emergency reforms	Sustainability is based on EU integration and prior diversification
Investment climate	Focus on investments under international guarantees	Remains attractive for investment, stable investment inflow
Logistics and trade	Search for alternatives to sea routes, development of land logistics through the EU	Expanding the role of a logistics hub for Ukraine and the region
Digitalization	Rapid development of digital government services (Diya, digital documents)	Emphasis on industrial automation and digitalization of production
Demography	Population outflow, labor shortage	Inflow of Ukrainian workers, stabilization of the labor market
European integration	Active adaptation to EU standards, the process of obtaining EU membership	Full integration into the EU, access to cohesion funds
Defense-industrial development	Accelerated development of the military-industrial complex in response to the war	Preventive buildup of the military-industrial complex, strengthening the security of the region
Financial policy	Focus on macro-financial stability with support from the IMF and the EU	Independent policy management, coordination with the European Central Bank, European financial institutions
Key opportunities	European integration, digitalization, post-war reconstruction	The role of the regional hub, the development of the military-industrial complex, the growth of investments

Source: compiled by the authors.

It is worth noting that geopolitics is not an external background, but a fundamental driver of macroeconomic transformations, which determines the priorities of industrial policy, investment flows, technological development and fiscal decisions in Ukraine and Poland. The European Union has strengthened the policy of economic sustainability and strategic autonomy, which includes the diversification of energy imports, restructuring of supply chains and investments in infrastructure security. Poland has become a key transport hub and a participant in the reorientation of trade in a new geoeconomic corridor important for Ukraine. These processes directly shape the dynamics of GDP, investment, trade balance and employment. The growth of defense spending at the EU and NATO levels has led to the formation of a new defense economy in the region, where Poland has become one of the leaders of military-industrial production, and Ukraine is one of the key consumers and partners in the field of military technologies. This stimulates structural changes in industry, exports and public finances. Ukraine's geopolitical rapprochement with the EU (fulfillment of the conditions for EU membership, integration into the single energy and transport markets) creates conditions for long-term macroeconomic transformations similar to those that Poland underwent in the period before joining the EU in 2004.

In the context of transformations, it is worth noting the valuable experience of Poland's successful, rapid integration into European institutions and the unique experience of extremely rapid restructuring of the Ukrainian economy in wartime.

In general, it is appropriate to note that Ukraine and Poland are implementing adaptive strategies adequate for their national economies, regulating macroeconomic imbalances using a combination of fiscal, monetary and institutional mechanisms. Both countries are actively adapting financial and economic instruments to new geopolitical realities. Ukraine - forcedly, responding to

the shocks of war, Poland - preventively, strengthening its positions in the face of growing security risks in Europe.

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SOCIO-INFORMATIONAL FOUNDATIONS OF CREATIVE INDUSTRIES DEVELOPMENT IN THE CONTEXT OF THE GREEN ECONOMY TRANSITION

The global transition toward a green economy entails not only the modernization of industrial production but also a profound transformation of the service sector, including creative industries. Digital design and IT-based creative products have long been perceived as environmentally neutral; however, the rapid expansion of digital infrastructures has revealed their increasing energy intensity and carbon footprint. Under these conditions, the development of creative industries requires new socio-informational planning approaches that integrate technological efficiency with social responsibility and sustainability goals. This perspective aligns with the United Nations Environment Programme's interpretation of the green economy as a development model that improves human well-being and social equity while significantly reducing environmental risks and ecological scarcities [1]. The aim of this paper is to substantiate socio-informational mechanisms for adapting creative industries, with a focus on digital design, to the requirements of the green economy by combining energy-efficient technological solutions with value-driven behavioral change.

In the context of the green transition, informational and social dimensions of planning acquire new significance, shifting the focus from purely aesthetic or functional criteria toward sustainability-oriented decision-making. Socio-informational foundations of creative industries development should be viewed not only as a set of technological solutions but also as an element of strategic planning integrated into corporate governance and sustainable development policies.

One of the key challenges for digital design within the green economy is the reduction of energy consumption associated with data processing, storage, and transmission. Socio-informational planning in this field implies a transition from the principle of "maximum visualization" to the principle of "energy-efficient sufficiency." This approach includes optimization of code and media content to reduce server load and data transfer volumes in line with sustainable web design practices; selection of green hosting solutions powered by renewable energy sources; and application of artificial intelligence algorithms for real-time monitoring and assessment of the carbon footprint of digital products. Current research agendas emphasize the need for sustainable computation frameworks that rethink the design and operation of digital systems for reduced environmental impact [3]. At the policy level, these practices correspond to the objectives of the European Green Deal, which identifies digital transformation as a key driver of climate neutrality, provided that digital technologies themselves become more energy-efficient and sustainable [2]. As a result, digital design becomes a tool for managing the environmental impact of intangible products that have traditionally remained outside the scope of ecological assessment. Empirical

studies demonstrate both positive and negative effects of digital economy development on carbon emissions, highlighting the importance of sustainability-oriented design and management [4].

Creative industries also play a critical role in shaping social norms and consumption patterns. From a socio-informational perspective, planning in digital design involves fostering environmental awareness through visual communication and user experience design. This process operates on two interconnected levels. At the internal level, it includes the integration of environmental ethics and sustainability standards into the corporate culture of creative agencies. At the external level, it focuses on designing user experiences that nudge consumers toward environmentally responsible choices, such as default paperless options, sustainable packaging preferences, or the reduction of digital excess.

The integration of creative industries into the green economy is possible only through the synergy of technological innovation and socio-cultural values. Socio-informational planning should be grounded in energy efficiency metrics of digital products and their capacity to promote sustainable consumption patterns. Digital design thus evolves into a strategic instrument that not only generates added economic value but also contributes to minimizing anthropogenic environmental impact.

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RETHINKING NBU'S MONETARY POLICY FOR ADDRESSING NATIONAL PRIORITIES

For the sustainable development of the economy, effective coordination between fiscal and monetary policies is essential. This coordination should, on the one hand, support monetary stability, and on the other, ensure the availability of affordable financial resources for the real sector of the economy. During wartime, the role of the state in the redistribution of economic resources significantly increases, leading to a sharp rise in the budget deficit and the necessity of financing it through government borrowing. This dictates an intensified role for fiscal policy and requires corresponding adjustments to monetary policy.

Following the start of Russia's full-scale war against Ukraine, the National Bank of Ukraine (NBU) initially postponed the decision on the key policy rate (KPR), leaving it at 10%, and announced that it would resume regular meetings of the NBU Board on monetary issues upon the normalization of the economic situation. De facto, this meant the suspension of the inflation targeting regime for an indefinite period. This decision was entirely logical and justified, considering that the NBU was operating under a fixed exchange rate regime at that time.

However, in the early summer of 2022, the NBU unexpectedly announced that **changes in consumer and economic behavior of businesses and households require returning to market-driven financial system management** and raised the KPR from 10% to 25%. The NBU stated that the goal of this decision was *to protect households' income and savings in the hryvnia, raise the attractiveness of hryvnia assets, reduce the pressure on the foreign exchange market, and thus enhance the NBU's capability to maintain the stability of the exchange rate and restrain inflation processes* [1].

Research into the NBU's actions suggests that the actual objective of raising the KPR was to compel the Ministry of Finance (MoF) to increase the rates on military bonds, which at the time ranged from 9.5% to 11.5% per annum. But the MoF initially refused to raise military bond rates, arguing that they were a means of supporting the state budget during wartime, not an instrument for maximizing investment returns [2].

Instead, banks, having the opportunity to place free liquidity in deposit certificates at 23% per annum, have practically lost interest in government bonds. As a result, the state effectively lost access to the domestic borrowing market for several months. The situation with government bond placement significantly improved only after a substantial increase in their yield and the creation of a mechanism allowing banks to include benchmark domestic government bonds in their required reserves coverage.

In April 2023, the NBU introduced a new instrument – three-month deposit certificates – with the rate initially set at the level of the key policy rate. This instrument created direct competition for the state's short-term borrowing in the domestic market.

The key policy rate remained at 25% for over a year, after which the NBU gradually lowered it to 13%. However, a significant portion of this reduction (4 percentage points) was fictitious, as it resulted from a change in the monetary policy design: in October 2023, the key policy rate was equated with the rate on overnight deposit certificates. Towards the end of 2024, the NBU began a new cycle of monetary policy tightening, and the key policy rate was raised in several stages to 15.5%, while the rate on three-month deposit certificates was increased to 19% per annum, which is twice the current inflation rate (9.3%).

The tight monetary policy prevents the MoF from lowering the cost of government borrowing and limits the state's ability to finance the budget deficit through domestic sources. To eliminate the restrictive impact of monetary policy on government borrowing, the NBU should abandon the policy of increasing the attractiveness of hryvnia assets, which serves the interests of a limited circle of people, and take the necessary steps to ensure the uninterrupted financing of defense expenditures on acceptable terms.

At the tactical level, the transformation of monetary policy should include lowering the key policy rate, normalizing the interest rate policy design (abandoning the so-called lower-bound system), and ceasing the practice of issuing three-month deposit certificates [3].

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YOUTH-LED INITIATIVES AS A DRIVER FOR SUSTAINABLE URBAN DEVELOPMENT: THE CASE OF "OPEN CITY" PROJECT

Ensuring sustainable development of socio-economic systems is impossible without the active involvement of youth in transformation processes at the local level. According to the UN Sustainable Development Goal 11 ("Sustainable Cities and Communities"), making cities inclusive,

safe, resilient, and sustainable is a global priority [1]. In Ukraine, amidst the challenges of wartime and post-war recovery, youth-led initiatives are becoming a key mechanism for implementing these principles "on the ground".

The purpose of this paper is to analyze the role of youth activism in ensuring social inclusion and sustainable urban planning, based on the case study of the "Open City" project implemented in Vinnytsia. The study relies on the author's personal experience in implementing this initiative, ensuring a practice-oriented analysis of the youth engagement process.

The "Open City" project (2024–2025) was initiated by a youth team to address the problem of physical and social barriers in the urban environment. The project methodology was based on the principles of participatory design and non-formal education, acquired within the framework of the "City is Me" urban movement and the "Youth Connect for Ukraine" program (British Council).

To achieve the goals of sustainable development, the project team used innovative socio-informational tools. Instead of traditional theoretical lectures, a series of immersive workshops, "Inclusion FEST," was organized to simulate the daily experiences of people with disabilities. The program included five thematic events, such as "World by Touch" (participants experienced a tea ceremony in complete darkness to understand visual impairments) and "Movement Without Limits" (navigating the youth center in a wheelchair). Furthermore, the "Hear with Your Heart" workshop introduced participants to basic sign language. This approach allowed for an empirical assessment of the accessibility of urban infrastructure and raised awareness among the community about the needs of people with disabilities [2, p. 46–47].

A significant result of the project in the context of sustainable development was the creation of the first inclusive tourist route in the city, "Vinnytsia in the Palm of Your Hand". This product was the direct outcome of the "Inclusive Tourism Workshop". During this event, youth teams, guided by professional guides and accessibility experts, worked on designing and testing potential inclusive paths. This stage was implemented in close partnership with NGOs representing people with disabilities (UTOG, UTOS) and the rehabilitation center "Obriy". This product not only promotes social equity but also contributes to the economic sustainability of the region by attracting new categories of tourists. The institutionalization of the initiative—the transfer of the route to the balance of the Vinnytsia City Council—demonstrates a successful model of partnership between civil society and local government (SDG 17: "Partnerships for the Goals") [3].

The project also proved the effectiveness of diverse funding sources for sustainable development initiatives. The combination of grant support from the British Council (for the educational component) and municipal resources (for infrastructure implementation) allowed for the achievement of significant social impact with optimized budget expenditures.

A separate focus was placed on the informational component of sustainable development. The team actively used digital tools and social media to popularize the values of inclusivity among the youth. The project's information campaign covered over 10,000 users, confirming the importance of digital communications in forming a conscious civil society and scaling local sustainable development practices.

Furthermore, the implementation of the project fostered the development of human capital within the community. The youth team, by managing the full cycle of the project—from idea generation to reporting—gained practical skills in project management and cross-sectoral communication. This experience confirms that youth-led initiatives serve as an effective incubator for future leaders capable of addressing complex challenges of sustainable urban development in the post-war period.

Summarizing the results, the "Open City" project demonstrates that youth are not merely consumers of urban services but active agents of sustainable development. By using tools of social innovation and partnership, youth initiatives effectively contribute to the transformation of Ukrainian cities into barrier-free, inclusive, and resilient environments, which is a fundamental condition for the sustainable development of the socio-economic system of the country.

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PHILOSOPHY OF TOLERANCE AND EQUALITY IN THE CONTEXT OF DIGITALIZATION

The philosophy of tolerance and equality in the context of digitalization focuses on how the basic moral principles of human coexistence are transferred to the digital space and changed under the influence of digital practices. Tolerance in this case can be understood as the willingness to recognize the difference of others and coexist with it without humiliation, discrimination or violence, and equality as the demand for equal respect for the dignity of each person and fair conditions for participation in public life. Digital platforms have made communication massive, instantaneous and global, which has increased the opportunities for mutual understanding, solidarity and intercultural dialogue. At the same time, the digital environment often fuels polarization, forms closed information communities and rewards emotionally harsh content, due to which tolerance becomes not only an ethical virtue, but also a practical skill of public interaction. Philosophically, this raises questions about the limits of tolerance, how to reconcile freedom of expression with responsibility for harm, and what rules of publicity are fair when private platforms actually serve as the infrastructure for public debate. In this field of tension, tolerance acquires an institutional meaning, since it is not only about personal beliefs, but also about moderation procedures, ethical standards of communities and mechanisms for protecting those who become targets of hatred [1-2].

Equality in a digitalized society manifests itself as a problem of access, participation and fair distribution of the benefits of digital development. Even with formal equality of rights, people may be unequal in their ability to use digital services due to differences in income, education, digital skills, health status or barriers to the availability of digital services. Added to this is equality in the field of data and algorithmic decisions, when evaluation, selection or ranking is carried out by complex systems, including solutions based on artificial intelligence technologies. In such cases, the philosophical understanding of equality shifts from the idea of equal treatment to the idea of substantive justice, where context, historical inequalities and indirect forms of discrimination need to be taken into account. This is why discussions about equality demand transparency, accountability, appealability and explainability of decisions that affect people's life chances. In addition, the issue of power arises, as digital platforms are able to redistribute attention, shape norms of visibility and invisibility, and establish de facto rules of participation. In such a situation, equality becomes an ethical criterion of the quality of digital institutions, and not just a moral wish in interpersonal relationships.

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TRANSNATIONAL CORPORATIONS: DRIVING TECHNOLOGY, BUSINESS EXPERIENCE, AND SUSTAINABLE DEVELOPMENT

Transnational corporations have become key agents of economic transformation, facilitating the transfer of technology and business experience while fostering the integration of national economies into global value chains. Their activities spread innovations and modern standards that enhance local competitiveness and create essential conditions for sustainable development.

One of the most important tools for technology dissemination is foreign direct investment. As highlighted in recent research, “players in attracting and providing FDI, reflecting a shift in global economic power and the diverse motivations that drive such investments. These motivations range from market expansion and strategic asset acquisition to leveraging supportive government policies and capitalizing on trade liberalization” [1]. When a transnational corporation establishes a new production or research center, it transfers not only capital but also advanced equipment, engineering solutions, technological platforms, and complex management systems, while simultaneously fostering collaboration with local startups that provide innovative ideas, niche technologies, and agile business models [2].

A well-known example is the diffusion of the Japanese lean production model, which spread across American and European industries through Japanese automobile giants, fostering a culture of continuous improvement [3]. TNCs often catalyze new technological directions in host countries lacking sufficient innovative potential. South Korea and Taiwan illustrate this: cooperation with global corporations boosted domestic high-tech industries, engineering skills, and innovation infrastructure. In South Korea, inward FDI was tightly regulated during the post-war decades but shifted toward promotion after the late-1990s crisis, while in Taiwan controls were eased for WTO accession yet remained stricter than Korea, with a focus on technological upgrading and innovation incentives [4]. TNCs diffuse technology and managerial know-how primarily through FDI, creating knowledge spillovers, upgrading local capabilities, and increasingly aligning strategies with sustainability goals and regulatory shifts. Since 2020, the locus of international investment has tilted toward digital infrastructure, advanced manufacturing, and green innovation, with policy frameworks and sustainable finance shaping location choices and outcomes [5]. Empirical work also links FDI to entrepreneurship and productivity via technology transfer, though effects vary across sectors and institutional contexts. Transnational corporations are investing more in the digital economy, building data centers and cloud platforms that speed up how technology spreads across countries. These investments bring know-how and spark new businesses. Many companies now weave sustainable development goals into everyday projects by considering environmental and social effects, and reviews from 2024–2025 show TNCs are cutting emissions in supply chains and using circular models, even as they face challenges in governance and measuring results [5].

Therefore, transnational corporations are engines of globalization and powerful drivers of innovation and sustainability. Their role in transferring technology, fostering entrepreneurship, and shaping industrial modernization demonstrates how FDI can accelerate development when combined with supportive policies. Recent trends highlight a shift toward digital and green investments, showing that TNCs are adapting to new global priorities. While challenges remain in governance, measurement, and equitable distribution of benefits, the evidence suggests that TNCs will continue to play a decisive role in building resilient economies, advancing sustainable development goals, and integrating local industries into global value chains.

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DROPSHIPPING AS A FORM OF ELECTRONIC BUSINESS

In recent years, e-commerce has demonstrated steady growth at the global and national levels, stimulating the emergence of new business models. One of the most common models has become the dropshipping system — a format of direct delivery of goods, in which the seller accepts the order and interacts with the client, and the supplier is responsible for storage, packaging and delivery. This model is integrated into the e-business system as a tool for reducing costs and simplifying entry into entrepreneurial activity, primarily for small businesses.

Dropshipping is a business model in which a seller accepts orders for goods that are not physically in stock and transfers these orders to a supplier who ships the goods directly to the end customer [1]. The functioning of dropshipping is based on the interaction of three main participants: the supplier, who ensures the availability of the goods and their physical movement; the seller, who carries out sales, marketing and communication with customers, and the end consumer. This model allows you to avoid the costs of storing goods, minimize the risks of unsold stocks and significantly reduce the financial burden on the entrepreneur. In the dropshipping system, the seller operates with the supplier's assortment without the need for prior purchase of products, which creates conditions for rapid business scaling [2].

The popularity of dropshipping in world practice is explained by a number of significant advantages. First of all, it is a low barrier to entry into the market. Since significant investments are not required to start a business. Additional advantages include flexibility in product assortment formation, the ability to quickly respond to changes in demand, minimizing financial risks, and the ability to conduct business remotely with a high level of process automation. Within this model, entrepreneurs can focus on marketing and customer service [3].

At the same time, dropshipping has a number of significant limitations. Among the main problems are low margins, which are due to a high level of competition, as well as significant dependence on suppliers. The lack of direct control over the quality of goods and delivery processes can lead to an increase in the number of returns and a decrease in consumer confidence. In addition, logistical delays and frequent changes in the availability of goods from suppliers complicate

strategic planning of activities. In its conditions, prices and inventory balances can change daily, which creates additional risks for sellers [4].

The global market of the analyzed business model demonstrates a stable growth trend, which is associated with the development of digital trading platforms, marketplaces and automation of business processes. For 2024, the market expansion is due to the growth of online sales, the spread of mobile commerce and changes in consumer behavior [6]. In the EU, the USA and Canada, dropshipping is widely used by small businesses as a tool for entering the market without significant initial investments. In Japan, it is associated with high rental costs and a shortage of warehouse space, which stimulates the use of outsourcing logistics solutions. In Ukraine, dropshipping is actively integrated into the e-commerce system. The development of this model is facilitated by the popularity of marketplaces, the possibility of selling goods via social networks and the availability of both Ukrainian and international suppliers. According to Interkassa, novice entrepreneurs most often choose niches of mass-market goods, in particular accessories and small electronics, which provide high turnover and relatively low logistics costs [7]. At the same time, the Ukrainian market faces challenges associated with increased competition, logistical instability, and the need to adapt to changes in the tax regulation of e-commerce.

In the future, dropshipping can develop in Ukraine through integration with national logistics services, as it is an effective and affordable form of e-business, which, if properly organized, can become an important tool for the development of small businesses in the context of the digital transformation of the economy.

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ENERGY AND SOCIAL SECURITY ISSUES OF POLAND IN THE CONDITIONS OF DIGITALIZATION

Poland's energy security in the context of digitalization increasingly depends not only on the structure of generation, energy imports and the pace of network modernization, but also on how reliably the digital components of the power system operate. The transition to a more complex architecture, where the share of renewable sources, distributed generation and active demand management is increasing, pushes operators to implement digital solutions, in particular remote metering systems, dispatching and elements of intelligent network management. At the same time, digitalization makes the energy infrastructure more vulnerable to cyber threats, as the management of energy and data flows increasingly relies on network communications, software and remote access. In the Polish context, these risks are exacerbated by the fact that the energy sector is in a phase of structural change, and digital tools are seen as an important means of managing the complexity of the system, but they also increase the attack surface and the need for robust cyber protection.

Poland's social security in the context of digitalization is related to the extent to which citizens can safely and effectively use digital state and municipal services, including social support

services. On the one hand, electronic services can speed up access to assistance, reduce administrative costs and make processes more transparent. On the other hand, inequality in digital skills, access to devices and quality communication can put some citizens in a situation of social vulnerability, when the service formally exists, but is practically difficult to access. This is especially true for people with disabilities, older age groups and residents of lower-income areas, i.e. groups who are already more likely to need social support. A study of the digital accessibility of social protection institutions shows that only a small proportion of such institutions fully meet accessibility requirements, and staff training and internal regulations often remain the weak link, even when the technical readiness of web resources looks satisfactory.

Reconciling energy and social security in the context of digitalization requires a unified approach, where technological modernization is accompanied by social justice and institutional responsibility [1-2]. On the energy side, this means that the development of smart grids, digital metering and automated control must go hand in hand with a cyber resilience policy that includes risk management, staff training, proven incident response procedures, and the protection of equipment and software supply chains. On the social side, this means that digital services should be available by default, not as an optional extra, and that investments in digital accessibility and the competence of social workers directly affect the state's ability to support citizens during crises, including periods of energy price shocks and risks of energy poverty. A separate direction is becoming the responsible use of artificial intelligence-based technologies to forecast loads, detect anomalies in networks, or better target social assistance, but with transparent criteria, protection of personal data, and the possibility of human control, so that digitalization increases resilience rather than creating new inequalities.

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THE ECONOMY OF SUSTAINABLE TOURISM AND ITS ROLE IN REGIONAL DEVELOPMENT

Tourism is one of the most dynamic sectors of the world economy, generating significant income, creating jobs and contributing to the development of infrastructure. However, the traditional model of mass tourism often leads to negative consequences, such as environmental degradation, increasing social inequality and “leakage” of profits outside the region.

In this context, the concept of sustainable tourism acquires important importance. According to the definition of the World Tourism Organization (UNWTO), sustainable tourism is tourism that takes into account current and future economic, social and environmental impacts, meeting the needs of visitors, the industry, the environment and host communities.

The economic efficiency of sustainable tourism is assessed not only in terms of GDP or direct revenues, but also in terms of its ability to generate sustainable and equitable economic benefits that remain in the region. The key features of sustainable tourism are:

- Multiplicative effect. Sustainable tourism prefers the use of local goods and services (hotels, food, souvenirs), which ensures a high rate of internal reinvestment of profits, stimulating the development of related sectors (agriculture, crafts).

- Diversification of the economy. Tourism based on natural and cultural heritage creates alternative sources of income for regions that are traditionally dependent on mono-industries.
- Creation of quality jobs. Focus on eco-, agritourism and cultural sites contributes to the creation of jobs that require specific knowledge and skills, which increases the overall level of qualification of the population.

The formation of tourism clusters is an effective mechanism for ensuring sustainability. The cluster unites hotels, restaurants, agricultural producers, local museums and transport companies. This allows: to reduce transaction costs through joint marketing and procurement, to improve the quality of services through the exchange of experience and standardization, to maximize the economic effect for the region, minimizing the "leakage" of funds. Sustainable tourism acts not just as a sector of the economy, but as a catalyst for balanced regional development.

Effective development of territories, in particular regions, cities and rural areas, is possible provided that the systems of "smart city", "smart destination" and "smart tourism" are integrated. Such integration will contribute to the coverage of all aspects that form the multi-sphere of tourism by digital tools [1].

The economy of sustainable tourism is based on three interrelated dimensions: economic viability, environmental integrity and social justice.

The economic aspect of tourism development is manifested through the growth of incomes of the local population, the stimulation of small and medium-sized businesses, the development of infrastructure (roads, communications).

The social aspect consists in preserving local cultural identity and traditions, increasing social cohesion, combating poverty.

The ecological aspect involves financing the protection of natural areas (through fees, charges), rational use of resources (water, energy), and the development of environmental awareness.

For Ukraine, which has a unique cultural, historical and natural potential, the transition to sustainable tourism is a strategic priority, especially in the context of post-war reconstruction and European integration. Key challenges today are: imperfect infrastructure and logistics in many potentially attractive regions; lack of qualified personnel in the field of eco- and agrotourism; weak institutional support and coordination between central authorities, regions and local communities.

The prospects for sustainable tourism are:

- development of destinations based on UNESCO heritage and natural parks;
- creation of ecological tourism products ("green routes" of the Carpathians, Polissya), which attract solvent and environmentally conscious tourists.
- integration into European tourist networks and attraction of "green" funds to finance projects.

The economy of sustainable tourism is not just a trend, but a necessary condition for ensuring long-term, balanced and inclusive regional development. The implementation of this model requires systemic changes: from the integration of ESG criteria into business plans to the formation of effective cluster structures and increasing environmental awareness among both business and tourists. Only with a targeted policy aimed at maximizing the internal multiplier effect and preserving natural and cultural capital, sustainable tourism will be able to fully realize its potential as an engine of regional prosperity.

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SUPPORTING THE SUSTAINABLE DEVELOPMENT OF THE BLACK SEA COASTAL ZONE IN THE CONTEXT OF COMPETITIVE ADVANTAGE¹

Topic relevance: The Black Sea coastal region is a unique eco-economic system that is currently facing challenges in the context of global climate change, intensive anthropogenic impact and economic transformation. Sustainable development of the region requires innovative approaches based on the identification and analysis of competitive advantages and their effective use.

The aim of the study is to develop strategies for the sustainable development of the Black Sea coastal zone based on the identification and analysis of competitive advantages in order to ensure the economic growth of the region while adhering to the principles of environmental sustainability and social well-being.

Hypothesis: The Black Sea coastal zone possesses special competitive advantages in the fields of tourism, aquaculture, renewable energy and environmentally friendly technologies, the systematic use of which ensures the sustainable economic development of the region.

The study uses a complex approach that includes: SWOT analysis to assess the internal and external factors of the region; Porter's Five Forces Model for Competitive Environment Analysis; Analysis of Sustainability Indices; Application of Integrated Coastal Zone Management (ICZM) Principles.

Conclusion: The study has shown that sustainable development of the Black Sea coastal zone is possible through the systematic use of competitive advantages. The main priority areas are identified: development of ecotourism, sustainable aquaculture, utilization of marine energy resources and introduction of innovative technologies. For successful implementation, it is necessary to establish an integrated management system that ensures a balance of interests between economic, ecological and social aspects.

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RURAL DEVELOPMENT MANAGEMENT OF TERNOPIL REGION

In the face of globalization challenges and increasing market competition, ensuring sustainable rural development has been identified as a key priority of the state economic strategy. This issue is the subject of thorough scientific research and the implementation of comprehensive program documents at the government level, aimed at stimulating the restoration of rural areas and increasing the efficiency of the functioning of the agricultural sector.

The implementation of European experience allows us to identify the main goals of sustainable development of rural areas, including ensuring the competitiveness of rural areas, transforming the rural economy, ensuring sustainable management of land and water resources, restoring and preserving biodiversity, achieving ecological and economic security [1].

We believe that effective management of the development of rural areas in the region requires the development of an effective mechanism that defines principles, methods, tools, and models, and will contribute to the achievement of strategic goals. It is important that this management mechanism complies with the principles of environmental friendliness, innovation, competitiveness, and social responsibility.

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The organizational and economic mechanism for managing rural development in Ternopil region includes the following elements: principles, subjects, objects, mechanisms, methods and management model, stages of the management process; strategic directions of regional rural development (environmentally, economically and socially oriented) and the sequence of their implementation; approach to managing regional rural development; directions of functioning of the information and methodological support system, etc.

When developing this development mechanism, it is important to take into account: ensuring a stable situation and development of territorial communities in the region; taking into account sustainable development trends that have formed at the regional and state levels; ensuring guarantees of social security for the population in the region; organizing effective processing industries of an ecological and social nature on a real production base; focusing on the transition to a higher type of sustainable rural development; searching for reserves for internal and external investments, working with investors; functional, commodity and territorial diversification of the economy of individual ATCs and the region as a whole; rationalization of the organizational structure of production and management; consistency of joint actions of entities that ensure regional rural development; mutual material, moral interest and responsibility of participants in ensuring regional rural development [2; 3].

Social policy in the countryside is a key element of managing the development of territories, because without quality education, medicine and a cultural environment, economic development will not be sustainable. It is aimed at ensuring that the village is not only a place of production, but also a comfortable place for living, employment and self-realization. It is important to involve residents in the planning and control processes for the use of community resources. This approach promotes transparency, accountability of authorities, and increases the trust of the rural population.

In our opinion, for the full development of rural communities in the Ternopil region, we should focus on developing internal potential. It is important to support small and medium-sized businesses, create new jobs, attract investments, and stimulate entrepreneurial activity. Particular attention should be paid to the development of farms, agritourism, regional marketing, as well as the formation of market infrastructure - agricultural cooperatives, credit unions, etc.

The priority is a situational approach to management, in which the implementation of management methods and tools is determined by the specific situation. The situational approach transforms rural governance from the formal implementation of standard procedures to a deeply analytical, flexible, and adaptive process, which is the only effective means of ensuring sustainable development in conditions of high uncertainty.

Therefore, regional rural development management involves the interaction of various stakeholders, including government authorities, the business environment, civil society organizations and other stakeholders in order to implement strategic objectives to create a favorable environment for the development of agricultural production and business, improve the quality of life of the rural population, and ensure the sustainable development of rural areas in general.

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PUBLIC MANAGEMENT SYSTEM FOR SMALL BUSINESS DEVELOPMENT IN POLAND IN THE CONDITIONS OF DIGITALIZATION

The system of public management of small business development in Poland in the context of digitalization is being built as a combination of state policy, institutional support and digital services that reduce administrative barriers and create incentives for the growth of entrepreneurship [1]. At the central level, an important role is played by bodies that shape economic and digital policy, as well as specialized agencies that implement enterprise support programs, including innovation, skills development, export activity and the introduction of new technologies. In this context, the Polish Agency for Enterprise Development (PARP) is considered a key institution, the mission of which is to implement economic development programs, support innovation and research activities of small and medium-sized businesses, as well as the development of regions and human resources, with a special emphasis on the use of new technologies in business.

An important element of the public administration system are also internationalization tools, in particular network formats of cooperation, which help small companies find partners, enter foreign markets and adapt to the requirements of the international environment. As a result, public administration in this area is not limited to financing, it includes regulatory solutions, consulting and information infrastructure and coordination of programs that should support the entrepreneur throughout the entire cycle, from business creation to scaling. Digitalization significantly changes the practical side of small business interaction with the state, since a significant part of the procedures is transferred to the format of online services that work on the principle of "single window". For an entrepreneur, this primarily means the possibility of registration and conducting formalities through the Biznes.gov.pl portal, which is positioned as a service where you can start and register a business online and complete procedures in one stop shop mode, when the system transfers the necessary data to the relevant institutions. The central place in the administrative architecture for individual entrepreneurs is occupied by the Central Registry and Information on Business Activity (Centralna Ewidencja i Informacja o Działalności Gospodarczej, CEIDG), which allows you to create an application, submit it electronically, as well as change data, suspend, resume or terminate activity. It is important that a user infrastructure is created around these procedures, in particular an account on Biznes.gov.pl, which helps to conveniently conduct business with CEIDG and gain access to the functions of the entrepreneur's office.

In parallel, nationwide electronic identification and signature mechanisms operate, in particular a trusted profile (Profil Zaufany), which is used to confirm identity and sign documents in digital channels of interaction with the administration.

A separate aspect of this digitalization process in the public administration system is related to the mandatory daily processes of small businesses, primarily with the payment of contributions, tax issues and electronic correspondence with institutions, where speed, reliability and clarity of procedures are of critical importance. The Platform of Electronic Services of the Social Insurance Institution (Platforma Usług Elektronicznych Zakładu Ubezpieczeń Społecznych, PUE ZUS) allows you to solve many issues related to social and health insurance, and for contributors, a requirement to have a profile on this platform has been introduced from 1 January 2023. Tax interaction is complemented by the Electronic Tax Office (e-Urząd Skarbowy), which is described as a service for solving many cases online 24/7, and is also directly aimed at entrepreneurs along with other categories of users. In this ecosystem, not only the digitalization of procedures becomes important, but also the development of digital competencies and investments in technologies, because in practice, small businesses often face financial and competency constraints that require institutional support. That is why PARP programs, in particular the PARP 4digital initiative, are presented as comprehensive support for enterprises seeking to increase competitiveness through modern technologies. As a result, the public administration system in Poland in the context of digitalization

is gradually shifting from "paper control" to a service model, where the state simultaneously sets rules, provides digital channels, and invests in the ability of small businesses to use these channels effectively.

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DIGITAL TRANSFORMATION OF MARKETING IN THE MODERN COMPETITIVE ENVIRONMENT

Digital transformation has reshaped marketing by shifting communication, value creation, and competitive strategies into the digital sphere. This article summarizes the essence of digital marketing development, its influence on brand promotion, competitive dynamics, and the new requirements for businesses operating in modern markets. The findings present a concise understanding of how digital tools enhance marketing effectiveness and strengthen competitive positions.

Digitalization has fundamentally changed marketing as both a science and a practical activity. The rapid shift from traditional channels to digital ones requires companies to redesign communication strategies, adapt to new customer behaviors, and compete in increasingly dynamic online markets.

In today's digital age, a strong online presence and effective marketing strategies are essential for reaching a wider audience and driving sales [1]. Thus, the key issue is understanding how digital tools support businesses in maintaining competitiveness under constantly changing conditions.

Outline the core elements of digital transformation that strengthen marketing effectiveness and competitive performance in modern markets.

Digital marketing has evolved into a mandatory component of modern business strategy [2, 3]. Digital channels allow businesses to: communicate with customers instantly; maintain continuous interaction with audiences; collect feedback and behavioral information; promote products globally at minimal cost. This fundamentally changes market dynamics and customer expectations.

Social media and digital platforms have become central tools in promoting brands. Social networks offer businesses "a wide and engaged audience... opportunities for creativity... and the ability to manage trends," leading to increased brand visibility and customer involvement [4].

Companies use multiple forms of digital content—including social media, websites, and email campaigns—to strengthen their presence and respond to fast-changing consumer behavior.

Competition intensifies as digital transformation lowers entry barriers and increases transparency. Competition stimulates "innovation, quality improvement, and efficient resource allocation," ultimately pushing companies to rethink their marketing strategies [5].

Firms that successfully implement digital tools gain advantages such as: faster response to market trends; ability to adapt communication to customer preferences; improved customer experience through accessible information; better positioning through consistent online visibility.

Digitalization has created an environment where online and offline marketing increasingly blend. This integration transforms how companies create value, differentiate themselves, and communicate with customers. Effective digital transformation requires: strategic planning;

alignment of digital channels with corporate goals; continuous monitoring of market changes; investment in digital competencies.

The digital transformation of marketing fundamentally changes how companies compete, communicate, and develop. The results of the study demonstrate that: digital marketing is now essential rather than optional; online communication strengthens brand visibility and customer engagement; competition motivates companies to adopt digital tools and innovate; the integration of digital channels supports strategic adaptability; understanding consumer behavior is critical in digital environments. Businesses that strategically implement digital tools and maintain consistent online communication gain strong advantages in the modern competitive environment.

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ECONOMIC PRINCIPLES OF SUSTAINABLE TOURISM DEVELOPMENT IN POST-WAR UKRAINE

The economic foundations of sustainable tourism development in post-war Ukraine are being formed in the context of a deep transformation of the national economy, which necessitates a rethinking of the role of the tourism sector as a tool for the restoration of territories, diversification of income and socio-economic stabilization. Tourism in this context is considered not only as a service industry, but as a multiplier sector capable of activating related types of economic activity, stimulating small and medium-sized businesses and promoting the reintegration of affected regions into the national and international economic space.

The key economic prerequisite for sustainable tourism development in the post-war period is the investment sustainability of the industry, which involves combining public, private and international financial resources with a clear focus on long-term efficiency. Under such conditions, priority is given to investments in infrastructure restoration, increasing the energy efficiency of tourist facilities and implementing innovative management models that reduce operating costs and increase the competitiveness of the tourist product.

The economic sustainability of tourism in post-war Ukraine is largely determined by its ability to generate added value directly at the local level, transforming tourist demand into stable incomes for territorial communities. In this context, tourism becomes an instrument of local economic recovery, as it activates employment, expands the tax base and stimulates the development of small and medium-sized businesses, which are particularly vulnerable in the post-crisis period. The formation of economic effects on the ground reduces the dependence of regions on centralized transfers and increases their financial capacity in the long term. The development of domestic tourism in post-war conditions is an important factor in stabilizing the industry, as it

allows compensating for restrictions on international mobility and gradually restoring trust in tourist destinations. Orientation to the national consumer contributes to the adaptation of the tourist product to the real socio-economic needs of the population and increases its accessibility, which, in turn, ensures a more even distribution of tourist flows between regions. This creates the prerequisites for reducing the spatial concentration of income and mitigating regional disparities that have been exacerbated by military actions.

Supporting local producers of goods and tourism services, particularly in the hospitality, food, crafts and cultural industries, enhances the multiplier effect of tourism for the local economy. The formation of short supply chains reduces the outflow of financial resources outside communities, increases the resilience of local businesses to external shocks and contributes to a more effective use of regional economic potential. Under such conditions, tourism is integrated into a broader system of local development, combining the economic interests of business, community and government. In this aspect, tourism appears not only as a consumption sector, but as a mechanism of economic decentralization, capable of ensuring the financial self-sufficiency of territories and increasing their capacity for independent recovery and strategic planning.

In the macroeconomic dimension, the sustainable development of tourism in Ukraine is closely linked to the processes of integration into the European economic space, which involves not only the formal adaptation of the regulatory framework, but also a deep institutional transformation of the tourism industry. Harmonization of standards in the field of safety, quality of tourist services, protection of consumer rights and sustainable use of resources contributes to increasing trust on the part of foreign tourists and investors, creating the prerequisites for the stable growth of international tourist flows. In this context, improving the quality of services is not only a competitive advantage, but also a macroeconomic factor strengthening the balance of payments through the expansion of exports of tourism services.

Transparency of financial mechanisms in the tourism sector, which is one of the key requirements of European integration, is of particular importance in the context of post-war reconstruction. The introduction of clear rules for financing, accounting and control over the use of public and private resources reduces the risks of inefficient allocation of funds, contributes to the de-shadowing of the industry and increases its fiscal return for the state. This, in turn, creates conditions for more predictable macroeconomic planning and strengthening the role of tourism as a stable source of foreign exchange earnings.

Integration into the European economic space also leads to increased requirements for the efficiency of tourism management at the national and regional levels. Orientation to European approaches to strategic planning, monitoring of economic results and assessment of the impact of tourism on related sectors of the economy contributes to the formation of a more balanced development model. Under such conditions, the economic responsibility of the tourism business and state institutions becomes an important component of macroeconomic stability, ensuring consistency between the goals of recovery, growth and long-term sustainability of the national economy.

Thus, the economic principles of sustainable development of tourism in post-war Ukraine consist in combining the recovery potential of the industry with the principles of long-term economic feasibility, territorial balance and inclusive growth. Tourism, provided that strategic economic planning is carried out, can become one of the drivers of sustainable development of the country, ensuring not only financial revenues, but also structural modernization of the national economy.

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SMART MANAGEMENT AND SOCIAL INNOVATION FOR SUSTAINABLE AND COMPETITIVE REGIONS (THE CASE OF GEORGIA)

Introduction: In the conditions of the modern globalized world, the paradigm of regional development is undergoing a fundamental transformation. Traditional management approaches, which focused only on economic growth, cannot ensure the long-term competitiveness and sustainability of regions. Smart management and social innovation represent an integrated approach that combines digital technologies, participatory governance and social inclusion in an overall strategy for regional development. For Georgia, as a developing country aspiring to European integration, the adaptation and implementation of these concepts is of critical importance for reducing regional disparities and ensuring balanced development.

Research objective: The aim of the study is to explore the role of smart management principles and social innovations in the context of regional development, analyze their relationship with sustainability and competitiveness, and develop practical recommendations for the regions of Georgia. The study aims to identify critical factors that facilitate or hinder the implementation of smart management systems and the development of social innovations at the regional level.

Research hypotheses:

H1: The systematic application of smart management principles in regional governance positively correlates with the region's economic competitiveness and social well-being. In particular, the integration of digital technologies into management processes, data-driven decision-making, and multi-sectoral cooperation increase the region's efficiency in resource allocation and strategic planning.

H2: The development of social innovations and their integration into regional development policies reduces social inequalities and strengthens the sustainable development of the region. Promoting social enterprises, increasing local community involvement, and introducing inclusive development mechanisms create a more resilient and equitable regional environment.

Research methods: The study is based on a mixed methodology approach, combining quantitative and qualitative methods. The quantitative analysis includes the analysis of statistical data of the regions of Georgia, the assessment of indicators of economic competitiveness, social development and digital transformation. Correlation and regression analysis will be used to identify the relationships between variables. The qualitative component includes semi-structured interviews with local government representatives, social enterprise leaders and experts from different regions of Georgia. In addition, a comparative analysis of international best practices and case studies will be conducted to identify the experience of successful smart regions.

Conclusion: The study will contribute to the theory and practice of regional development, providing an empirical basis for understanding the role of smart management and social innovations in shaping sustainable and competitive regions. The expected results will help policymakers and regional development practitioners develop more effective and inclusive strategies, which is especially relevant in the context of Georgian regions. The study emphasizes the need for an integrated approach, where technological innovations and social solutions work together to achieve common regional development goals.

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AUDITING AND FRAUD PREVENTION AS A CORNERSTONE OF SUSTAINABLE DEVELOPMENT

In today's environment, global economic trends are accompanied by growing financial risks and increasing complexity of corporate governance, especially at the level of large international companies. Consequently, strengthening transparency and accountability becomes a key tool for achieving sustainable development. In this context, audit control and fraud prevention acquire strategic importance, requiring a deep assessment of the company's internal environment. The purpose of this paper is to substantiate that the effectiveness of sustainable development in large corporations directly depends on the quality of their internal control systems and corporate culture, which auditors are obliged to verify in accordance with International Standards on Auditing (ISA).

In complex hierarchical structures of large companies, risk zones emerge that facilitate the realization of all components of the Fraud Triangle (Fig. 1) [1].

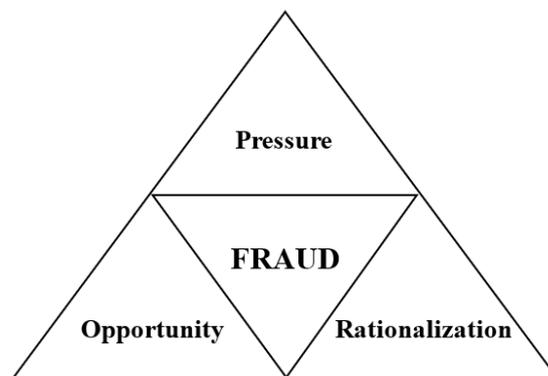


Figure 1. Fraud Triangle

The Fraud Triangle describes three key factors that create conditions for fraudulent actions within companies:

- 1) Pressure arises from financial or personal circumstances that push employees to violate rules;
- 2) Opportunity occurs due to weaknesses in the control system that allow fraud to be committed without detection;
- 3) Rationalization is the internal justification of wrongful actions, reducing moral barriers.

From an audit perspective, the combination of these factors directly correlates with the quality of the control environment. Therefore, ISA 315 “Identifying and Assessing the Risks of Material Misstatement” requires auditors to gain a deep understanding of the internal control system and ethical values [2], while ISA 240 “The Auditor’s Responsibilities Relating to Fraud in an Audit of Financial Statements” obliges them to assess fraud risk, particularly the risk of management override of controls [3]. Ignoring weaknesses in internal control systems and negative corporate culture is a fundamental obstacle to any sustainable development goals.

Addressing fraud issues requires targeted improvement of the internal environment subject to audit. An effective internal control system [4] provides safeguards (such as segregation of duties and authorization) that physically eliminate opportunities for fraud; auditors, in accordance with ISAs, test not only the existence but also the operational effectiveness of these controls. An ethical corporate culture shaped by a positive “Tone at the Top” creates an atmosphere of zero tolerance for fraud, while transparent whistleblowing channels demonstrate a strong culture that neutralizes internal rationalization.

Thus, auditing the effectiveness of the internal environment is a critical tool for ensuring corporate resilience. The effectiveness of fraud prevention depends on the company’s ability to maintain a reliable internal control system and foster an ethical corporate culture—both of which are essential factors for long-term stability and investor trust.

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THE ROLE OF LABELLING IN THE FOOD PRODUCT TRACEABILITY SYSTEM FOR SUSTAINABLE CONSUMPTION

The modern system of food production and consumption is increasingly shaped by the principles of sustainable development in response to growing environmental, social, and economic challenges. In this context, food product traceability emerges as a crucial mechanism for ensuring food safety, quality, and responsible consumption. This paper highlights the role of food labelling as a key structural element of the traceability system that not only transmits essential product information but also influences consumer behavior and encourages producers to adopt more sustainable practices.

Food labelling is the primary channel for transmitting information from producers to consumers. Through the label, consumers obtain information about the product’s composition, country of origin, production date, shelf life, storage conditions, nutritional value, presence of

allergens, and other characteristics [1]. Within the traceability system, labelling acts as a specific «identifier» of the product, making it possible to track its path at all stages of the supply chain, from raw materials to final consumption.

Labelling plays an important role in ensuring transparency within the food supply chain. The availability of clear, accurate, and comprehensible information contributes to increasing consumer trust in producers and retail networks. Transparency, in turn, forms the foundation of sustainable consumption, as it enables consumers to make informed decisions by considering not only the price of a product but also its environmental and social impacts [2]. Within the traceability system, labelling is crucial for guaranteeing food safety. In cases where hazardous products or violations of quality standards are identified, labelling allows for the rapid identification of the product batch, manufacturer, and distribution channels. This makes it possible to promptly withdraw unsafe products from the market, minimizing risks to consumer health and preventing large-scale consequences.

In the context of sustainable consumption, particular attention is paid to environmental labelling, which informs consumers about the product's impact on the environment. Labels indicating organic origin, reduced carbon footprint, environmentally friendly packaging, or responsible use of resources help to shape environmental awareness among consumers and stimulate demand for more sustainable products. Thus, labelling becomes an instrument for changing consumer behavior and supporting environmentally responsible production.

The social dimension of labelling is also of significant importance. Information regarding compliance with ethical standards, fair wages, the absence of child labor, or support for local producers contributes to the formation of socially responsible consumption. Consumers increasingly pay attention not only to product quality but also to the conditions under which products are produced, making labelling an important instrument of social communication between businesses and society. The development of digital technologies has significantly expanded the possibilities of labelling within the food traceability system [3]. The use of QR codes, electronic labels, and blockchain technologies enables consumers to access extended product information in real time. As a result, labelling is no longer a static element of packaging but becomes an interactive tool that enhances consumer awareness and trust.

Within the traceability system, labelling also performs an economic function, as it contributes to enhancing the competitiveness of producers who adhere to the principles of sustainable development. The presence of appropriate labels can serve as a marketing advantage, shaping a positive brand image and consumer loyalty. At the same time, for producers, this serves as an incentive to implement more responsible production practices.

Thus, labelling is an integral element of the food product traceability system and plays a key role in shaping sustainable consumption. It ensures transparency, safety, and informed decision-making, influences environmental and social responsibility, and promotes the development of trust among all participants in the food supply chain. Under modern conditions, labelling is no longer merely a formal legal requirement but is becoming a strategic instrument for implementing the principles of sustainable development in the food sector.

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SOCIO-ECONOMIC STRATEGIES FOR ENGAGING LOCAL COMMUNITIES IN SUSTAINABLE DEVELOPMENT THROUGH TOURISM

Sustainable development is the integration of economic, social, and environmental dimensions all together in achieving long-term progress and balance. This concept is quite crucial for rural areas, where generally the aforementioned characteristics include low economic activity, high migration to urban centers, and social instability. In such circumstances, tourism can serve as an effective agent of economic growth, preservation of natural and cultural resources, and enhancement of living conditions in rural areas.

Rural tourism is very important for these areas because it combines economic benefits with ecological responsibility. In any case, in order for this process to be accomplished, it is important to find a balance between the development of tourism potentials and the protection of natural wealth and cultural heritage, with the simultaneous improvement in the quality of life of the residents. The contribution of local people to tourism initiatives will definitely ensure the equitable distribution of the benefits and minimize environmental degradation [1].

Involvement of local communities in tourism processes is needed to guarantee the economic stability and social progress of rural areas. Among its positive effects are the creation of new jobs in sectors of hospitality, excursions, and production of local goods, growth of small businesses, and the increase of employment among the local populations.

Tourism also helps develop small and medium-sized enterprises in supporting sectors such as agritourism, eco-tourism, and themed hotels. The involvement of local entrepreneurs in tourism activities creates economic opportunities while preserving traditional crafts and culture, which are important to the strengthening of a community's cultural identity. The result of all these is a stable economic cycle that will enable rural communities to become more self-sufficient [2].

Conditions for sustainable development presuppose an active participation of the local communities in the tourism planning process. The locals must have an opportunity to set priorities for infrastructure development and natural resource management, which will prevent overloading of ecosystems and pave the way for sustainable economic growth. In this way, natural and cultural values will be protected for future generations.

Effective local community engagement in tourism development requires several strategies to be put into place. There should also be the creation of opportunities for education and internship among the youth, enabling them to acquire practical skills in managing tourism services and environmental activities for the development of the local economy and active participation of the young generation in the preservation of natural areas [3].

In as much as there are several benefits that come with involving the community in tourism development, there are also significant challenges. Inadequate infrastructure, coupled with poor funding of projects at the local level, displaces the opportunities for sustainable tourism development in rural areas. Communities also often lack the required knowledge and skills to manage tourism projects, further challenging the process of integration.

In other words, programs should be developed that enhance the qualifications of the hosts and attract investors to develop the infrastructure. It is widely acknowledged that government support acts as an important catalyst for sustainable development in tourism; this is done through financing projects concerned with the preservation of natural and cultural resources.

It involves the creation of new economic opportunities, strengthening of social bonds, and preservation of natural and cultural resources through the involvement of local communities in tourism development. Strategies such as active community participation in tourism planning, development of educational and volunteer programs for young people, and support for social

enterprises can be employed to make this possible. Further research is to be directed at the analysis of concrete examples of successful initiatives in rural areas and the elaboration of new methods of tourism flows and resource management. This, in turn, will contribute to the stable development of rural areas, taking care of a balance between economic growth and environmental safety.

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IT OUTSOURCING AS A COMPONENT OF THE ECONOMIC ARCHITECTURE OF SUSTAINABLE BUSINESS DEVELOPMENT

IT outsourcing has evolved from a simple cost-saving measure into a key mechanism for business adaptation and sustainability. Its real value lies not in the transfer of tasks, but in integrating external competencies into core business logic. Transforming outsourcing into long-term partnerships allows companies to simultaneously achieve economic benefits, social advantages, and a reduced environmental footprint—the three pillars of sustainability [1]

Economically, outsourcing enables rapid scaling and access to niche expertise without retention costs—vital for dynamic companies. Beyond cost savings, its primary value lies in partnership models (like revenue sharing) that stimulate innovation and distribute risk between client and vendor [2, 3].

The social dimension is twofold. It stimulates labor markets and skill development in high-potential IT regions (e.g., Eastern Europe, Asia). However, sustainable development requires addressing labor ethics—including fair compensation and working conditions. Strategic commitment to community investment, training programs, and transparent employment policies is essential to maximize these social benefits [4].

The environmental aspect is equally crucial. Transitioning to cloud services and energy-efficient data centers significantly reduces ecological footprints [5]. Since providers leverage economies of scale to invest in green infrastructure faster than individual clients, selecting a 'green

IT' partner becomes a strategic element of effective ESG management

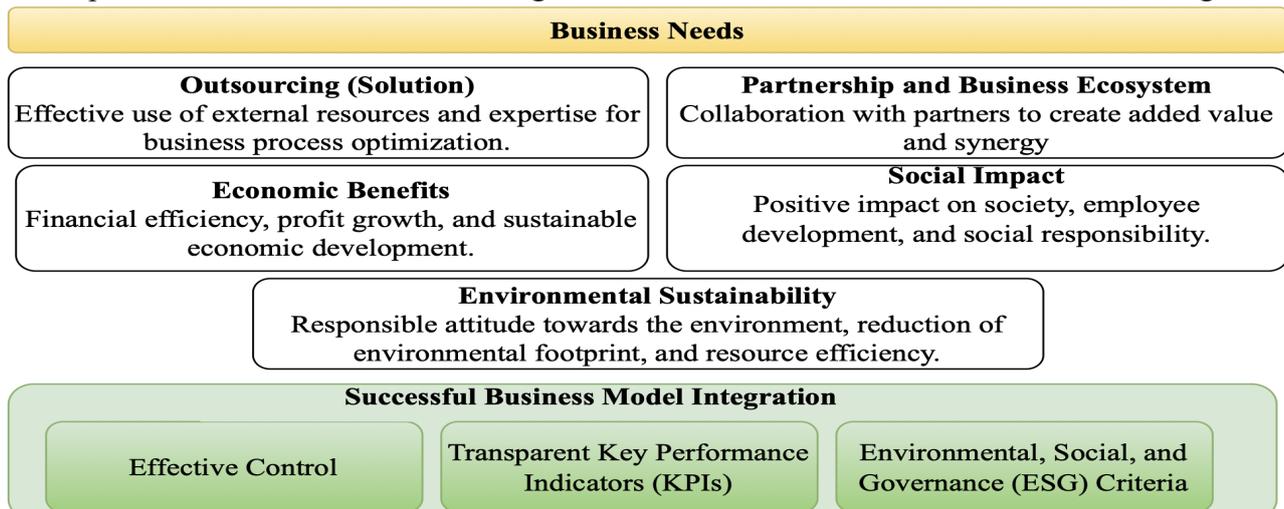


Figure 1. Sustainable Business Model Diagram

However, outsourcing becomes sustainable only when paired with effective risk management. Risks like data leakage, vendor dependence, and cultural misalignment must be mitigated through robust contract architecture and trust-building. Crucially, clients must retain core competencies internally, ensuring outsourcing supplements-rather than replaces-strategic control

Trends that will define the further development of IT outsourcing include: firstly, the growing role of artificial intelligence as a tool for automation and expertise amplification; secondly, the strengthening of ESG practices (Environmental, Social, and Governance), where partner selection depends not only on price and quality, but also on the impact on the environment and society; thirdly, the shift from transactional relationships to ecosystems of partnerships, where value is created collaboratively and measured through shared key performance indicators (KPIs), sustainability metrics, and transparent reporting.

Thus, IT outsourcing is not just about economic optimization. It is about transforming external services into a resilient component of the business model. If a company looks at the long term, invests effort in choosing ethical partners, integrates ESG criteria into contracts, and develops internal capacity for control and coordination, outsourcing becomes a powerful tool that enhances resilience, flexibility, and competitiveness during global change.

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RESILIENCE AND INCLUSIVENESS OF LOCAL COMMUNITIES AS A FACTOR OF NATIONAL AND REGIONAL SECURITY: THE UKRAINIAN-POLISH DIMENSION

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In recent years, Central and Eastern Europe have faced unprecedented challenges, particularly in Ukraine and Poland. Ukraine is enduring a full-scale war marked by systematic attacks on civilian infrastructure, the economy, and human capital. Poland, meanwhile, has confronted a massive influx of forced migrants, hybrid threats, and mounting pressure on its social and economic systems. These dynamics have fundamentally reshaped traditional understandings of security, which can no longer be viewed solely through a military lens. Contemporary security paradigms increasingly emphasize socio-economic resilience, institutional capacity, and the ability of local communities to sustain critical functions during prolonged crises.

Ukraine’s experience demonstrates that communities with decentralized energy systems, strong social capital, and effective cooperation between local authorities and residents exhibit significantly higher adaptive capacity [1]. Such communities are better positioned to mobilize resources, maintain essential services, and preserve social cohesion under extreme conditions. In this sense, resilience functions not only as a defensive mechanism but also as a proactive development strategy. Under wartime conditions, Ukraine has effectively become a living laboratory for energy, digital, and institutional resilience. The rapid deployment of microgrids, the uninterrupted operation of digital public services, and flexible local governance illustrate the potential of decentralized systems to ensure continuity during sustained disruptions.

Poland has developed robust institutional and social mechanisms to integrate millions of Ukrainian migrants into education, healthcare, and labor markets. This process should be understood not merely as a humanitarian response but as a strategic investment in national resilience. Empirical evidence indicates that Ukrainian workers contributed approximately 0.7-1.1% to Poland’s GDP during 2023-2024, with estimates reaching up to 2.7% in 2024 [2]. Local governments have implemented fast-track integration models based on one-stop-shop services, partnerships with businesses, and close cooperation with civil society. These outcomes demonstrate that inclusiveness strengthens labor markets, mitigates social tensions, and enhances overall economic stability.

Labor market projections for Ukraine suggest that post-war recovery will become a core pillar of national security. The economy is expected to face a labor shortage of approximately 2-2.5 million workers over the next decade, alongside rising demand for technical, engineering, and innovation-oriented professions. Digital transformation plays a crucial role in addressing these challenges by enabling remote employment, labor market flexibility, and cross-border cooperation, thereby supporting economic activity despite persistent risks.

Taken together, the Ukrainian and Polish experiences contribute to the emergence of a new European standard of resilience. Ukraine offers critical lessons in crisis management and adaptation under extreme conditions, while Poland illustrates the long-term resilience gains generated by inclusive policies [3]. These cases underscore the necessity of coordinated policymaking, cross-border cooperation, and sustained investment in human capital. Ultimately, the findings confirm that community resilience and inclusiveness are indispensable components of modern national and regional security systems, extending far beyond military capabilities to encompass economic sustainability, social cohesion, and institutional adaptability.

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DEMOGRAPHIC GROWTH AND ITS IMPACT ON SUSTAINABLE DEVELOPMENT GOALS

Demographic growth is one of the key factors shaping the modern world. As of 2025, the Earth's population reaches approximately 8.2–8.3 billion people [1], with an annual increase of about 70 million, or 0.85%. Although the growth rate is slowing compared to the peak in the 1960s (over 2%), it continues to influence global processes. In 2015, the UN adopted 17 Sustainable Development Goals (SDGs), aimed at eliminating poverty, protecting the planet, and ensuring prosperity by 2030 [2]. Demographic growth has a dual impact on these goals: on one hand, it creates challenges due to pressure on resources; on the other – it opens opportunities through the demographic dividend. Understanding this interconnection is critical for achieving the SDGs, as population is directly linked to the social, economic, and environmental aspects of development.

Demographic growth significantly complicates the achievement of many SDGs, especially in developing countries. Rapid population increase intensifies pressure on limited resources, hindering the eradication of poverty (SDG 1) and hunger (SDG 2). In the poorest regions, such as Sub-Saharan Africa, high birth rates correlate with extreme poverty, as governments fail to keep up with providing infrastructure, education, and jobs. Population growth leads to land degradation, desertification, and loss of biodiversity, complicating SDG 15 (protection of ecosystems). Furthermore, it exacerbates climate change (SDG 13): a larger number of people increases energy consumption, CO₂ emissions, and waste. According to the UN, by 2050 the population could reach 9–10 billion, making the sustainable use of resources impossible without radical changes.

The impact on health (SDG 3) and education (SDG 4) is also negative in regions with high growth. A larger number of children overloads healthcare systems and schools, reducing the quality of services. High birth rates are often associated with limited access to reproductive health and contraception, delaying gender equality (SDG 5). Women in such conditions have fewer opportunities for education and work, which perpetuates the cycle of poverty.

However, demographic growth can be a positive factor. In countries with a transitional demographic regime, where the share of the working-age population is high, a "demographic dividend" arises — a potential for economic growth (SDG 8). Investments in education and health allow this potential to be realized, as happened in Asia.

Research shows that achieving the SDGs, particularly in the areas of girls' education and reproductive health, in itself reduces population growth rates, creating a positive feedback loop. The UN emphasizes that slowing growth through women's empowerment and access to family planning contributes to all 17 goals.

The UN SDG report for 2025 [3] indicates that progress is uneven: only 35% of goals are on track for achievement, and population is one of the barriers. Without addressing demographic factors, many goals will remain unattainable.

Demographic growth is both a challenge and an opportunity for the Sustainable Development Goals. It intensifies pressure on resources, poverty, and the environment, but with the right policy—investments in education, health, and gender equality—it can become an engine of progress. Achieving the SDGs by 2030 [2] requires global efforts: ensuring universal access to family planning, educating girls, and sustainable consumption. Only by balancing demographic processes with ecological and social needs can humanity ensure prosperity for all on a healthy planet.

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FEATURES OF THE DEVELOPMENT OF DIGITAL MARKETING AT THE CURRENT STAGE

Today, brands perceive digital marketing as a key factor in growth, the formation of competitive advantages and strategic development. Digital marketing is becoming one of the leading areas of innovation for businesses. Businesses are actively reviewing their strategies, focusing on e-commerce, expanding investments in digital operations, and implementing new solutions related to digital products and packaging.

It is worth noting that digital marketing in the «business-to-business» (B2B) format is significantly different from «business-to-consumer» (B2C) marketing. In the first case, the main goal is to establish interaction between enterprises, while B2C is aimed at direct contact with end consumers.

The differences between these models are manifested in the definition of the target audience, the nature of the value proposition, the length of the sales cycle, and the specificity of the digital promotion channels used. For B2B marketing, the key addressees are corporate clients, company leaders, and industry experts, so content and communication messages should have a clear professional focus and emphasize the practical value of the offer.

The choice of digital marketing channels largely depends on the specifics of the target audience and the type of business. Thus, B2B marketers mostly focus on professional networks, in

particular LinkedIn, as well as industry publications and specialized events, where targeted communication with partners and customers is possible. In contrast, B2C marketing traditionally focuses on an active presence in social networks - Facebook, Instagram, TikTok, which provides direct contact with end consumers and stimulates brand engagement.

Based on IAB Ukraine analytical data for 2024, a number of key trends in the development of digital communication channels can be identified:

1. Video content remains the main driver of growth. According to research, the video advertising segment showed an increase of approximately 36% in 2024, which makes it a leader in the structure of digital media. In particular, the active development of YouTube and Ukrainian video platforms contributes to the redistribution of marketing budgets towards video formats, long-form videos and CTV/OTT segments. This trend indicates a change in consumer habits and an increase in the role of content, which creates a deeper emotional interaction with the brand [1].

2. Search marketing demonstrates a stable recovery. The paid search segment is gradually returning to its pre-war position, showing growth in double-digit percentages. According to IAB Ukraine, search advertising remains one of the key sources of traffic and conversions, which increases the efficiency of performance agencies and SEO/SEM areas. Thus, investments in search can be considered strategically appropriate for companies focused on increasing sales indicators.

3. Influencer marketing is the segment with the highest growth rates. The restoration of activity in social networks and the growth of the role of opinion leaders caused an annual growth of over 50% in this area. This indicates the increasing role of UGC (user-generated content), local content and native communication formats, which build consumer trust and ensure organic reach. Accordingly, investing in cooperation with influencers and developing SMM campaigns is becoming an important element of modern brand strategy.

4. Discrepancies between sources of statistical data. In analytical reports of various institutions, there are discrepancies regarding the total volume of the digital advertising market in Ukraine: some sources estimate it at UAH 15.3 billion, others at UAH 18 billion for 2024. [2].

Based on the analysis conducted by IAB Ukraine, the following practical recommendations can be formulated for optimizing the company's marketing budget:

- increase the share of video content in the media mix, in particular by investing in YouTube and local video platforms, if the main KPIs are aimed at increasing brand awareness and attracting an audience;
- review the investment policy in search advertising, since its effectiveness increases along with the increase in the conversion rate;
- introduce separate programs for cooperation with influencers and develop the SMM direction, which demonstrates the fastest recovery rates and forms natural trust in the brand;
- when preparing analytical reports and presentations, be sure to indicate the methodology used (for example, IAB or another), which will ensure the correctness of year-on-year comparisons and the reliability of conclusions.

Therefore, digital marketing is a key element of a modern enterprise management system. Its implementation not only improves the efficiency of business processes, but also creates a new culture of interaction with consumers - transparent, interactive and focused on meeting the needs of the client.

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MACROECONOMIC SECURITY IN REGIONAL SUSTAINABLE DEVELOPMENT

Macroeconomic security in regional sustainable development means a state of the economy in which the region is able to support the expected growth, employment, effective demand and stable public finances, without destroying the social and natural prerequisites for development. In a practical sense, it is a combination of the financial stability of local budgets, a sufficient level of investment, managed inflation dynamics, business access to credit and the ability of households to withstand price and income fluctuations. For sustainable development, it is important that economic decisions in the region do not give a short-term effect at the cost of long-term losses, for example, due to excessive debt dependence, resource depletion or deterioration in the quality of human capital. That is why macroeconomic security becomes the foundation for the implementation of regional modernization programs, productivity growth, environmental projects and social support, since all these areas require stable sources of financing and trust from investors [1].

Key threats to the macroeconomic security of regions are usually associated with shocks that are quickly transmitted through incomes, labor markets, and budget revenues. These may include a decline in external demand for the region's basic industries, fluctuations in energy and raw material prices, logistics disruptions, changes in interest rates, reduced access to capital, and demographic shifts that reduce labor supply and the tax base. Separately, it is worth considering the risk of single-industry specialization, when the regional economy is too dependent on one employer or sector, as well as the risk of social polarization, when inequality weakens domestic demand and provokes migration. In the context of sustainable development, climatic and environmental factors are added to the classic macroeconomic risks, which can increase business costs, exacerbate infrastructure problems, and change the structure of production. As a result, if the region does not have a margin of stability, any shock turns into a chain of income reductions, reduced investments, falling budget opportunities, and postponement of strategic development projects.

Ensuring macroeconomic security at the regional level requires a coherent policy, where fiscal discipline is combined with active development of the economic base. The first block of decisions concerns public finances, in particular, high-quality budget planning, debt management, expansion of own revenues and transparent priorities for spending on infrastructure, education, healthcare and energy efficiency. The second block concerns the structure of the economy, namely diversification, support for small and medium-sized enterprises, stimulation of innovation, development of export potential and increase in labor productivity. The third block is related to the early warning system, when regular risk assessment and scenario analysis are carried out for key sectors, the labor market and budgets, so that decisions are made in advance, and not after the crisis. It is important that macroeconomic security does not boil down to prohibitions and savings, but works as a constructive framework that allows financing ecological modernization, developing human capital and strengthening the region's resilience to external and internal shocks.

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ORGANIZATIONAL AND ECONOMIC ASPECTS OF THE FUNCTIONING OF AGRICULTURAL ENTITIES UNDER MARTIAL LAW

The agricultural sector of Ukraine is a strategic branch that ensures food security and generates a significant share of foreign currency revenues. Under martial law, its functioning acquires particular importance, as enterprises face a complex set of challenges encompassing organizational, economic, and security aspects. During the period of 2022–2025, the sector underwent substantial structural transformations caused by the loss of production capacities, disruption of logistics chains, and changes in the geography of exports. At the same time, new development vectors emerged, including the intensive implementation of digital technologies, the expansion of the use of Danube ports, and the activation of domestic processing of products with high added value [1].

Organizational factors of agricultural enterprises' activity during wartime are characterized by a high level of adaptability and the necessity of prompt responses to external challenges. The shortage of material and technical resources (fuel, fertilizers, machinery) necessitates the optimization of production processes and the implementation of energy-saving technologies. Human resource policy is complicated by the mobilization of workers, which stimulates the automation of production and the use of digital management systems. Logistical problems caused by the blockade of ports and the destruction of transport infrastructure highlight the importance of utilizing the "grain corridor" and alternative land routes. At the same time, enterprises devote particular attention to security measures, including risk insurance and cooperation with local communities to protect property and ensure food stability.

The economic conditions of agricultural entities' functioning during wartime are primarily shaped by the decline in domestic market solvency and restricted access to credit resources, which significantly undermines financial stability. In this context, state support programs—such as preferential lending, compensations, and subsidies—play a crucial role in maintaining production capacity. Furthermore, international technical assistance has become an essential instrument for stabilizing the sector, providing both financial resources and technological solutions. Comparative studies highlight that similar mechanisms were applied within the European Union during periods of crisis, where agricultural producers received targeted subsidies, insurance schemes, and access to emergency funds to mitigate market disruptions. For Ukraine, the integration of such practices into national policy not only strengthens resilience under martial law but also aligns the agricultural sector with European standards of sustainable development and crisis management. [2]. Export restrictions stimulate the search for new markets, particularly within the European Union and African countries. Innovation and digitalization are becoming key instruments for enhancing efficiency, as enterprises implement precision farming technologies, risk management systems, and online trade platforms. The social responsibility of agricultural companies is manifested in their participation in humanitarian programs, the provision of food supplies to the population, and the support of local communities, which underscores their role as both economic and social stabilizers in times of crisis.

Table 1. Main Risks and Mitigation Measures for Agricultural Entities under Martial Law

Risk Category	Examples of Manifestations	Mitigation Measures
Logistical	Road destruction, port blockades, transport disruptions	Alternative routes, development of railway transportation, cooperation with international partners
Financial	Limited access to credit, decline in market solvency	State support programs, preferential lending, risk insurance
Human Resources	Worker mobilization, labor shortages	Production automation, involvement of local communities, training of new personnel

Production	Shortage of fuel, fertilizers, machinery	Resource optimization, implementation of energy-saving technologies, development of local fertilizer production
Export	Loss of traditional markets, export restrictions	Market diversification, search for new partners in the EU, Africa, and Asia
Social and Security	Threat of territory occupation, infrastructure destruction, humanitarian challenges	Cooperation with communities, participation in humanitarian programs, property insurance

The prospects for the development of agricultural entities during wartime and in the post-war period are determined by their ability to integrate into new economic and institutional conditions. One of the key directions is the development of cooperation among enterprises, which enables the optimization of resource use and the enhancement of competitiveness. An important factor is integration into European markets, which provides access to modern technologies, financial instruments, and new distribution channels. In this context, the agricultural sector is regarded as a fundamental element of Ukraine's economic recovery after the war.

The strategic directions of organizational and economic development in the agricultural sector encompass several interrelated dimensions that collectively ensure resilience and long-term sustainability. Production diversification serves as a fundamental mechanism for reducing dependency on specific crops or markets, thereby mitigating risks associated with fluctuating demand, climate variability, and geopolitical instability. By expanding the range of agricultural outputs, enterprises can stabilize revenues and enhance food security.

Equally important is the advancement of processing industries, which transforms raw agricultural products into goods with higher added value. This not only strengthens the domestic economy by creating new jobs and stimulating regional development but also enhances export potential through the supply of competitive processed goods to international markets. The implementation of environmentally friendly technologies represents another strategic priority, aligning agricultural practices with global sustainability standards. Such technologies contribute to resource efficiency, reduce environmental impact, and improve the sector's attractiveness for foreign investment, particularly in the context of European integration.

Finally, the formation of innovative business models oriented toward digitalization and integration into global supply chains enables enterprises to adopt modern management systems, utilize big data for decision-making, and engage in e-commerce platforms. These models foster transparency, efficiency, and competitiveness, while also facilitating cooperation with international partners. Collectively, these strategic measures not only provide immediate adaptation to crisis conditions but also establish a robust foundation for the sustainable development of the agricultural sector, positioning it as a driver of economic recovery and modernization in the post-war period.

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INFORMATION SUPPORT FOR TERRITORIAL IMPROVEMENT PLANNING

High-quality planning of land improvement requires accurate, reliable information about the territory, resources, infrastructure condition, and population needs. To make informed decisions, a

comprehensive analysis of information obtained from primary and secondary sources is conducted. Primary data is usually collected using quantitative and qualitative methods [1-3].

Quantitative methods allow us to obtain numerical, statistically analysed information about the condition and use of the territory, which contributes to objective decision-making in the process of planning improvements. The main tools are surveys and questionnaires. They help to assess the level of satisfaction with the quality of the environment, its comfort and safety, or to determine the need for additional infrastructure elements. Structured closed questions are used in the survey. This allows for a large volume of responses from respondents and ensures that the results are highly representative.

Measurements play an important role among quantitative methods: counting pedestrian, transport and bicycle flows, observing the intensity of space use at different times of the day, analysing lighting levels, noise pollution, air quality and other environmental parameters. In addition, instrumental methods are used, such as motion sensors, counters, drones, and geographic information systems, which provide accurate data collection on the characteristics of the territory and its functioning. The quantitative information obtained allows for the comparison of different solutions, the modelling of development scenarios, and the evaluation of the effectiveness of proposed improvement measures [4]. All this makes quantitative methods an indispensable component of comprehensive terrain analysis.

Furthermore, quantitative data enables the comparison of alternative solutions, the modelling of development scenarios, and the assessment of the effectiveness of proposed improvement measures, making it an integral part of a comprehensive analysis of the territory [5].

Qualitative methods of collecting primary data allow us to investigate people's real needs, behavioural characteristics and perceptions of space. The most common qualitative methods are observation, interviews, group discussions and residents' independent identification of problem areas.

Observations are used to study the actual use of space. People and cyclists are observed, places of rest are recorded, ways in which people avoid dangerous places are noted, so-called «desire paths» are analysed, and the behaviour of children in playgrounds is observed. Interviews are aimed at understanding needs and expectations. Group discussions allow for the analysis of different points of view and conflicts of interest.

In addition, video diaries showing people's daily experiences of interacting with the space, open feedback collected in the space using QR codes, and ethnographic research of the territory reflect people's experiences of interacting with the environment. The application of these approaches forms a solid information base for making informed decisions in the field of territory improvement.

Secondary information is obtained using data analysis methods. There are two main types of analysis: traditional (classical) and formalised (quantitative). They differ significantly from each other. These types of analysis are not mutually exclusive, but rather complement each other. This allows the shortcomings of each type to be compensated for. Traditional analysis is a sequence of logical judgements aimed at revealing the essence of the object of study. The necessary information contained in the document is often presented in an implicit form, adapted to the purpose of the document's creation, but it does not always meet the objectives of a specific analysis. Traditional analysis allows you to grasp the main opinions and ideas of the author of the document. Its main disadvantage is subjectivity, which is due to the researcher's own opinion about the document. Formalised analysis allows subjectivity to be eliminated through the use of quantitative methods. The main sources of such information are regulatory and legal documents: state standards, building codes, rules for the improvement of settlements, sanitary and environmental standards; urban planning documentation (master plans, zoning plans), as well as statistical studies covering demographic data, population structure, population density, and transport flows. Scientific publications and analytical reports are also important sources of information. In addition, preliminary projects and the results of public discussions are analysed. Secondary information

allows for the accumulation of experience, available data and regulatory requirements to be taken into account [1-5].

The combination of these sources allows us to form a well-founded view of the state of the territory and make more effective design decisions.

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PROFESSIONAL CREATIVITY OF A MANAGER IN THE PROCESS OF INNOVATIVE DEVELOPMENT OF AN ENTERPRISE

A manager's professional creativity is a key driver of an enterprise's innovative development. Realised through effective decision-making, introducing innovations, designing original management approaches and tools, mobilising the team's creative potential, and achieving innovation outcomes, it transforms the enterprise and enhances its overall competitiveness. In applied research, creativity is understood as a specialist's capacity to increase the variability of both their own activity and the system they manage. Structurally, it comprises problem-solving ability, skills of combination and recombination, inventiveness, flexibility and divergent thinking, a sense of novelty, empathy and intuition, the ability to overcome stereotypes, generate new ideas, and accept justified risk. Together with organisational, innovative, and praxeological components, these qualities constitute a manager's integral professional creativity.

In a praxeological context, creativity is associated with pragmatic, goal-oriented, innovative activity that produces tangible effects. Drawing on H. Joas's reinterpretation of the classical approaches of T. Parsons, É. Durkheim, and J. Dewey, creativity can be analysed as a continuous, dynamic process of the subject's becoming, characterised by contextuality, continuity, adaptability, interactivity, and the emergence of new elements within routine practices. By contrast, creativity in the narrow sense denotes freedom from necessity, contemplative activity, and unpredictable results without explicit pragmatic intention. It is linked to the transcendence of the individual — a movement beyond existing meanings. In this perspective, creativity allows for a “process for the sake of the process”, whereas creativeness is a “process for the sake of the result” [1].

Accordingly, the basic aspects of a manager's professional creativity are: 1) **Targeted change** that introduces innovations into organisational processes: optimisation of operations, service redesign, improvement of business processes/ 2) **Creation of new management technologies and methods:** decision-making frameworks, approaches to prioritisation (for example, idea portfolios, experiments), programmes for the development and implementation of innovations. 3) **Search, adaptation and implementation of effective practices** (Lean/Agile,

design thinking, TRIZ, OKR/KPI, theory of constraints) with their creative reinterpretation in line with the company's context.

Thus, the systemic character of a manager's professional creativity can be understood as an integrative unity of epistemological and praxeological competences, interpersonal and interaction skills, value orientations, and acmeological attitudes. Together, these ensure effective project and research activities, the regular updating of managerial content and methods, the development of self-determination and self-organisation, mobility and readiness to act under unpredictable conditions, as well as the capacity to manage one's own "opportunity dynamics". A harmonious balance of these components determines the overall level of a manager's professionalism.

The effectiveness of a manager's creativity is primarily manifested along two main dimensions. The team-organisational dimension involves mechanisms that support the motivation and development of employees' creativity, while the project-innovation dimension focuses on the creation of original management approaches, tools, and programmes. Without these, professional knowledge lags behind existing potential and does not result in systemic innovation.

In modern organisations, innovation functions not as a one-time "invention" but as a dynamic system that integrates individual micro-processes of creative thinking, team-based mechanisms of interaction, and organisational institutions that ensure the selection, scaling, and capitalisation of novelties. At the individual level, key elements are competences in idea generation and elaboration, intrinsic motivation, and domain-specific expertise — a triad that determines both the probability of a viable idea emerging and the speed of its initial implementation (sketch, prototype, MVP). At the team level, joint sensing and cognition (co-sensing) and the complementarity of ideas and knowledge make it possible to translate individual insights into hypotheses and, subsequently, into experiments with clear success criteria. Psychological safety acts as a critical socio-psychological moderator: it reduces the "cost of error", increases the frequency of voicing bold assumptions, and accelerates team learning [2].

Thus, the professional creativity of a manager is a goal-oriented activity "for the sake of the result", transforming individual insights into organisational impact through manageable team and process mechanisms. Managing creative potential becomes an integral component of an enterprise's overall management system. Under conditions of intensifying market competition, growing information flows, and increasing complexity of relations with the external environment, a system of continuous development of creative potential forms the foundation for sustainable competitive advantages and the long-term innovative development of the enterprise.

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INFORMATION TECHNOLOGIES FOR IMPLEMENTING COMMUNICATIONS IN ENTERPRISES

Information technologies for implementing communications at enterprises encompass a set of digital solutions that ensure the exchange of data, messages and knowledge between employees, departments and management. Their key role is to make communication fast, traceable and manageable, as well as to reduce information loss during the transfer of tasks. In the internal circuit of the enterprise, corporate portals, internal network resources, e-mail, corporate messengers, video conferencing, shared file storage, project and task management systems, as well as electronic

document management systems are most often used. It is important that these tools are not just communication channels, they form a single information space in which agreements, document versions, responsible persons and deadlines are recorded. Provided that access and usage rules are properly organized, the enterprise gains transparency of communications, higher discipline in the execution of assignments and the ability to analyze typical “bottlenecks” in the interaction between departments. Studies of the digitalization of organizational communication also emphasize that the effect of technology significantly depends on the level of digital skills of personnel and the readiness of organizational culture for change [1-2].

External communications of the enterprise, i.e. interaction with customers, suppliers, partners, media and other stakeholders, are increasingly shifting to digital channels, and information technologies are becoming the basis for rapid response to market requests. The enterprise website, client accounts, contact centers, electronic appeals, social networks, platforms for online events, as well as chatbots based on artificial intelligence technologies allow to maintain regular two-way communication and personalize communication. Of particular importance are integrated solutions that combine communication with business processes, in particular customer relationship management systems and enterprise resource planning systems, as they provide a single source of data on orders, appeals, contact history and execution statuses. Because of this, communication becomes not just a “conversation”, but part of the service and sales process, where each request has a responsible executor, priority, response time and result control. Scientific publications also emphasize that social media enhance the enterprise’s capabilities in managing interaction with stakeholders, but require clear rules to reduce reputational and information risks.

Effective use of information technologies in communications is impossible without proper management, security and standardization. The enterprise needs policies on data access, information classification, document storage and archiving, as well as regulations on the use of corporate channels to avoid duplication of messages and overloading employees. Cybersecurity is becoming a basic condition for communication resilience, so multi-factor authentication, access rights control, action logging, backup, encryption of data transmission and staff training on phishing and social engineering are important. A separate block is change management, as the transition to new digital channels often meets with resistance due to habitual practices and uneven levels of digital training. Therefore, the implementation should be accompanied by instructions, short training modules, user support and systematic evaluation of results, in particular by response speed, quality of feedback, adherence to deadlines, the number of errors in documents and the level of employee involvement in internal communication platforms.

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APPROACHES TO RISK ASSESSMENT IN THE MANAGEMENT OF SUSTAINABLE DEVELOPMENT PROJECTS IN STATE-OWNED ENTERPRISES

State-owned enterprises, as the primary implementers of sustainable development projects in the fields of energy, water conservation, social services, and infrastructure, require systematic risk assessment methods that integrate climatic, financial, and institutional uncertainties within a single

project cycle. Within the framework of modern risk theory, uncertainty is regarded as an objective characteristic of socio-economic systems, while risk is defined as the possibility of deviation of actual outcomes from planned ones due to the influence of unpredictable factors [1]. Classical approaches to risk conceptualization, developed in the works of F. Knight, J. von Neumann, and O. Morgenstern, laid the foundation for the probabilistic-economic concept of risk, which was later integrated into modern project management models.

Sustainable development projects are characterized by a unique level of complexity that requires the simultaneous integration of economic, social, and environmental dimensions. Poor coordination among these dimensions can generate cascading risks that traditional assessment methods often fail to anticipate, particularly under conditions of long-term planning horizons and uncertainty regarding future climate, technological, and policy changes [2].

In the public sector, risk acquires a multidimensional character, as it affects not only economic performance but also social stability, political trust, and the institutional legitimacy of state-owned enterprises. The theoretical foundations of New Public Management and the concept of Good Governance emphasize the need to shift from reactive to proactive risk management models, which implies the systematic identification, assessment, and integration of risks into managerial decision-making processes. In this context, risk assessment is viewed as a tool for reducing information asymmetry and enhancing managerial transparency [3].

Qualitative risk assessment methods originate from systems analysis, expert decision theory, and organizational theory. They enable the structuring of complex risk situations that are difficult to formalize and are particularly relevant for state-owned enterprises, where a significant share of risks is institutional, political, or reputational in nature [4]. Within the qualitative approach, risks are identified through expert discussions, logical-structural analysis, and comparative evaluation of their significance. SWOT and PESTLE analyses, stakeholder analysis, risk mapping, and descriptive-level scenario modeling are widely applied. The key theoretical advantage of these methods lies in their ability to reflect the complex causal nature of risks, while their main limitation remains the subjectivity of the results obtained.

Quantitative risk assessment methods are based on mathematical models grounded in probability theory, statistics, and decision theory. In project management, quantitative risk assessment enables the numerical estimation of the impact of uncertainty on project timelines, budget parameters, and final outcomes. The most theoretically robust methods include expected utility, expected monetary value, sensitivity analysis, and scenario analysis, as well as stochastic models, particularly Monte Carlo simulation [5]. In the context of state-owned enterprises, the use of quantitative methods contributes to the formation of an evidence-based foundation for managerial decisions but is constrained by limited data availability, strict regulatory frameworks, and insufficient methodological training of personnel [6].

Contemporary scientific approaches to project risk management emphasize the necessity of integrating qualitative and quantitative methods within a unified risk management system [7]. Such an integrated approach is consistent with the principles of systems and process management and enables a coherent transition from the conceptual understanding of risks to their quantitative measurement and forecasting.

The introduction of ESG and SDG Impact Standards imposes additional requirements on state-owned enterprises with regard to transparent reporting on environmental and social impacts. As a result, sustainable development risk management becomes not only a technical requirement but also a strategic necessity for securing access to international financing and investment resources [8].

The application of comprehensive risk assessment methods in project management within state-owned enterprises creates the preconditions for enhancing strategic planning effectiveness, optimizing the use of public resources, and strengthening institutional stability. The formation of a risk-oriented management culture facilitates a shift from formal procedural compliance to the conscious management of uncertainty, which constitutes a key prerequisite for the sustainable development of the public sector.

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EVOLUTION OF DIGITAL TRANSFORMATION PROCESSES IN UKRAINE AND THE EU UNDER THE IMPACT OF WAR

Digital transformation in the 21st century has become one of the key factors ensuring the resilience of socio-economic systems. Russia's full-scale war against Ukraine since 2022 has significantly reshaped the trajectories of digital development in both Ukraine and the European Union (EU), intensifying the relevance of digital security, continuity of public services, cyber resilience, and integration of digital spaces in the context of sustainable economic development.

In Ukraine, the war has acted as a powerful catalyst for digital transformation in public administration. The large-scale development of the Diia ecosystem of electronic public services has ensured citizens' and businesses' access to essential administrative services regardless of their location. As of 2024–2025, the number of Diia users exceeded 23 million, while digital documents and online services became key instruments supporting population mobility, internally displaced persons, and entrepreneurial activity under wartime risks [1]. This significantly reduced administrative barriers, shortened service delivery time, and helped sustain economic activity during a period of deep crisis.

The IT sector remains a crucial component of digital transformation and continues to play a strategic role in Ukraine's national economy despite the war. According to the National Bank of Ukraine, exports of computer and information services amounted to approximately USD 6.4 billion in 2024 and accounted for up to 40% of the country's total service exports [2]. Despite the relocation of part of companies and specialists, the sector demonstrates high adaptability, ensuring foreign exchange inflows, employment, and support for the balance of payments.

A particular challenge for Ukraine's digital transformation is the sharp increase in cyber threats, which have a direct economic dimension. According to CERT-UA, more than 4,000 cyberattacks were recorded in 2024, primarily targeting public information systems and critical

infrastructure facilities [3]. This necessitates increased investment in cybersecurity, which on the one hand raises current costs for the state and businesses, and on the other hand stimulates the development of new segments of the digital market and high-tech financial and economic solutions.

Analytical assessment of the economic effects of digital transformation in Ukraine under wartime conditions confirms its compensatory role in mitigating losses in traditional sectors of the economy. According to the National Bank of Ukraine, in 2022–2024 IT services remained one of the few sectors with stable foreign currency revenues, offsetting the decline in merchandise exports [2]. World Bank analytical reports also indicate that digitalization of public services and financial procedures contributed to the reduction of transaction costs for businesses and households, partially neutralising the negative impact of physical infrastructure destruction and disrupted logistics chains [4]. In financial and economic terms, this resulted in more efficient resource allocation and preservation of the tax base under crisis conditions.

For the EU, the war in Ukraine has become a driver accelerating digital transformation with a focus on economic security and strategic autonomy. According to Eurostat, in 2024, 94% of EU households had internet access, and around 70% of citizens used digital channels to interact with public authorities [5]. These indicators create preconditions for higher productivity and lower transaction costs in both the public and private sectors, which is particularly important amid rising energy and defense expenditures.

According to the European Commission's report State of the Digital Decade 2024, digital industries generate more than 5% of the EU's gross domestic product, while investment in digital infrastructure and cybersecurity is considered a key driver of long-term economic growth and resilience of the internal market [6]. OECD estimates suggest that a 10% increase in business digital intensity leads to an average labour productivity growth of 1.5–2%, which becomes especially relevant under geopolitical instability and the need to optimize public spending [7]. Thus, digital transformation in the EU under the impact of war goes beyond technological modernization and increasingly serves as an instrument of financial and economic stabilization.

In conclusion, the war has become a decisive exogenous factor shaping the evolution of digital transformation in Ukraine and the EU. For Ukraine, digitalization performs an anti-crisis function by supporting macro-financial stability, service exports, and overall economic activity. For the European Union, digital transformation acts as a tool for enhancing productivity, strengthening economic security, and reinforcing strategic autonomy. Further development of digital processes requires deeper financial and economic coordination, increased investment in cyber resilience, and the integration of Ukraine into the European digital space as a component of sustainable development.

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FORMATION AND DEVELOPMENT OF THE ENTERPRISE COMPETITIVENESS MANAGEMENT SYSTEM IN THE CONTEXT OF SUSTAINABLE ECONOMIC DEVELOPMENT

In contemporary economic conditions, enterprises face high uncertainty, dynamic changes, and intensified competition, making the formation and development of an effective competitiveness management system a prerequisite for sustainable development and long-term success. Competitiveness management is the process of coordinating internal resources and strategic actions to achieve and maintain competitive advantages in the market environment [1][2].

Competitiveness management of an enterprise is a systematic activity that includes recognizing competitive threats, assessing internal potential, and implementing strategies that ensure the enterprise's adaptability and resilience. Various structural models of competitiveness management systems have been proposed in recent research, emphasizing the integration of analytical, strategic, operational, and controlling functions that support decision-making and resource allocation aligned with sustainability goals [2][3]. Systemic approaches to competitiveness management highlight the importance of viewing the enterprise as a cohesive system where changes in one component affect overall performance and competitive positioning [4].

A key determinant of sustainable competitiveness is the adoption of strategic priorities that align competitive strategies with environmental, economic, and social dimensions. Integrating sustainable development principles into management practices helps enterprises improve long-term market performance, optimize resource use, and adapt to global economic shifts [5][6]. For example, studies show that comprehensive competitiveness management systems contribute to improved operational efficiency, increased innovation activity, and enhanced market positioning through proactive strategy development and performance evaluation [6].

Digital transformation and advanced analytical tools such as ERP systems and business intelligence solutions play an important role in modern competitiveness management. These technologies support continuous monitoring of internal and external factors, enhance agility in decision-making, and improve the enterprise's capability to respond to rapid market changes. By combining strategic sustainability goals with digital and organizational frameworks, enterprises can achieve higher competitiveness and resilience in uncertain economic environments [7].

In conclusion, the development of a competitiveness management system that incorporates sustainability principles and strategic integration enables enterprises to not only survive but also thrive in the long term. This approach supports stability, continuous improvement, and greater capacity to meet stakeholder expectations, thereby contributing to sustainable competitive development at both business and national levels.

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SUSTAINABLE DEVELOPMENT OF RURAL COMMUNITIES IN UKRAINE AND POLAND: PROBLEMS AND THREATS

The sustainable development of rural communities in Poland and Ukraine is shaped by various historical, economic, demographic and security factors that determine the specifics of strategic planning, resource allocation and long-term development opportunities. Polish communities operate in a relatively stable institutional environment of the European Union, which provides them with access to structural and investment funds, sustainable mechanisms for supporting the agricultural sector and regional development programs. Ukrainian communities, on the other hand, are in a state of systemic transformation caused by the decentralization reform and a large-scale war, which radically changes the conditions of socio-economic functioning.

In Poland, the main areas of sustainable development are the modernization of the agricultural sector in accordance with EU environmental standards, diversification of the rural economy and strengthening of human capital. Polish communities are actively implementing precision farming practices, resource optimization, organic production, and the transition to renewable energy sources – from small biogas plants to solar and wind power plants. The development of agritourism, local craft clusters, and small processing enterprises, which creates added value at the local level, is significant [1].

Ukraine, despite a number of common goals with Poland, is moving along a different trajectory. The main directions are the restoration and modernization of the agricultural sector, strengthening the institutional capacity of communities, providing basic social services, and developing digital governance. Ukrainian communities strive to introduce highly efficient agricultural technologies, develop farming, and create cooperatives and local processing enterprises. However, the war has significantly complicated these processes: a significant part of the land is contaminated, mined, or temporarily inaccessible, logistical routes are disrupted, and access to investments and loans is limited. Modernization of social infrastructure is often a crisis: communities are forced to repair roads, strengthen shelters, establish energy autonomy, and support educational and healthcare institutions in parallel in the face of growing population needs [2].

The problems of sustainable development in Poland are mainly structural in nature. These include, first of all, demographic aging, the outflow of youth to large cities and abroad, as well as territorial imbalances, especially between western and eastern voivodeships. Intensive agriculture creates additional environmental challenges: soil degradation, water pollution, and increased pressure on ecosystems. Some smaller communities face limited human and institutional capacity, which complicates the implementation of European programs. Although digitalization is advancing rapidly, the problem of Internet accessibility in remote villages remains relevant.

In Ukraine, the problems are much deeper and multidimensional. War has become the most powerful factor destabilizing sustainable development. The destruction of infrastructure – energy, transport, housing – has led to a sharp decline in economic activity in many regions. Mining of

agricultural lands blocks production and creates long-term environmental threats. Rural depopulation is intensifying due to migration, mobilization and deaths. Social infrastructure is overloaded due to the increase in the number of internally displaced persons and the growing need for social services. Economic problems are complicated by the monopolization of the agricultural sector by large agrohholdings, which limits the development of small farming and local processing.

A comparison of sustainable development models in the two countries shows that Poland is in a phase of deepening innovation and qualitative diversification, while Ukraine is forced to focus resources on ensuring basic functions and recovery. Demographic risks, territorial imbalances and environmental threats related to climate change remain common. However, the difference lies in the scale and nature of the challenges: for Poland they are structural and predictable, for Ukraine they are crisis and existential. Polish communities have significant advantages due to financing from EU funds, access to international regional policy instruments and a stable economic situation.

In conclusion, the sustainable development of rural communities in Poland is characterized by gradual inclusive growth, while in Ukraine it is a struggle to maintain viability and potential for recovery in the face of war. Further progress of Ukrainian communities depends on the speed of reconstruction, access to international support, Ukraine's victory, and deep institutional modernization.

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FINANCIAL AND ECONOMIC ASPECTS OF ENSURING SUSTAINABLE DEVELOPMENT

In the current conditions of global economic transformation, financial and economic support for sustainable development is of crucial importance, since it is through adequate mobilization of finances, institutional mechanisms and targeted policies that it is possible to realize social, environmental and economic goals of long-term development. OECD analytical report «Global Outlook on Financing for Sustainable Development 2023» states that the existing financing gap in the implementation of the Sustainable Development Goals (SDGs) remains critical - without attracting new investment flows, including private capital, public spending and international assistance, it will be extremely difficult to meet the SDGs on time [1].

At the same time, national economies striving for sustainability are increasingly implementing the concept of «sustainable finance» (sustainable finance), among which the leading place is occupied by «green» financing instruments – «green» bonds, loans for environmental projects and ESG investments. According to the study «Green Finance» in the paradigm of sustainable investment development of the economy of Ukraine» (2023), such mechanisms contribute to the reorientation of capital towards energy efficiency, environmental innovations and low-carbon development, which meets international ESG standards and the Sustainable Development Goals [2].

In addition, modern analytical studies emphasize that the formation of a holistic «green» financial architecture is a fundamental element of economic transformation. The growth of the «green» bond market, the activation of environmentally oriented investment funds and the spread of ESG approaches demonstrate the increased interest of global capital in sustainable investments. Due to this, the possibilities of mobilizing private and international financial resources are significantly

expanding, which allows reducing the excessive burden on state budgets and increasing the effectiveness of the implementation of projects aimed at energy efficiency, decarbonization and the development of «green» infrastructure.

In the context of global climate challenges that increase financial vulnerability, it is important for countries to create institutional and regulatory conditions for green finance, stimulate clean investment, and support climate change adaptation projects. As the United Nations report shows, Nations «Financing for Sustainable Development Report 2022», green, social and sustainability bonds (green / social / sustainability bonds) can support a wide range of "green" and socially significant projects, and appropriate labeling of instruments promotes transparency and investor attraction[2,3].

In order to systematize the main sources of financing for sustainable development, it is advisable to present their comparative characteristics in Table 1.

Table 1. Sources of financing for sustainable development and their characteristics

Source of funding	Short description	Key effect
State budgets	Expenditures on infrastructure, eco-projects, adaptation	Financial stability, cost control
International aid and IFO loans	Grants and soft loans	Access to cheap resources, technical expertise
Private Investments (ESG)	Investments in sustainable development	Large amount of capital, innovative projects
Green, social and sustainability bonds	Debt instruments for sustainable projects	Investor mobilization, transparency, standardization
Bank lending ("green" loans)	Loans for energy efficiency projects	Prompt financing, local availability
Public-private partnership (PPP) and state guarantees	Co-financing of infrastructure	Attracting private capital, reducing risk for the state

In the context of increasing climate risks and financial vulnerability of economies, it is important to create a favorable institutional environment for the development of sustainable finance: implementing a national taxonomy harmonized with the European one, strengthening requirements for non-financial reporting, expanding the green bond market, and stimulating investments in renewable energy, the circular economy, and adaptation to climate change.

Thus, the financial and economic support for sustainable development should be based on the integration of public, private and international financial mechanisms, modernization of the regulatory framework, creation of incentives for "clean" investments and development of sustainable financing instruments. The complex combination of these elements forms the basis for an environmentally oriented, socially responsible and financially sustainable model of economic development.

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PROFESSIONAL JUDGMENT IN ACCOUNTING: THEORETICAL BOUNDARIES AND ETHICAL RESPONSIBILITY OF THE ACCOUNTANT

Today, professional judgment in accounting is evolving into a central element in the preparation of financial information, determining not only a company's internal management processes but also its external perception within the market. The era of standardized, strictly regulated accounting is gradually fading, giving way to principles focused on the economic substance of transactions rather than strict adherence to technical rules. Consequently, IFRS increasingly require accountants to possess not merely knowledge of instructions and methodologies, but the capacity to interpret situations, make estimates, formulate substantiated assumptions, and assume responsibility for the decisions made.

Within the framework of international standards, professional judgment is manifested in the measurement of the fair value of assets and liabilities, the determination of useful lives, the calculation of reserves and provisions, impairment testing, the classification of financial instruments, and the identification of control within complex corporate structures. In these scenarios, the accountant becomes the creator of financial reality: they shape how the entity appears to investors, creditors, shareholders, the state, and a wide range of stakeholders. At the same time, they realize that no decision is entirely objective – each contains a degree of subjectivity, experience, professional intuition, and personal responsibility.

The theoretical boundaries of professional judgment are established by the IFRS Conceptual Framework. It stipulates that reporting must be reliable, faithfully represented, and neutral, while any professional judgment must be based on reasonableness, objective data, documentary evidence, and logical argumentation. The accountant is permitted to act within the boundaries of these principles, but not outside them. However, it is this freedom of interpretation that makes judgment both a powerful tool and a potential threat. Where there is room for choice, the risk of manipulation and distortion arises. Different specialists, guided by the same regulations, may reach different conclusions – and these conclusions may not always be equally neutral.

The increase in subjectivity creates the danger of "creative accounting," where managerial or commercial interests influence financial reporting figures. Optimistic cash flow forecasts can artificially inflate asset values; insufficiently low provisions can "improve" profit; and the selection of a specific valuation method may be driven solely by the desire to achieve a target result. In such cases, professional judgment turns into a tool for masking economic reality, which can mislead users of financial statements and distort their financial decisions.

Consequently, the ethics of the professional accountant become the foundation that determines the quality of judgment and protects it from subjective distortions. The Code of Ethics for Professional Accountants requires integrity, objectivity, independence of mind, competence, and a responsible attitude toward information. At its core lies the obligation to act not in favor of a specific manager or owner, but in the public interest. The accountant acts as a guarantor of trust, determining how transparent and truthful the financial reporting will be. Their decisions determine whether an investor can assess risks, whether a creditor will reveal the borrower's true financial position, and whether the state will have reliable data for making fiscal decisions.

Professional judgment is not merely a technical process but a complex intellectual activity that involves analytical skills, critical thinking, the ability to navigate uncertainty, and the capacity to draw conclusions under conditions of incomplete information. In accounting theory, professional judgment is viewed as a mechanism for bridging formal principles with practical context. It acts as a "bridge" between standards and real economic activity, allowing rules to be adapted to the individual circumstances of an enterprise.

On the other hand, professional judgment constitutes a part of the reputational capital of both the accountant and the enterprise.

In the long term, financial reporting built on honest and well-substantiated judgments enhances trust in the business, reduces information asymmetry, and ensures the company's sustainability in a competitive environment. Ethics here serves not as a constraint, but as a key driver for improving the quality of decisions. The more transparently and responsibly the accountant operates, the more reliable investor decisions become, the more efficiently resources are allocated in the market, and the more stable financial systems become.

In conclusion, professional judgment in accounting represents a complex balance between freedom and discipline, knowledge and intuition, standards and reality. It does not grant the accountant permissiveness; on the contrary, it imposes even greater responsibility toward the enterprise, users of financial statements, and society. In an era where standards are increasingly principles-based, the role of professional judgment will only strengthen. Ultimately, not only the quality of reporting but also the level of trust in the entire financial system depends on how ethically and professionally the accountant exercises this freedom.

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ENTREPRENEURIAL RESILIENCE FOR SUSTAINABLE DEVELOPMENT IN WARTIME UKRAINE: ECONOMIC EVIDENCE FROM THE INFORMATION AND COMMUNICATION SECTOR

Entrepreneurship represents a critical driver of sustainable development, particularly in achieving sustained economic growth and promoting decent work. Within this framework, the information and communication sector (ICS) plays a strategically important role. It not only sustains entrepreneurial activity under conditions of heightened uncertainty but also serves as a catalyst for innovation, accelerates digital transformation, and enhances productivity across other sectors of the national economy.

The contribution of entrepreneurship to sustainable development, employment generation, innovation, and post-war socio-economic recovery has become a central focus of contemporary academic discourse. Previous studies have key policy initiatives aimed at fostering a more favourable business environment and mitigating human capital outflows, with particular attention to regional dimensions of sustainable development and post-war recovery prospects in Ukraine [1; 2]. Other research has assessed the contribution of ICTs to the production of public goods [12], and explored structural relationships among business entities in Ukraine's ICS with respect to production, employment, and the creative economy at the regional level [13; 14]. Despite these facts, there remains a crucial need to identify the key determinants shaping the development and resilience of entrepreneurship in Ukraine's ICS under wartime conditions, and to evaluate its role in advancing sustainable development in the post-war period.

The empirical analysis covers the period from 2010 to 2023. Due to limitations related to the availability and completeness of official statistical data, the sample consists of only 14 annual observations. Given this small-N context and the heightened uncertainty of economic processes induced by prolonged wartime conditions, the study employs a **Bayesian modelling framework as a methodologically robust and appropriate alternative** to conventional econometric approaches. The dependent variable is defined as Y_i , representing the total turnover of business entities in the ICS (thousand UAH). The independent variables include X_1 – the total number of active business entities in this sector (units); X_2 – the total number of persons employed by business entities in the sector (persons); and X_3 – the number of secure Internet servers (units). Based on these variables, the Bayesian model is specified in a log-liner form as follows:

$$\log(Y_i) = \alpha + \beta_1 \cdot \log(X_{1i}) + \beta_2 \cdot \log(X_{2i}) + \beta_3 \cdot \log(X_{3i}) + \log(\eta_i) \quad (1).$$

The model produced high-quality posterior estimates, thereby confirming the robustness and reliability of the empirical results. The Gelman-Rubin convergence diagnostic (\hat{R}) equals 1.00 for all estimated parameters. The effective sample size exceeds 56,400 for each parameter, further reinforcing the stability of the posterior distributions. The posterior estimates of the regression coefficients β_j lie entirely within their respective 95% credible intervals and do not include zero.

Overall, the empirical findings provide strong evidence that entrepreneurship constitutes a pivotal factor in advancing sustainable development goals amid the ongoing war in Ukraine. Entrepreneurial activity supports employment, fosters economic growth, facilitates sectoral transformation, and contributes to the production of high value-added goods. The case of enterprises operating in the ICS illustrates a notable degree of resilience, demonstrating the sector's capacity to maintain relative stability and sustain business activity throughout the 2014–2023 period despite the severe economic and institutional challenges imposed by prolonged wartime conditions.

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ENSURING INCLUSIVITY AT UKRAINIAN AIRPORTS IN THE POST-WAR PERIOD AS A FACTOR OF AIR TRANSPORT SUSTAINABLE DEVELOPMENT: SOCIO-ECONOMIC ASPECTS

The resumption of domestic airports in the post-war period must comply with the principles of sustainable development, in particular: safety, efficiency and inclusiveness. After the war, a significant part of the passenger flow will include war veterans and civilians who were injured, lost limbs and suffered psychological trauma. It will be critically important to take into account the public demand for barrier-free access, because the accessibility of transport infrastructure is a real prerequisite for the integration of people with physical and mental health disorders into the economic life of the country.

In the transport sector, inclusion should be implemented comprehensively through the following components: physical accessibility, information accessibility, communicative accessibility [1].

The airport, as a strategic transportation hub, is often the first point of contact for a person with the outside world when traveling for treatment, rehabilitation or recreation. Therefore, creating an environment that does not degrade dignity, but on the contrary, provides autonomy and support, is an expression of respect for all citizens. Inclusion in a post-war airport requires the implementation of dignified screening protocols for people with prostheses and implants, as well as the creation of appropriate infrastructure to take into account the needs of passengers with invisible injuries, visually impaired, and elderly people.

To ensure full inclusiveness at domestic airports in the post-war period, it is advisable to offer a set of modern solutions that combine infrastructure changes, digital technologies, and organizational standards (Fig. 1). The implementation of these solutions will allow Ukrainian airports to meet the highest European standards (in particular, EU Regulation No. 1107/2006) and demonstrate real care for each passenger [2].

From an economic perspective, an inclusive airport is a cost-effective airport for several reasons. Firstly, creating comfort, accessibility and barrier-free conditions promotes wider access to airport infrastructure for different groups of passengers: solvent elderly people, people with disabilities and their accompanying persons. As a result, this expands the customer base and creates additional income for airports. Secondly, simplified navigation, wide aisles, no thresholds, ramps and automation of processes speed up the movement of passengers with limited mobility, as well as passengers with strollers, staff with equipment, while reducing overall service time and queueing. The result is the effect of increasing the terminal's throughput without expanding its area. Thirdly, people with special needs and the elderly are generally not tied to school holidays and vacations, so by traveling during the "low season," they even out the annual passenger flow at the airport. Fourth, inclusive design reduces the risk of injury for all categories of passengers, which reduces accidents and downtime, minimizing airport insurance payments. Fifth, a high inclusivity rating of airports opens up access to preferential loans and EU grant programs, which is also effective from an economic point of view.

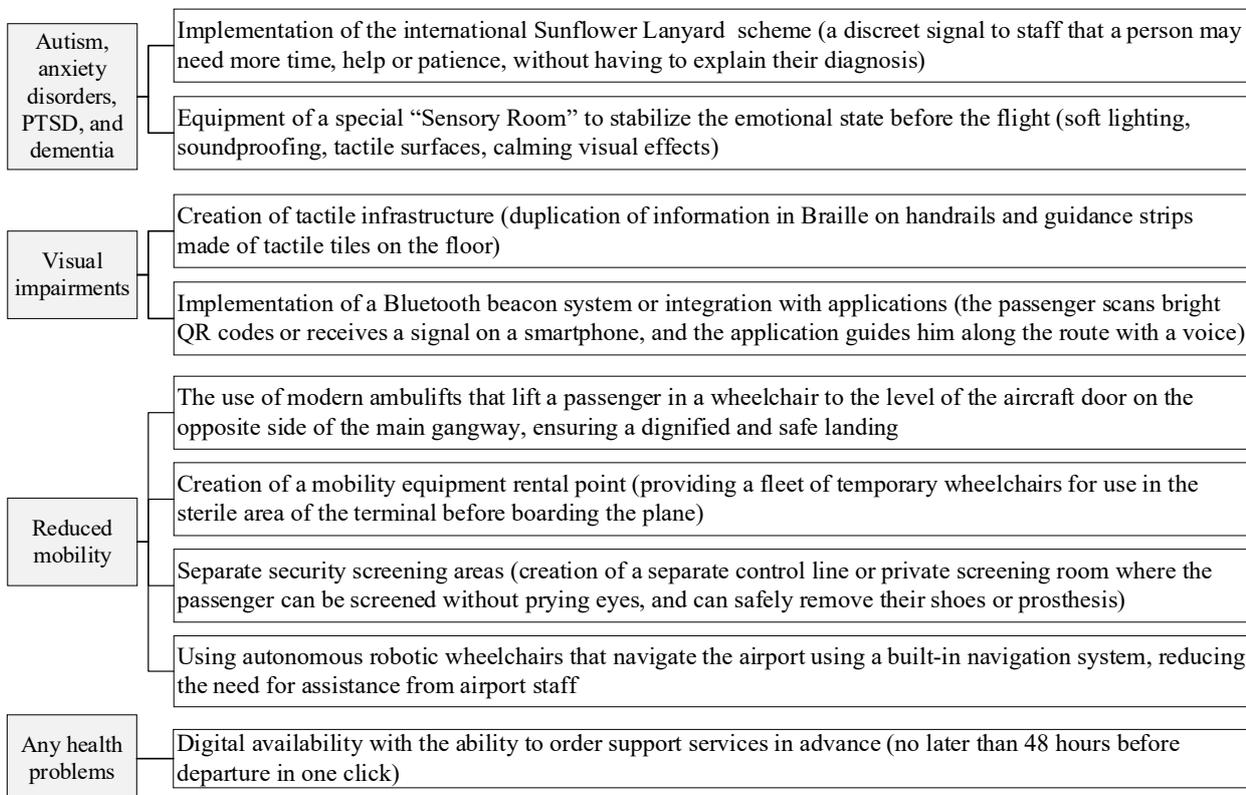


Figure 1. Proposals for ensuring inclusiveness at Ukrainian airports in the post-war period

Thus, ensuring airport inclusivity represents an investment in operational efficiency, market expansion, and grant funding.

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ENSURING ECONOMIC STABILITY THROUGH INCREASING THE INNOVATIVE ATTRACTIVENESS OF REGIONS

Ensuring economic stability by increasing the innovative attractiveness of regions is based on the logic that innovations enhance productivity, diversify the structure of the economy and reduce dependence on a narrow range of industries. An innovatively attractive region is able to attract enterprises that create high added value, retain qualified personnel and form a stable demand for modern competencies. This provides more stable tax revenues, wider employment and better adaptation to price and financial fluctuations. It is important that innovation works not only as a technological breakthrough, but also as a culture of continuous improvement of products, processes and management models that respond faster to changes. Studies of regional resilience show that higher indicators of innovative capacity are associated with a better ability of regions to withstand crises and recover faster from shocks [1-2]. Innovative attractiveness is formed through institutional conditions and the quality of the environment in which it is profitable for businesses to take risks and invest in new solutions. Key factors include predictable rules for entrepreneurs, protection of property rights, transparent procedures for supporting projects, the availability of high-quality education and training systems, as well as a developed infrastructure, including digital infrastructure. High efficiency is provided by an approach in which regional innovation systems combine business, science and government through joint programs, grant mechanisms, technology parks, business incubators and knowledge transfer networks. In practical terms, this means that they support not individual one-time initiatives, but entire chains of innovation creation, from ideas and prototypes to scaling, exports and service support. Innovations that increase energy efficiency, reduce costs, improve logistics and the quality of services are especially valuable for economic stability, because such effects quickly turn into competitive advantages for enterprises and stable jobs for the population. The management part of increasing innovation attractiveness should be based on a clear assessment of priorities, a portfolio approach to projects and constant monitoring of results so that resources are not wasted. It is important for the region to have a map of competitive advantages, a list of technological niches that can be developed, and coordinated programs to support entrepreneurship, education, and infrastructure. Successful practices usually include developing human capital, stimulating cooperation between enterprises and universities, attracting private financing, supporting startups, and creating conditions for the return or retention of talented specialists. At the same time, risks need to be taken into account, including inequality of access to opportunities, brain drain to stronger centers, and information barriers for small businesses. Therefore, innovation attractiveness policies should combine economic incentives with inclusiveness so that growth is not concentrated only in certain locations. As a result, the economic stability of the region occurs when innovation becomes a regular practice, supported by institutions, personnel, finances, and trust between development participants.

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METHODOLOGICAL APPROACHES TO MANAGING THE FINANCIAL SUPPORT OF SUSTAINABLE DEVELOPMENT OF CONSTRUCTION INDUSTRY ENTERPRISES

Methodological approaches to managing the financial support of sustainable development in a construction enterprise represent a system of interrelated principles, methods, and procedures that ensure the rational formation, allocation, and use of financial resources in the construction sector. Their application helps maintain the financial stability of the enterprise, increase the profitability of implemented projects, and reduce the likelihood of financial risks. Such approaches support the achievement of both operational and strategic goals of the company, ensure transparency of financial operations, and strengthen trust among investors and business partners.

One of the key methodological tools in the financial management of a construction enterprise is budgeting. It involves the development of detailed financial plans for various periods, including the calculation of expected revenues from construction contracts and the forecasting of expenses for materials, personnel, and capital investments. This practice enables effective control of financial indicators, timely identification of deviations, and adjustment of plans in response to changing project implementation conditions. The budgeting process is based on a set of principles, including completeness, coordination, specialization, realism, and transparency. These principles ensure consistency across departmental budgets, reliability of financial information, its prompt analysis, and rational expenditure planning for different types of construction activities [1, p. 144]. An important component of these methodological approaches is financial analysis, which allows for the assessment of the enterprise's financial condition through the analysis of liquidity, solvency, profitability, and other key indicators. Based on this analysis, the strengths and weaknesses of the company's operations are identified, the efficiency of resource use is evaluated, and the feasibility of investments is determined, along with the risks associated with fluctuations in construction material markets or delays in project execution. Regular financial analysis provides a foundation for sound managerial decisions and helps maintain a balance between revenues and expenses throughout the construction cycle [2, p. 31].

Another significant direction of financial management is the organization of cash flows, which includes planning, forecasting, and adjusting cash inflows and outflows. This is particularly important in construction enterprises due to the uneven nature of cash flows, dependence on the stages of project execution, and the need for timely settlements with suppliers. A cash flow management system includes planning the movement of funds, monitoring actual financial data, and adjusting financial plans depending on the conditions at individual construction sites.

Capital management is also a crucial element of financial support. It includes assessing available capital, determining the need for financial resources to fulfill construction contracts, forming an optimal structure of equity and borrowed capital, and monitoring its efficient use. A well-developed capital management strategy helps reduce the enterprise's exposure to market fluctuations and ensures stable financing of construction projects.

Investment management plays an equally important role, encompassing the assessment of investment attractiveness of new projects, the analysis of their economic efficiency, and the planning of financing sources. Effective management of investment resources facilitates production

modernization, supports the implementation of innovative solutions, and strengthens the enterprise's competitive advantages.

Additionally, financial risk management is an essential direction that involves identifying and mitigating potential threats associated with fluctuations in material costs, currency risks, liability insurance, and the creation of reserve funds. A systematic approach to risk management helps maintain financial stability and avoid significant losses.

The final component is strategic financial management, which encompasses the development of long-term financial strategies for sustainable development, aligned with the enterprise's mission and market conditions. It enhances the company's capacity to adapt to external environmental changes and maintain stable growth [3, p. 109].

Collectively, these methodological approaches create an integrated system of financial support for the activities of construction enterprises, contributing to effective resource management and promoting sustainable development.

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FINANCIAL PROVISION OF SUSTAINABLE DEVELOPMENT OF COMMUNITIES IN THE CONDITIONS OF DECENTRALIZATION AND DIGITALIZATION

Ukraine's integration into the European space involves harmonization of legislation and adaptation of the sustainable development policies of EU cities and regions to domestic realities. The sustainable development strategy provides for a set of long-term measures for the improvement of human civilization or a specific group of people with a view to meeting their biological, social and cultural needs in combination with a careful attitude towards the environment. One of the areas of focus for ensuring the sustainable development policy of EU cities and regions is decentralization reform with the aim of creating successful practices for the sustainable restoration and development of communities.

According to the Constitution of Ukraine (Article 142), "the material and financial basis of local self-government bodies is movable and immovable property, local budget revenues, other funds, land, and natural resources owned by territorial communities" [1]. In modern conditions, local budget revenues are the main source of financial resources of territorial communities to ensure sustainable development. At the same time, significant changes have occurred in the structure of local budget revenues in Ukraine. If at the beginning of the decentralization reform (2015), the share of own revenues was 40.8%, the rest (52.9%) fell on official transfers that go to finance the state powers delegated to the local level, then in 2024, the share of own revenues of local budgets will be 72.3% and only 27.7% will be official transfers. This trend indicates an increase in the role of communities in the financial provision of sustainable and green development.

The continuous armed aggression has created additional challenges for Ukraine in financing sustainable development goals, which is reflected in limited resources – financial, energy, infrastructure, human, territorial, etc. Therefore, it is advisable to use local borrowing and local

guarantees as a source of additional revenues for local budgets. The current legislative framework allows territorial communities of Ukraine to carry out local borrowing and provide local guarantees. Thus, city, town and village councils have the right to carry out local internal borrowing and local external borrowing [2, p. 387]. As for the form of local borrowing, they can be carried out both by concluding loan agreements (credit agreements) and through the issuance of local loan bonds.

As Polish scholars W. Kozłowski and K. Turkowski has shown, the municipal economy is the basis for ensuring sustainable development in a specific territorial community today, since it covers such socio-economically important areas as energy, waste management, water supply, sewage, local roads, municipal housing and urban transport [3, p. 4].

Experience of Poland in consolidating state development institutions is interesting for the institutional build-up of the digital environment supporting development of local communities in Ukraine. Much attention is paid by State Development Banks, as analyzed by Yu. Prozorov et al. [4, p. 84], to the implementation of sustainable development goals for ESG direction. Historically, the synergy of two state banking institutions was the most acceptable for the Central and Eastern European region: in Poland, such an institutional pair is the Development bank – *Bank Gospodarstwa Krajowego* (BGK) and the Universal *PKO Bank Polski*. Thus, the Polish Development Bank *BGK* has launched a special Accessibility Fund, which aims to improve the accessibility of buildings for people with special needs. This successful experience of establishing and operating a specialized institution for social financing of local infrastructure should be applied in Ukraine, especially for affected communities, given the severe consequences of large-scale aggression.

Post-war reconstruction of affected communities in Ukraine will be based primarily on advanced digitalization and the development of environmentally sustainable industries at the forefront of technological innovation in the digital economy. Summarizing the above, we consider that in the current circumstances, local authorities are overcoming challenges that test their capacity to independently (within their powers) resolve issues of financial support for the sustainable development of territorial communities and confirm the effectiveness of the implementation of the decentralization reform in Ukraine, which will be one of the determining factors in the country's successful post-war recovery.

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DEVELOPMENT OF SOFT SKILLS AMONG POLICE OFFICERS AS A FACTOR INFLUENCING UKRAINE'S EUROPEAN INTEGRATION PROCESSES

The development of soft skills among officers of the National Police of Ukraine is becoming particularly important in the context of the country's European integration, as modern EU standards require a high level of professional communication, respect for human rights, transparent procedures, accountability, and openness of law-enforcement institutions. In this regard, soft skills

become a key factor in enhancing the effectiveness of police activities and strengthening public trust.

One of the fundamental components is communication, which includes the ability of police officers to work with different population groups, manage conflict situations, and interact with institutions, international partners, and the public. Well-developed active listening and non-conflict behaviour contribute to reducing tension and preventing escalation. This aligns with the Council of Europe's recommendations on community policing and strengthens institutional trust.

An essential component is emotional intelligence, which enables police officers to effectively manage their own emotional states and respond adequately to stressful situations. Under conditions of war and societal pressure, such skills become a necessity. European standards emphasise resilience, self-regulation, and psychological competence as mandatory attributes of a modern police officer.

The development of critical thinking and decision-making enhances the analytical abilities of officers and enables them to select optimal actions in uncertain situations. This is directly related to the implementation of EU legal norms, where emphasis is placed on legality, proportionality, and the justification of decisions. The ability to think systemically and assess risks is essential for compliance with the standards of police services in EU states.

Equally important are teamwork and leadership skills, as successful police performance depends on coordinated interaction between units, readiness to share information, mutual support, and effective coordination. The European approach promotes network-based and horizontal communication, where leaders act as facilitators rather than simply holders of authority.

In the context of digitalisation, digital literacy and information-management skills become crucial. European police institutions actively use analytical platforms, video-monitoring systems, databases, and predictive tools. For Ukraine, developing these skills is vital for integrating into joint EU security information systems and exchanging operational data with European partners.

The development of soft skills contributes to greater transparency, accountability, and effectiveness of police work, which are key evaluation criteria in the European integration process. Soft skills serve not only as tools for professional development but also as mechanisms for strengthening the institutional capacity of the state. They form a modern model of a law-enforcement officer focused on service, legality, and community partnership—fully aligned with the strategic requirements of the European Union.

Thus, the development of soft skills among police officers is a significant factor in modernising the law-enforcement system and enhancing its alignment with European standards. It increases public trust, improves the quality of service, and strengthens Ukraine's capacity to integrate effectively into the common European security space. This confirms the need for a systematic, methodological, and educational approach to developing soft skills within police training and professional practice.

An increasingly important dimension of soft skills development in the police force concerns inclusiveness and diversity awareness. Modern European standards emphasise the ability of officers to work effectively with vulnerable groups, minorities, people with disabilities, internally displaced persons, and individuals affected by war. Inclusiveness as a soft skill reflects openness, respect, tolerance, and the understanding of social differences. Police officers trained in inclusive communication contribute to reducing discrimination, ensuring equal treatment, and strengthening social cohesion - key elements of the EU's human-rights-based approach.

Furthermore, soft skills are essential for promoting gender equality, which is one of the fundamental values of the European Union. The development of gender sensitivity, prevention of gender-based violence, and awareness of unconscious bias support the creation of a police service that guarantees equal opportunities for men and women both within the institution and in interactions with the public. Strengthening women's leadership in the police, ensuring gender-balanced teams, and embedding equality principles into training programmes enhance institutional integrity and align Ukraine's law-enforcement practices with EU standards.

The integration of soft skills also contributes to achieving broader goals of sustainable development, particularly in the areas of peace, justice, and strong institutions (SDG 16). Soft skills such as ethical leadership, responsible communication, conflict mediation, and community engagement support long-term social stability and resilience. By fostering trust, transparency, and accountability, the police play a critical role in building sustainable communities and supporting reforms necessary for Ukraine's European trajectory.

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FEATURES OF COMMUNICATION IN A NEW ENVIRONMENT

In modern society, the sustainable development of an individual's communicative competence remains an important issue. It is balanced communication that includes verbal interaction (interpersonal and intercultural), which enables an individual to integrate into a new cultural community. Communication facilitates gradual adaptation to cultural characteristics and minimizes the risks of cultural barriers (language differences, dialects, misunderstanding of words, etc.). A large number of Ukrainian refugees (from Mariupol, Pokrovsk, Energodar, Melitopol, etc.) faced a life choice: to submit and lose their identity or to change their lives in order to preserve their future. About 1.5 million people from Ukraine who found themselves in difficult living conditions have found protection in Germany. Through the integration process, Ukrainian refugees are being included in a new social environment, and understanding between nations is improving. An important component of integrating individuals into a new society remains the provision of psychological support and corrective work to maintain mental health. Individual counseling allows us to understand the peculiarities of the inner world of a person who finds themselves in different living conditions, to identify ways to overcome certain difficulties, and to find resources. An auxiliary tool in conducting individual work with clients (both adults and children) is the diagnostic toolkit offered by UA-Test. During individual counseling, the following methods are used: PSCS (Perceived Stress Scale), CATS-2S (Child and Adolescent Trauma Screening), DASS-21 (Depression, Anxiety, and Stress Scale), CBDS (Correa-Barrica Depression Scale), MFQ-S (Mood and Feelings Questionnaire for Children and Adolescents), SCAS (Spencer Children's Anxiety Scale), and CRIES-8 (Child Rating Inventory of Experiences). The psychologist obtains information about the client's specific characteristics, problems, and psychological state. The use of the PHQ-9 diagnostic tool is also an aid for the rapid detection of symptoms of depression.

Many problematic situations arise in the course of refugees' communication in a new social environment. Learning a new language is not always an easy step in the integration process. The main obstacles are psychological, cognitive, lexical, and others. For example, difficulties arise in understanding grammar (articles, cases, articles with three genders, adjective declension, complex word order, etc.), pronunciation of specific sounds, word formation with word components, and negations. In addition, a better understanding of the language requires constant practice, which, unfortunately, is not systematic.

In working with children and adolescents, in addition to the diagnostic tools of the UA-Test, the Sax-Levi (SSCT) "Unfinished Sentences" test (modified by V. Mikhal), the CAT children's apperceptive test, Taylor's "Anxiety Scale" methodology [1], the "Study of the Properties of the Nervous System" [1], the Social Adaptability Research Methodology [1], projective techniques, etc. The survey is conducted with the consent of the parents. As a result, we observe low levels of psychosocial functioning, the presence of depressive symptoms, high levels of distress associated with trauma, high risk of post-traumatic syndrome, increased levels of aggression, lack of motivation to learn, and low self-esteem. In individual conversations, children complain of feelings of fear regarding communication due to difficulties in learning German.

Undoubtedly, learning a foreign language stimulates speech development, introduces individuals to the cultural heritage of other nations, shapes their ability to understand themselves and their surroundings, their thoughts and feelings, and contributes to intellectual development, etc. However, against the backdrop of emotional instability (mood swings and feelings, rapid reaction to

change, mental overload), when faced with obstacles such as culture shock and misunderstanding of local customs, a person experiences problems with self-esteem due to insecurity and fear of being misunderstood.

Therefore, we understand that in real life, a person must be mentally stable in order to develop the ability to interact effectively with their environment, study and work successfully, and resolve conflicts. That's why psychologists use support and recovery techniques and the latest diagnostic tools in their work and take part in international supervision meetings and scientific conferences to get more experience working with clients. Gaining personal experience and maintaining mental health contribute to productivity, establishing social connections, improving socialization, and increasing stress resistance.

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FEATURES OF THE FUNCTIONING OF LOCAL SELF-GOVERNMENT IN RURAL DISTRICT

The peculiarities of the functioning of local self-government in rural districts are determined by the proximity of authorities to residents and, at the same time, limited resources. In small communities, decisions are often made in an environment of close social ties, where the reputation of officials and informal rules of interaction can significantly affect the implementation of formal procedures. The organizational structure is usually compact, one employee combines several areas, which increases the need for universal competencies and clear regulations that reduce the risk of errors. An additional feature is the spatial dispersion of settlements, remoteness from administrative centers and more complex communication with supra-local authorities, which increases the importance of multi-level governance and cooperation between various participants, including public organizations, business and scientific institutions.

The financial and service component in rural districts has its own specifics, because the tax base is usually narrower, and infrastructure and service costs per inhabitant are often higher due to low population density and long distances. This creates a dependency on inter-budgetary transfers and prioritizes expenditure planning, with basic needs being financed first and development projects requiring external sources or partnerships [1-2]. In such circumstances, the quality of service delivery is often linked not only to the amount of funds, but also to managerial capacity, transparency of procurement, availability of information to citizens and the ability to respond to complaints. Research on local governments indicates that staff shortages, procedural weaknesses and unequal access to services in rural areas form persistent barriers to development, and increasing citizen accountability and awareness can support improved governance and services. Social dynamics and development in rural districts depend largely on resident participation, trust and the ability of local governments to unite people around common goals. Practice shows that where local authorities systematically work with the community, involve residents in discussing the budget, spatial development plans, support cultural initiatives and preserve local identity, the sustainability of management decisions increases. Scientific works emphasize that culture and local resources can be not only social capital, but also the basis of development strategies if they are institutionally supported by local authorities. At the same time, digital tools, including electronic appeals, online consultations and open data sets, can enhance engagement, but the digital divide in rural areas

requires parallel offline mechanisms, otherwise some residents will be excluded from decision-making processes.

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RENEWABLE ENERGY AS A SYSTEM-FORMING ELEMENT OF REGIONAL ECONOMIC SECURITY

In the current context of intensifying global energy transformations, climate threats, natural resource limitations, and geopolitical instability, the issue of ensuring regional economic security is becoming increasingly relevant. The sustainable development of territories directly depends on the ability of regions to withstand external and internal challenges, maintain the stable functioning of key sectors of the economy, and ensure the continuity of vital processes. One of the fundamental components of such stability is energy security, which forms the basis for the development of industry, transport, the agricultural sector, social infrastructure, and the housing and municipal services.

Traditional energy supply models based on the use of fossil fuels increasingly demonstrate their vulnerability. Their characteristic features include a high level of dependence on imports, price instability in global markets, a significant negative impact on the natural environment, and the finiteness of resources. Under such conditions, there is a growing need for a conscious and systematic transition to alternative, environmentally safe, and renewable energy sources capable of ensuring the long-term stability of regional energy systems.

Renewable energy acts as one of the factors enhancing the energy efficiency of the national economy. A comparative analysis of the most common types of renewable energy shows that the lowest implementation costs are associated with bioenergy (from USD 500 to 2,000 per watt of capacity) and solar energy (USD 500–3,000 per watt, respectively), which is the most widespread in Ukraine [1]. These types of energy are characterized by natural renewability, relative environmental safety, and the possibility of local use.

The system-forming role of renewable energy is manifested primarily in shaping a new structure of the regional energy balance. The implementation of solar, wind, and bioenergy facilities gradually changes the proportions of energy consumption, reducing dependence on centralized supply sources and imported energy carriers. This contributes to an increase in the level of regional energy self-sufficiency, which is one of the key indicators of economic security. In addition, the development of the renewable energy sector stimulates the diversification of the regional economy. At the same time, the investment attractiveness of territories in the field of “green” energy and related industries is increasing. This, in turn, способствует the creation of new jobs and the development of innovation infrastructure at the local level.

According to Energy Map, the share of electricity generation from renewable sources has been steadily increasing from 2% to 9% over the period from 2015 to 2024. This is driven, in particular, by European integration commitments, as well as economic and geopolitical factors. A key barrier to the development of renewable energy is the technical adaptation of power systems and the high cost of grid connection [2]. At the global level, the main risks to the development of

alternative energy sources lie in the formation of prices for raw materials (fossil fuels) that compete on the market and depend on supply and demand. Investment projects are often long-term, and uncertainty about the future offsets potential economic and environmental benefits [3].

The development of renewable energy sources at the local level contributes to enhancing the energy autonomy of regions, developing infrastructure, and implementing innovations in compliance with standards, thereby ensuring the achievement of sustainable development goals and access to reliable energy. It is innovations that shape the long-term competitiveness of regions and form the basis of their economic security [4]. One of the tools for assessing the risks of implementing electric power systems is the analysis of operational reliability, the use of risk management in governing the implementation process, and the application of subsystems based on both traditional and renewable energy sources. An important factor in the successful integration of renewable energy into regional economic systems is the presence of effective national and local policies.

Thus, renewable energy is not only an alternative source of energy, but also a strategic, system-forming element of regional economic security. It encompasses the economic, social, environmental, and institutional dimensions of territorial development, ensuring their resilience, self-sufficiency, and capacity for adaptation in the context of dynamic global change.

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FINANCIAL PLANNING AND COST CONTROL TO ENSURE SUSTAINABLE DEVELOPMENT OF ENTERPRISES IN THE AGRICULTURAL SECTOR OF THE ECONOMY

The modern operating conditions of Ukraine's agricultural sector are characterized by high instability of the economic and political environment, fluctuations in market prices, climate risks, resource constraints, and increasing competition. This creates a need for effective financial planning and rational cost control as key prerequisites for ensuring sustainable enterprise development.

Financial planning in agricultural production provides forecasting of revenues and expenses with consideration of seasonality, determination of the optimal structure of resources, development of budgets, and assessment of the investment attractiveness of enterprises. Well-structured financial planning enhances enterprise resilience and reduces risks. Rational cost control helps lower production costs, improve the efficiency of machinery and material resource usage, identify inefficient expense items, and increase competitiveness in domestic and international markets.

The sustainable development of an agricultural enterprise requires a balance of economic, social, and environmental components. Financial planning enables the integration of approaches to energy efficiency, rational use of natural resources, and the implementation of innovative technologies that contribute to long-term stability. This includes operating costs, resource utilization, revenue generation, as well as relationships with suppliers of raw materials, buyers, employees, and government authorities through tax payments [1].

The implementation of financial activities at an enterprise is carried out in the following areas [2]:

1. Financial planning and forecasting, which is a key element of financial activity and includes setting objectives, developing financial plans and forecasts that serve as the foundation for effective financial management. This activity focuses on assessing the enterprise's need for financial resources required for sustainable development, as well as identifying reserves to improve profitability and efficiency. The result of financial forecasting and planning is the justification of the planned volume of enterprise revenues and expenses, tax payments, profit, assets and capital, and the determination of cash flows [3].

2. Operational financial activity, which is based on the results of financial forecasting and planning. Its main goal is to ensure continuity of the company's operations and maintain stable solvency. This includes timely and full fulfillment of obligations to suppliers of raw materials and resources, state and local budgets, extra-budgetary funds, personnel, banking institutions, and others.

3. Analysis and control of financial condition, which involves diagnosing, timely identifying, and preventing negative trends that affect enterprise stability.

The implementation of key aspects of financial activity ensures close interaction among all components of the enterprise. Financial activity is a significant part of the organizational and managerial work of an agricultural enterprise, as it determines the timely and full provision of financial needs for production and economic operations, enterprise development, and the fulfillment of obligations to the state and business partners [4].

An analysis of financial and economic indicators of Ukrainian enterprises has shown that financial risks are driven by a high share of short-term loans in their structure, while the share of equity capital has decreased during the active phase of the Russian-Ukrainian war. This increases enterprises' dependence on bank financing and makes them more vulnerable to changes in the key interest rate. This indicates the need for cost optimization, productivity growth, and reduction of production costs. Despite improvements in many indicators, Ukrainian agricultural enterprises must pay attention to potential threats arising from increased financial risk. This requires careful financial planning and cost control to maintain stability. When overcoming crisis phenomena, agricultural enterprises must focus on capital management efficiency, using criteria for balancing own and borrowed funds to support sustainable development processes.

Financial planning and cost control form the foundation of strategic management within an agricultural enterprise. Their effective implementation ensures production stability, improves profitability, and contributes to the sustainable development of Ukraine's agricultural sector.

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TRANSFORMATION OF THE RESTAURANT INDUSTRY OF UKRAINE UNDER CRISIS CHALLENGES

The restaurant industry is an important segment of the hospitality sector and the Ukrainian economy, which demonstrated stable growth until 2020. However, the period of 2020 – 2025 was

marked by several unprecedented crises – the COVID-19 pandemic and the full-scale military aggression of the Russian Federation – which radically changed market conditions and required rapid adaptation and transformation of business models.

The impact of the COVID-19 pandemic (2020 – 2021) on the restaurant industry of Ukraine resulted in a decline in the number of food service establishments by more than 20% (from 18.6 thousand at the beginning of 2020 to 14.786 thousand at the beginning of 2021). Financial losses from reduced sales in 2020 were almost 48% higher compared to 2019. At the same time, the crisis stimulated digitalization (QR menus) and multichannel development through delivery services and cloud kitchens.

Russia's full-scale military aggression against Ukraine caused losses that exceeded the scale of the pandemic's impact. This manifested itself in substantial structural and territorial changes – including significant physical destruction of establishments in combat zones and temporarily occupied territories. Internal migration led to a redistribution of market activity, with a decline in the East and South and partial recovery and concentration in the Western and Central regions of the country.

Since 2023, partial revenue recovery has been observed (an increase of 8 – 10% in 2024 compared to 2023), but this growth is largely inflation-driven, as the average check increased by 17 – 18%, while customer traffic remains under pressure. About 47% of restaurateurs in 2024 reported decreased profitability due to rising food prices and higher operating costs.

A particularly acute problem remains the shortage of personnel caused by mobilization, labor migration, and the departure of a significant part of the population abroad for security reasons. Restaurateurs are forced to significantly increase their wage expenditures (20 – 40% of revenue) to retain qualified staff. This crisis is expected to deepen in 2026, which will accelerate the automation and simplification of technological processes in establishments.

The Ukrainian restaurant industry is also compelled to respond to investment risks by simplifying formats – shifting toward less risky and faster-turnover concepts: coffee shops, fast food outlets, mono-concepts (burger bars, pizzerias). Locality is becoming increasingly important – with growing demand for local products and national cuisine as a way to support the domestic economy and reduce dependence on imports. Digitalization continues to intensify through the adoption of technologies for internal management, marketing, and customer interaction (self-service systems, loyalty programs, etc.).

The development forecast for 2026 assumes a continuation of the current situation (ongoing hostilities and heightened uncertainty), yet with the possibility of partial stabilization in rear regions. The industry is expected to experience a slight increase in the number of establishments (by up to 2%) due to the opening of new, predominantly simple and franchise formats. Investments will primarily be directed toward restoring damaged facilities and supporting low-risk business formats. Revenue growth of 5 – 7% is also forecast, though this increase is likely to be inflationary, while real recovery of consumer purchasing power will remain limited.

The upcoming business year is expected to be a period of market consolidation, during which only the most adaptive and financially stable players will remain. The role of corporate social responsibility will increase (support for the military, assistance to relocated employees). Restaurants will function not only as commercial entities but also as social spaces that help maintain public morale.

Thus, the restaurant industry of Ukraine demonstrated exceptional resilience during 2020 – 2025, rapidly transforming in response to the challenges of the pandemic and war. The forecast for 2026 indicates a continuation of the adaptation period, where technological development, format simplification, and solutions to personnel shortages will become key priorities for ensuring the economic sustainability of the industry.

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FINANCIAL AND ECONOMIC ASPECTS OF THE DEBTOR'S RECOVERY AND DEVELOPMENT IN THE PROCEDURE FOR DISPOSAL OF THE DEBTOR'S PROPERTY

In the current climate of economic instability and changes in legislative regulation, the issue of insolvency of business entities is extremely relevant. The procedure for disposing of property creates the basis for the debtor's recovery and sustainable development. In the procedure for disposing of property, the debtor can begin the path to recovery, preserve financial assets, and, with the help of an arbitration manager and the court, look at the prospects for further operation.

The purpose of the property disposal procedure is to preserve and effectively use the debtor's property assets, analyze their financial condition, and ensure the debtor's right to protect their property. The arbitration manager controls the management of the debtor's property, ensures the preservation of the debtor's assets, and conducts a detailed analysis of the debtor's financial condition [1]. Let us consider the main aspects of the debtor's recovery and ensuring its sustainable development in the procedure for disposing of the debtor's property.

In order to restore the debtor's solvency, it is important to preserve its assets. To this end, restrictions are imposed on the debtor's actions in the property disposal procedure, and a property manager is appointed to control the management of assets, preventing their removal or destruction in order to preserve the integrity of the business. A moratorium is imposed on the satisfaction of creditors' claims and the suspension of enforcement actions, which prevents individual creditors from enforcing claims against the debtor's property outside the bankruptcy proceedings and removing it from the bankruptcy proceedings [2]. The powers of the debtor's management bodies are partially restricted.

To restore the debtor, it is important to accurately understand the causes of insolvency and future prospects. The property manager, together with the debtor and creditors, determines the actual causes of insolvency, such as unprofitable core business activities, inefficient asset management, large outstanding liabilities, liquidity problems, and external market factors (economic crisis, force majeure). Based on the analysis, the property manager prepares a report for the commercial court and creditors. If it is possible to agree with creditors on debt restructuring, a settlement agreement may be concluded. The settlement agreement must be approved by a majority of creditors and confirmed by the commercial court. A settlement agreement is an important tool in the procedure for disposing of the debtor's property, with the help of which a compromise can be found between the debtor and creditors, ensuring an effective solution to the financial crisis. If there is a real possibility of restoring the debtor's activities and ensuring profitability, the basis for the next court procedure - reorganization is prepared. It becomes possible to attract investors, sell part of the debtor's assets, optimize costs, change management, or reorganize. If recovery is impossible, the property is sold to repay the debtor's debts. If the debtor does not have sufficient assets or cannot generate income to repay debts and continue operations, liquidation becomes the only option. In addition, if the property manager finds that assets are being destroyed or used irrationally, this also brings liquidation closer.

The procedure for disposing of the debtor's property also lays the foundation for the debtor's sustainable development during bankruptcy, creating the necessary conditions for this.

Attention is paid to the economic and financial stability of the debtor. If the debtor has the potential to restore solvency (reorganization), priority will be given to preserving it. The actions of the administrator and the court will be aimed at minimizing the loss of asset value and maximizing the overall long-term market value of the company. Where possible, investments in the debtor's sustainable development are attracted if they benefit creditors. Gradually, the debtor's ability to fulfill its obligations in the future will be restored. The property administrator, under the supervision

of the court, ensures the effective use of the debtor's property assets by supervising and controlling its activities. All participants involved in the procedure must make joint efforts to find opportunities to preserve the business in order to gradually restore its ability to fulfill its obligations in the future. That is why it is important for the court and the arbitration manager to ensure that the interests of all participants in the procedure for disposing of the debtor's property are balanced. Taking into account the interests of both the debtor and creditors, as well as other participants in the process, is necessary to ensure that the procedure is fair and effective and that the debtor's property is protected from unlawful actions. This is important for maintaining confidence in the bankruptcy system, economic stability, and countering abuse.

Currently, Ukrainian bankruptcy legislation focuses primarily on maximizing creditor satisfaction and compliance with procedural rules. Direct and detailed requirements for integrating all aspects of sustainable development into the procedure for disposing of a debtor's property still need further development and refinement at the regulatory level.

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PRIMARY TEACHER TRAINING IN THE CONDITIONS OF ACTIVE IMPLEMENTATION OF NEW DIGITAL PLATFORMS

Primary school teacher training in the context of the active implementation of new digital platforms means changing the very logic of professional training, because the platform becomes not an addition to the lesson, but an environment in which classes are planned, interaction with students and parents is organized, documentation is maintained, and a digital learning trail is formed. A future teacher must learn to work with several types of platforms, including learning management systems, electronic journals and diaries, video communication environments, digital resource libraries, and tools for creating interactive tasks and tests. It is important that for primary school, digital platforms must always pass the age-appropriateness filter, because six- and seven-year-old children perceive the interface, login rules, prompts, pace of work, and amount of screen time differently. Therefore, the role of simple instructions, short activity scenarios, a combination of online and offline, as well as the ability to maintain discipline and motivation in a digital environment without excessive control is increasing in pedagogical education. Separately, the need for pedagogical communication is increasing, because the platform makes communication with parents more regular, and the teacher must be able to build rules for messages, agree on expectations, explain assessment criteria, and prevent conflicts that often arise due to different interpretations of homework or deadlines [1].

The key result of training is pedagogical digital competence, that is, the ability not just to press the right buttons, but to transform the capabilities of the platform into high-quality educational activities. This includes designing a lesson so that the platform supports reading, writing, mathematics, speech development and collaboration, and does not distract from the educational goal. The future teacher must be able to create digital materials, organize a virtual classroom, manage group work, collect and interpret learning results, and at the same time explain to children the rules of safe behavior in the digital environment. Research on teacher training emphasizes that the greatest effect is achieved through practical, experiential formats, where students perform real

pedagogical tasks with platforms, rather than just listening to theory, and where different courses are coordinated with each other so that the methodology is not disconnected from digital tools. At the same time, issues of inclusion are especially important for primary schools, because digital platforms can both help children with different needs through adaptations, audio support, and learning pace, and create barriers through complex interfaces or overload. Therefore, teacher training requires the ability to adjust accessibility, choose alternative ways to complete tasks, and support the child and family if access to technology or the Internet is limited at home.

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LEGAL FOUNDATIONS OF DIGITAL TRANSFORMATION IN PUBLIC ADMINISTRATION AS A FACTOR OF SUSTAINABLE DEVELOPMENT

Digital transformation has become one of the most significant drivers of change in public administration systems at both national and international levels. In the context of globalization, rapid technological development, and increasing social expectations, governments are forced to rethink traditional governance models and adapt them to digital realities. For Ukraine, digital transformation is not only a managerial or technological process but also a strategic legal challenge closely linked to European integration, national security, and sustainable development.

The introduction of digital governance tools aims to improve transparency, efficiency, and accountability of public authorities. Electronic public services, digital identification systems, open data platforms, and automated decision-making mechanisms significantly transform interactions between the state, citizens, and business entities. At the same time, the expansion of digital solutions in the public sector requires a reliable legal framework that ensures the legitimacy of digital processes, protection of fundamental rights, and cybersecurity of state information systems. From a legal perspective, digital transformation in public administration involves the regulation of personal data processing, electronic trust services, cybersecurity, algorithmic decision-making, and cross-border digital interaction. In Ukraine, the legal foundations of digital governance are formed by national laws regulating electronic documents, electronic trust services, personal data protection, and cybersecurity. However, these regulations remain fragmented and often fail to address the complex risks associated with large-scale digitalization.

European Union digital law provides an important benchmark for the development of Ukraine's digital governance framework. The General Data Protection Regulation (GDPR) establishes strict standards for personal data protection, emphasizing transparency, proportionality, and accountability of public authorities [1, p. 15]. The NIS2 Directive strengthens cybersecurity requirements for public institutions and critical infrastructure, introducing risk-based security management and mandatory incident reporting mechanisms [2, p. 6]. These provisions are particularly relevant for Ukraine in the context of hybrid threats and cyber warfare.

The updated eIDAS 2.0 Regulation introduces a unified framework for cross-border digital identity and trust services, facilitating interoperability between national digital systems and strengthening citizens' trust in electronic interactions [4, p. 4]. In addition, the Data Act and related EU initiatives regulate access to public sector data and promote fair data sharing, which contributes to innovation, digital economy growth, and evidence-based public decision-making [3, p. 9].

Digital transformation also plays a crucial role in achieving sustainable development goals. Digital governance tools enable more efficient use of public resources, improve service delivery, reduce administrative burdens, and enhance citizen participation. At the same time, digitalization creates new legal risks, including threats to personal data protection, algorithmic bias, lack of transparency in automated decisions, and insufficient institutional digital capacity.

In this context, the harmonization of Ukrainian legislation with EU digital standards is a key condition for successful digital transformation. Legal modernization should focus on strengthening data protection guarantees, enhancing cybersecurity regulation, ensuring transparency of algorithmic systems, and developing digital competencies within public institutions. Such an approach will contribute to building a resilient, transparent, and citizen-oriented system of public administration.

Thus, digital transformation should be understood not merely as a technological process, but as a comprehensive legal and institutional reform. The establishment of clear legal foundations for digital governance is essential for sustainable development, democratic governance, and Ukraine's successful integration into the European digital space.

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FINANCIAL INSTRUMENTS FOR STIMULATING SUSTAINABLE DEVELOPMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES

Small and medium-sized enterprises (SMEs) play a vital role in ensuring sustainable economic development, job creation and innovation. In many countries, SMEs form the backbone of the economy, contributing significantly to GDP and regional development. However, they often face barriers such as lack of financial resources, high credit risks and limited institutional support, which reinforces the importance of effective financial mechanisms aimed at strengthening their resilience and sustainability. [1]

The sustainable development of SMEs requires balancing financial performance with social responsibility and environmental protection. Modern approaches particularly emphasize minimizing resource consumption, reducing emissions and implementing circular economy principles, which have become central to global sustainability agendas. Financial instruments thus need to be not only accessible but also targeted at stimulating responsible and future-oriented business behavior. [2]

Key financial instruments that support sustainable SME growth include preferential loans, grants, subsidies, microfinance programs, leasing arrangements and venture capital financing. These

instruments help enterprises secure affordable resources for modernization, invest in digital transformation and improve product quality. They also enhance productivity and competitiveness in both domestic and international markets. [3]

Green financial instruments—such as green bonds, sustainability-linked loans and ESG-focused investment funds—are becoming increasingly important for SMEs seeking growth within sustainability-driven markets. They encourage enterprises to adopt environmentally friendly technologies, improve energy efficiency and reduce emissions while also increasing access to international financial resources. [4]

Digital technologies significantly expand SMEs' access to financing. FinTech platforms, electronic factoring, blockchain-based payment systems and peer-to-peer lending reduce barriers to financial inclusion, accelerate credit approval processes and increase transparency in financial transactions. These factors contribute to more stable and sustainable business development. [5]

In Ukraine, SMEs face additional challenges related to economic volatility, post-crisis recovery and the need for technological modernization. Sustainable financial instruments—especially those focused on energy efficiency, digital tools and environmental compliance—are essential for accelerating economic reconstruction. Additionally, cooperation with European partners enhances access to green investments and supports integration into European sustainability initiatives. [2]

Thus, financial instruments play a central role in stimulating sustainable development of SMEs. Their efficient implementation strengthens economic resilience, improves environmental performance and fosters social well-being. Expanding access to sustainable finance directly contributes to achieving national and global sustainability goals and enhances SMEs' capacity for long-term development. [1]

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SOURCES OF FINANCING FOR THE DIGITAL TRANSFORMATION OF THE FINANCIAL SYSTEM IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT: INTERNATIONAL EXPERIENCE AND UKRAINIAN REALITIES

In contemporary conditions, the digital transformation of the financial system is one of the key drivers of sustainable socio-economic development. It is directly linked to the achievement of the United Nations Sustainable Development Goals (SDGs), in particular Goal 8 “Decent Work and Economic Growth”, Goal 9 “Industry, Innovation and Infrastructure”, and Goal 16 “Peace, Justice and Strong Institutions”. The digitalization of finance contributes to improving the efficiency of public governance, expanding financial inclusion, reducing transaction costs, and fostering a transparent economic environment.

At the same time, the digital transformation of the financial system is a capital-intensive and risk-prone process that requires systematic planning of financing sources and a balanced combination of public, private, and international resources, especially in the context of wartime and post-war challenges faced by the Ukrainian economy.

International experience demonstrates that financing the digital transformation of financial systems is implemented through several basic models: budget-oriented financing, public-private partnership models, venture and innovation-based financing, international grant-based financing,

and self-financing models [1]. Each of these models has its own advantages and limitations in terms of scalability, innovativeness, risk exposure, and long-term sustainability.

The budget-oriented model ensures strategic direction and stability of financing but is characterized by limited flexibility and a high dependence on the state's fiscal capacity. The public-private partnership model enables the combination of public interests with the technological and investment potential of the private sector; however, it requires mature institutional mechanisms and a high level of trust between stakeholders. The venture and innovation-based model acts as a driver of fintech innovation but entails a high level of risk and has a limited impact on systemic transformations. International grant-based financing plays a significant role for countries with limited domestic resources but may create dependence on external donors. Self-financing ensures decision-making autonomy but is mainly accessible to large financial institutions.

An analysis of international practice shows that, from the perspective of sustainable development, hybrid financing models are the most effective, as they combine multiple sources depending on the stage and objectives of digital transformation [2]. Public funding is advisable for developing basic digital infrastructure and regulatory frameworks; public-private partnerships are suitable for the development of platform-based and service-oriented solutions; venture capital serves to stimulate innovation; and international resources support institutional development and knowledge transfer.

Such an approach makes it possible to reduce financial risks, enhance innovation capacity, and ensure the long-term economic and institutional resilience of the financial system.

For Ukraine, the digital transformation of the financial system has strategic importance in the context of economic recovery, improving the efficiency of public finance management, and European integration. At present, international financial institutions and donor programs play a key role in financing digital initiatives, enabling the implementation of large-scale digital projects while simultaneously creating risks of external dependency [3].

Domestic constraints are associated with limited budgetary resources, the underdevelopment of the domestic venture capital market, the fragmented nature of digital initiatives, and increased cybersecurity expenditures under martial law conditions [4]. In this context, the development of public-private partnerships, integration into European digital programs, the use of blended finance instruments, and ESG-oriented financial instruments become particularly relevant.

The digital transformation of the financial system is an essential instrument for ensuring sustainable socio-economic development. The absence of a universal financing model necessitates the application of context-specific hybrid approaches. For Ukraine, the most promising model combines international financing with the active involvement of private capital and elements of self-financing. The implementation of such a model will contribute to improving the efficiency of the financial system, strengthening institutional capacity, and achieving sustainable development goals in the long term.

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SUSTAINABLE DEVELOPMENT IN THE SPHERE OF HEALTHCARE AND ITS REFLECTION IN THE MARKETING STRATEGY OF McDONALD'S

We live in a dynamic world where changes are occurring at an unprecedented rate. Globalization, the development of information technologies, digitalization, innovations in production, as well as complex environmental and security conditions create new challenges for modern man and encourage him to constantly adapt. Such processes often have a negative impact on the physical and psychological well-being of the population. In these conditions, ensuring sustainable development in the field of health care, which is one of the key areas of socio-economic development of society and an important component of global security, becomes particularly relevant. Public health is a fundamental condition for economic stability, increased labor productivity and improved quality of life.

The healthcare sector is closely linked to achieving the UN Sustainable Development Goals, particularly Goal 3, “Good Health and Well-being”, which involves reducing morbidity, increasing life expectancy and quality of life, and developing a responsible attitude towards one’s own health. The implementation of these tasks is impossible without the active participation of business, which influences consumer habits, working conditions, environmental safety and the information environment. A special role in this process is played by enterprises of the food industry and restaurant business, since their activities are directly related to nutrition – one of the key factors of public health [1, 2].

A prime example of adapting a marketing strategy to the principles of sustainable development in the healthcare sector is the activities of McDonald’s. As one of the most famous international fast food brands, McDonald’s is under constant scrutiny by the medical community, government regulators, and the public. The company’s products are popular among children and young people, shaping their consumption habits and taste preferences. At the same time, regular consumption of fast food negatively affects a person’s physical and psychological well-being, causing metabolic disorders, reduced energy levels, emotional fluctuations, and the formation of addictive eating patterns. In addition, excessive consumption of high-calorie foods poses a risk to mental health, as it can impair cognitive functions, reduce concentration, slow down thought processes, and weaken the ability to self-regulate. It was the criticism of the impact of products on public health that became one of the key factors in transforming the company’s marketing guidelines.

One of the leading directions of integration of principles of sustainable development into marketing strategy of McDonald’s is transformation of assortment policy. The company gradually expands offer of dishes with reduced content of calories, fats and salt, introduces alternatives based on plant-based ingredients, and also improves recipes in accordance with modern medical recommendations. Such changes contribute to formation of more balanced structure of consumption and respond to the growing demand for healthy lifestyle.

An important component of McDonald’s marketing strategy in the context of sustainable development is ensuring information transparency. Providing consumers with accessible information about the nutritional and energy value of products, the origin of ingredients and quality standards complies with the principles of evidence-based medicine and increases the level of trust in the brand. This approach reduces the information asymmetry between the manufacturer and the consumer and contributes to the formation of informed food decisions.

In addition to focusing on consumer health, McDonald’s marketing strategy within the framework of sustainable development covers environmental and social aspects that have an indirect impact on the health care system. Reducing the use of plastic, switching to environmentally

friendly packaging, optimizing logistics processes and reducing the carbon footprint contribute to improving the state of the environment, which is an important prerequisite for preserving the health of the population. The company's social initiatives aimed at supporting communities and forming a culture of responsible consumption enhance its contribution to the implementation of the principles of sustainable development [3].

Therefore, sustainable development in the field of health care is an important factor in transforming the marketing strategies of food industry enterprises. The example of McDonald's demonstrates that integrating medically oriented, socially responsible, and environmentally sustainable approaches into marketing practices enables companies to align economic objectives with public health priorities. Such an approach creates the foundation for long-term business development and contributes to the achievement of global sustainable development goals.

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FINANCIAL AND ECONOMIC MECHANISMS FOR THE IMPLEMENTATION OF INNOVATIONS IN THE MANAGEMENT OF LAND MANAGEMENT ENTERPRISES

The current stage of development of Ukraine's economy requires land management enterprises to reorient toward innovative management models that ensure higher efficiency of production processes, cost optimization, and the formation of competitive advantages. In this context, the issue of developing and implementing financial and economic mechanisms capable of supporting the realization of innovative measures in the field of land management, cadastral works, and spatial analysis becomes particularly relevant. The effectiveness of innovative processes in land management enterprises directly depends on the quality of financial planning, strategic management of investment resources, sound assessment of the economic efficiency of implemented technologies, and the optimal use of external financial instruments to support innovative activity [1].

One of the key trends determining the development vector of the land management sector is the active implementation of digital technologies – geographic information systems (GIS), 3D modeling, platforms for remote territorial assessment, geospatial data resource databases, and automated cadastral registration systems. Such technologies significantly transform the cost structure of enterprises, as they require investments in software, technical equipment, cloud services, staff training, as well as cybersecurity and data protection measures. Under these conditions, traditional approaches to innovation financing no longer provide the necessary flexibility and economic sustainability. This necessitates a transition to new economic financing models that involve comprehensive management of innovation resources, diversification of funding sources, the use of leasing schemes, grant support, venture capital investment, and public-private partnership mechanisms [2].

One of the key areas for optimizing expenditures on the digital transformation of land management enterprises is the introduction of outsourcing mechanisms. The transfer of certain technological operations, such as satellite imagery processing, development of digital terrain models, or cloud-based hosting of geospatial databases, to specialized companies makes it possible to significantly reduce the costs of maintaining in-house IT departments and to shorten the time required to implement innovative solutions.

In addition, the application of public–private partnership (PPP) models is an important component of innovative development. For land management enterprises, PPPs open opportunities to attract additional investment capital and to implement joint projects with public authorities related to the maintenance of the State Land Cadastre, the development of land monitoring systems, the creation of digital geoportals, and spatial data infrastructure [3]. Within such projects, the costs of implementing innovative solutions can be shared among several participants, which enhances the enterprise’s economic resilience and reduces investment risks.

The application of innovative technologies in the management of land management enterprises has a direct impact on their competitiveness. Enterprises that actively implement digital solutions achieve higher accuracy and speed in cadastral works, improve the quality of spatial data analytics, reduce operating costs, and minimize the risks of erroneous managerial decisions. This ensures not only economic advantages but also contributes to building trust among clients, public authorities, and investors [4].

Thus, financial and economic mechanisms for the implementation of innovations in land management enterprises comprise a set of measures aimed at ensuring effective management of investment resources, optimizing costs related to digital transformation, enhancing economic sustainability, and creating conditions for sustainable development. The developed approach to evaluating innovation efficiency and the proposed financial optimization mechanisms confirm that innovative management is a key factor in increasing competitiveness and ensuring the long-term stability of land management enterprises under modern conditions.

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RISKS TO MEETING CONVERGENCE CRITERIA IN SELECT EU MEMBER STATES IN THE CONTEXT OF CONTEMPORARY GEOPOLITICAL AND ECONOMIC CHALLENGES

The convergence conditions defined by the Maastricht Treaty have long served as the foundation of the European Union’s fiscal and monetary architecture and a key instrument for ensuring sustainable development. Core criteria include requirements regarding the general government deficit, public debt, and long-term interest rates. However, in 2021–2024 compliance with these criteria became significantly more challenging due to a combination of global economic shocks, the energy crisis, inflationary pressures, and, most notably, Russia’s full-scale war against Ukraine. These factors introduce new risks to macroeconomic stability and directly affect the fulfillment of convergence conditions in individual EU countries.

Following the COVID-19 pandemic and during the post-crisis recovery period, most Member States faced a substantial increase in budget deficits and public debt ratios. According to the European Commission [1], France, Belgium, Italy, and Greece demonstrate persistent deviations

from the debt criterion, with debt levels exceeding 100% of GDP. Italy remains the most critical case, where public debt has consistently surpassed 135–140% of GDP, while the deficit has repeatedly exceeded the 3% threshold during the period under review.

Significant structural deficits stemming from high social spending, low productivity, and demographic pressures remain characteristic of Southern Europe (Spain and Portugal). Even amid economic growth, these countries do not demonstrate sufficient fiscal adjustment, as also noted in ECB reports [2]. In Central and Eastern Europe, similar challenges are observed. Romania has been under the Excessive Deficit Procedure (EDP) for several years, with both its debt and deficit showing an upward trend [3]. Poland, against the backdrop of large-scale defence programmes, expanded social spending, and the fiscal effects of the war in Ukraine, returned to a deficit exceeding 5% of GDP in 2023–2024. Thus, compliance with fiscal convergence criteria in these countries is systematically hindered by revenue shortfalls and increasing expenditure pressures.

Inflationary developments in 2021–2023 became one of the key factors undermining compliance with the convergence criteria. The Baltic States were the most vulnerable in this regard [4]. The main drivers of this dynamic were energy dependence, external shocks, and the structure of domestic markets. Significant inflation deviations were also observed in Poland and Hungary, where high currency volatility and politically motivated price controls further intensified inflationary pressures [5].

In non-euro area countries, currency risks play an especially important role. Exchange rate fluctuations in Poland, the Czech Republic, and particularly Hungary amplify monetary instability and complicate the fulfilment of long-term interest rate criteria [6].

Romania, Poland, Slovakia, and the Baltic States faced a sharp increase in defence expenditures, higher costs associated with hosting refugees, and substantial investments in security infrastructure and logistical corridors for Ukrainian exports. According to IMF estimates [7], Romania's additional expenditures in 2022–2023 significantly exceeded planned limits, worsening its deficit and debt positions. Poland became the largest hub for humanitarian and military support to Ukraine within the EU. This led to a reprioritisation of budget policy, an expansion of defence spending, and an increase in debt-financed commitments [8]. In the Baltic States, defence expenditures have reached 2.5–3% of GDP, becoming a new long-term norm. This has a systemic impact on deficit and debt dynamics and poses medium-term risks to meeting fiscal convergence criteria.

The energy crisis triggered by the war forced the EU to abandon Russian energy resources and accelerate the “green transition.” This requires significant public investment, increasing the debt burden even in Western European countries [9]. The transformation of the EU's energy architecture strongly affects inflation and structural deficits, particularly in energy-dependent economies.

Demographic trends—most notably population ageing in Southern and Western Europe—create long-term pressures on expenditures related to pension systems and healthcare. In the Baltic States, by contrast, substantial population outflow reduces the tax base and intensifies inflationary pressures due to labour shortages.

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THE IMPORTANCE OF A TEACHER'S SOCIAL COMPETENCE FOR SUSTAINABLE DEVELOPMENT

One of the more important goals of sustainable development is to train young generations to live in harmony with society. Education is a prolonged dynamic Process, which consists of Interrelated components [1]. In particular to form soft skills and life competence in them. But in order for this to become possible, it is necessary to form the same skills in the teachers themselves.

Social Competence Training of future teachers is one of the most productive technologies in modern teacher education, as it forms important social and professional skills. Sociability, empathy, compromise, ability to achieve a set goal, self-knowledge, self-regulation. An important primary task of future teachers is their self-development ability to develop their own personal and professional skills. Modern pedagogical science is concentrated on searching for effective forms and methods of training future teachers of New Ukrainian School. Reinterpretation of psychological and pedagogy theory and practice points to the priority of the humanistic approach to training modern teachers and deals with the protection of the honor and dignity of an individual, the recognition of human right to freedom and happiness, the creation of conditions for free expression of potential and abilities of every person. Ukraine, like other European countries, pays special attention to the benefits of individuals forming special professional skills. A teacher has to work creatively to understand the problems of his students, promote the development of their life abilities, ability to navigate in modern life, and skills, which they need. The first and most important task of teacher is to be could be ready to form a modern person able to change himself and the world for the better. The implementation of personal values in the relevant motives of activity is a necessary condition for self-realization [2]. That is why teachers should have their own creative thinking, communication skills, own point of view and a competent personality in general. The basis of the training teachers is a set of social skills that determine its professional characteristics, structure, logic and methods of work and motivational training. This complex is called the competence of a modern teacher.

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CORPORATE SOCIAL RESPONSIBILITY FINANCING MODEL

In today's environment of rapid technological change and increased public scrutiny of business activities, corporate social responsibility (CSR) is transforming from an optional extra to an integral part of a company's sustainable development strategy. This is especially true for the IT sector, where companies act not only as technology providers but also as agents of social

transformation through digital education, inclusion and environmental responsibility projects. In Ukraine, the issue of forming a transparent, predictable and economically sound CSR financing mechanism is gaining particular importance in the context of integrating European non-financial reporting requirements (CSRD, GRI) and the need to prove the effectiveness of social investments to shareholders, partners and communities.

A review of the literature shows that CSR is theoretically considered within the framework of stakeholder theory [1] and the triple bottom line concept. bottom line [2]. A popular distinction is made between a hierarchy of business responsibilities: economic, legal, ethical, and philanthropic, which serves as a theoretical basis for CSR programs [3]. Other authors point to the possibility of creating competitive advantage through strategic CSR initiatives related to the core business [4].

In the methodological plane, international standards (GRI, ISO 26000, TCFD, SASB/IFRS) set requirements for reporting and integration of non-financial factors into management. Consulting reports by Deloitte, PwC, KPMG demonstrate CSR budgeting practices (shares of 1–2% of net profit) and the importance of combining internal and external sources of financing [3-4].

The model is built as a multi-component mechanism of four blocks: 1) Sources of financing: internal (part of net profit, depreciation, operating cost savings, reserves) and external (grants, sponsorship contributions from vendors, partner co-financing, donor programs); 2) Financial flows: separate analytical account/sub-account in accounting for CSR; segment accounting by areas (CSR_EDU, CSR_ENV, CSR_SOC, CSR_PHIL); project reconciliation estimates ; quarterly payments for activities; 3) Control and monitoring: financial control (accounting), administrative control (CFO, CSR committee), social audit (annual external or internal report); KPIs for each program (number of people covered, reduction in energy consumption, staff satisfaction indices); 4) Reporting: internal annual report, public non-financial reporting according to GRI/ISO 26000, integrated ESG reporting in the future.

The integrated indicator of the effectiveness of corporate social responsibility financing (Eff_{CSR}) is a complex analytical indicator that summarizes the economic, social, managerial and financial results of the implementation of CSR programs within a single numerical assessment (1). Its calculation allows you to assess not only the financial feasibility of social spending, but also the level of their impact on business sustainability, reputation, personnel stability and social well-being.

$$Eff_{CSR} = \frac{(NP \times r_{csr} + F_{ext}) \times SROI \times K_{eff}}{OPEX}, \quad (1)$$

where Eff_{CSR} is the integral indicator of CSR financing efficiency; NP – net profit; r_{csr} – share of profit directed to CSR (1–2%); F_{ext} – external revenues (grants, sponsorships, partnership programs); $SROI$ (Social Return on Investment) – social return on investment in CSR (UAH of social effect per UAH of expenditure); K_{eff} – CSR program implementation rate (% of planned projects that are actually implemented); $OPEX$ – operating expenses of the enterprise .

Sensitivity analysis showed that the integral index reacts most critically to SROI and ROE_{csr} (high weights). Increasing the share of CSR (r_{csr}) in itself increases social returns only if SROI is maintained or increases, i.e. not only increasing the budget is important, but also the efficiency of its use. In addition, attracting external sources (grants, partner contributions) increases Eff_{CSR} and reduces the burden on OPEX, which has a positive effect on the integral assessment.

The study proves that a systematic, quantitatively justified CSR financing mechanism for an enterprise is realistic and effective. The proposed model combines internal resources (profit share 1.1–1.5%) and external sources, provides transparent financial flows and implementation control. The analytical system of indicators allows quantitatively measuring economic and social returns, and the index summarizes the effectiveness of the model. Forecast calculations for 2025–2027 indicate an increase in SROI from 1.91 to 2.10 and an increase in the integral index to 2.08 in 2027, which means a high level of effectiveness of CSR initiatives and their contribution to the growth of the company's capitalization.

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FEATURES OF CONSUMER BEHAVIOR OF GENERATION Z IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT: INFORMATIONAL AND MARKETING ASPECTS

In contemporary socio-economic conditions, the concept of sustainable development has evolved into a dominant paradigm that defines the strategic priorities of both business entities and society at large. Issues of environmental safety, rational resource utilization, corporate social responsibility, and the ethicality of marketing practices have become central in academic and professional discourse. These matters are particularly relevant due to the active civic and consumer position of Generation Z, which not only declares its adherence to the principles of sustainability but also initiates ecological, social, and humanitarian transformations. Unlike previous cohorts, representatives of this generation demonstrate a high level of practical engagement: they deliberately choose environmentally friendly products, boycott companies that violate ethical norms, disseminate information about societal issues, and actively shape the demand for enhanced corporate environmental responsibility.

The information environment serves as a decisive determinant in the formation of consumer orientations among Generation Z. Social media have effectively replaced traditional communication channels and have become the primary source of information regarding product attributes, corporate activities, technological innovations, and environmental trends. Members of this generation integrate short-form content, expert reviews, influencer commentary, and algorithmically generated recommendations into their everyday practices. At the same time, they exhibit heightened sensitivity to the credibility and transparency of information. Attempts to obscure ecological aspects of production or employ manipulative marketing techniques are quickly identified, often resulting in the rapid dissemination of critical content and immediate reputational consequences for brands.

The consumer behavior of Generation Z is characterized by well-developed skills of critical evaluation and the ability to distinguish authentic manifestations of corporate responsibility from superficial ecological simulation. The notion of greenwashing—the imitation of environmental commitment without substantive actions—has become a key evaluative criterion among young consumers. Brands that rely solely on declarative “green” rhetoric without factual evidence lose trust swiftly. Moreover, Generation Z does not limit itself to passive criticism; it actively initiates digital campaigns aimed at exposing corporate misconduct, frequently generating significant reputational losses for businesses [1].

Marketing approaches targeted at this generation require a fundamental reconsideration of communication strategies. For young consumers, value-based marketing is far more significant than purely sales-oriented promotion. Companies must demonstrate openness, ethical conduct, social relevance, and tangible efforts to reduce environmental harm. Brand effectiveness is markedly enhanced when firms implement eco-innovations, utilize recycled materials, adopt circular economy principles, and publicly report their achievements in sustainability.

Influencer marketing plays a particularly important role in communication with Generation Z. Young consumers place substantial trust in opinion leaders, bloggers, and micro-influencers

whose audiences are characterized by high levels of engagement. Their promotion of environmentally responsible lifestyles generates persuasive signals that shape purchasing decisions and stimulate support for sustainable initiatives. Through such communication mechanisms, influencers have the capacity to set trends and influence behavioral patterns within younger audiences [2].

The behavioral specificity of Generation Z within the context of sustainable development is also manifested in their willingness to pay premium prices for environmentally responsible goods and services. They favor products made from organic raw materials, verified through ecological certification, produced under conditions that minimize environmental impact, and aligned with ethical labor standards. Simultaneously, they demonstrate critical attitudes toward large corporations that possess substantial resources yet insufficiently commit to ecological transformation.

In summary, Generation Z constitutes a powerful driver of market transformation toward sustainable development. Their consumer behavior reflects societal demand for responsible, ecologically oriented, and ethically motivated resource use. For businesses, this necessitates the adaptation of marketing instruments, the implementation of authentic sustainability initiatives, and active communication within the digital environment. Companies capable of aligning with the expectations of young consumers and demonstrating genuine commitment to sustainability principles secure competitive advantages, foster higher levels of trust, and strengthen their positions in modern markets.

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INTERNATIONAL LOGISTICS NETWORKS FOR ENSURING SUSTAINABLE DEVELOPMENT

In the context of globalization and the growing interdependence of national economies, international logistics networks play a critical role in supporting sustainable development. These networks connect producers, consumers, and markets across borders, ensuring the efficient movement of goods, resources, and services. At the same time, the increasing scale and complexity of global logistics operations have intensified environmental, economic, and social challenges, making sustainability a key priority in the development of international logistics systems [1].

Sustainable development in logistics implies balancing economic efficiency with environmental protection and social responsibility. Traditional logistics models, focused primarily on cost minimization and speed, often lead to excessive resource consumption, high greenhouse gas emissions, and environmental degradation. As a result, the transformation of international logistics networks toward sustainability-oriented models has become an essential task for governments, international organizations, and businesses [2].

One of the central aspects of sustainable international logistics networks is environmental sustainability. Transport activities account for a significant share of global carbon emissions, particularly in freight transportation. The transition to low-emission transport modes, the use of alternative fuels, electrification of logistics infrastructure, and optimization of transport routes contribute to reducing the environmental footprint of logistics operations. Moreover, the integration

of intermodal and multimodal transport solutions enhances energy efficiency and supports more sustainable supply chains [3].

Digitalization represents another crucial factor in the sustainable transformation of international logistics networks. The application of digital technologies, including Big Data analytics, artificial intelligence, and the Internet of Things (IoT), enables real-time monitoring of logistics flows, demand forecasting, and risk management. These tools improve operational efficiency, reduce waste, and enhance transparency across supply chains. Digital platforms also facilitate better coordination among logistics actors, contributing to the resilience and sustainability of international networks [4].

International logistics networks are also closely linked to economic sustainability. Efficient logistics systems reduce transaction costs, support international trade, and enhance the competitiveness of national economies. For developing and transition economies, integration into global logistics networks creates opportunities for export growth, diversification of trade partners, and attraction of foreign direct investment. However, achieving economic sustainability requires addressing structural imbalances and ensuring equitable access to logistics infrastructure and services [5].

Social aspects constitute an important but often underestimated dimension of sustainable logistics. International logistics networks affect employment, working conditions, and social standards across countries. Ensuring fair labor practices, occupational safety, and decent working conditions within logistics and transport sectors contributes to inclusive and socially sustainable development. Additionally, sustainable logistics networks improve access to essential goods, including food and medical supplies, particularly in times of crisis [6].

From a global perspective, sustainable international logistics networks require coordinated international action. Logistics-related environmental and social challenges transcend national borders, making international cooperation indispensable. Multilateral initiatives, international standards, and global policy frameworks play a key role in promoting sustainable logistics practices. The United Nations Sustainable Development Goals provide a comprehensive framework linking logistics development with broader sustainability objectives, including climate action, responsible consumption, and resilient infrastructure [7].

For countries facing economic transformation, post-crisis recovery, or reconstruction, sustainable international logistics networks acquire particular importance. Integrating sustainability principles into logistics development strategies allows such countries to avoid environmentally harmful growth paths and enhances long-term resilience. Investments in green logistics infrastructure, digital connectivity, and sustainable transport corridors contribute to economic recovery while supporting environmental and social goals [3].

In conclusion, international logistics networks represent a fundamental component of sustainable development in the global economy. Their transformation toward sustainability-oriented models requires the integration of environmental, economic, and social considerations, supported by innovation, digitalization, and international cooperation. Sustainable international logistics networks not only enhance the efficiency and resilience of global supply chains but also contribute to long-term economic stability, environmental protection, and social well-being.

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MANAGEMENT OF BANK LIABILITIES AS A COMPONENT OF THE SUSTAINABLE DEVELOPMENT MECHANISM AND IMPROVING THE QUALITY OF FINANCIAL ANALYSIS

Liability management of a bank is a key function within the asset and liability management system, ensuring the stability, liquidity, and profitability of a banking institution. Its role is to effectively form, control, and optimize liabilities, that is, the sources of the bank's funding.

Under the current conditions of national economic development and the banking sector, the importance of bank liability management is growing significantly. Effective liability management enables a bank to maintain a stable financial position even under stress conditions. Reducing the cost of liabilities directly affects the bank's net interest income, while a reliable liability base contributes to a positive reputation of the bank. In addition, the bank must ensure stable funding sources that allow it to be more active in asset operations (lending, investments). Bank liability management also has a direct impact on the quality of analytical procedures, as it forms the basis for objective, complete, and relevant financial information required for analyzing the bank's condition. When this management is carried out at a high level, analysts have access to reliable and relevant data, which reduces the risk of errors and incorrect managerial decisions.

The main objectives of bank liability management are [1]:

- ensuring liquidity, which is reflected in the availability of sufficient funds to meet current obligations to depositors, creditors, and investors, as well as in cash flow planning to avoid liquidity shortages;
- optimization of funding costs through the search for the cheapest and most stable sources of funds and management of borrowing costs (deposits, interbank loans, bond issuance, etc.);
- management of the maturity structure of liabilities, i.e., aligning the maturities of liabilities with the terms of assets in order to reduce liquidity risk;
- control of liability concentration through diversification of funding sources to avoid dependence on a limited group of depositors or creditors;
- management of the currency structure of liabilities by aligning it with the currency structure of assets in order to reduce foreign exchange risk;
- ensuring compliance with NBU regulations (compliance with liquidity ratios, capital adequacy requirements, and other regulatory requirements related to liabilities).

Bank liability management is based on certain components, each of which has its own impact on the analysis, composition, and structure of the bank's liabilities.

We believe that effective liability management is a systemic tool that makes it possible to improve their condition (liquidity, stability), structure (maturity, currency, sources), and the quality of analytics through the completeness, reliability, and relevance of data for analyzing the bank's financial stability and risks.

Liability management is implemented by various subjects of banking activity, each of which has its own goals, interests, and areas of responsibility that influence decision-making in the field of liabilities. Thus, bank liability management is a multilevel process involving various stakeholders with their own needs and focus, all of whom work toward a common goal-ensuring the financial stability and efficiency of the bank [2].

The achievement of liability management objectives depends on the methods applied by the management entity. At the same time, at each stage of a banking institution's development, it is important to apply methods that are relevant to the specific period, as this determines the bank's

liquidity, the level of financial risks affecting the institution, the stability of its financial activities, its competitiveness, and its ability to comply with all regulatory requirements.

A review of academic research shows that among the key methods most widely used are diversification of funding sources, management of the cost of attracted resources and interest rate risk, reserve funding, and others. Each management method is associated with its own instruments, the use of which makes it possible to achieve management objectives.

Therefore, liability management is an important component of a bank's strategic management, as it affects liquidity, financial stability, and profitability. It ensures effective formation of liabilities, optimization of funding costs, and risk reduction.

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IMPACT OF CHANGES IN THE CONSULTING ENVIRONMENT ON ECONOMIC DEVELOPMENT

Changes in the consulting environment are increasingly becoming not just a response to fluctuations in demand, but an independent factor that accelerates or slows down economic development. Consulting today plays the role of a guide to management practices, technological solutions and new standards of efficiency, which are then scaled across industries, regions and supply chains. When the formats of consultants' work, their products, analysis methods, channels of interaction with clients and requirements for transparency change, the speed of the spread of innovations and the ability of companies to adapt to competition change [1-2]. At the level of the national economy, this is manifested in productivity, investment activity, the quality of corporate governance, the pace of digital transformation, as well as resilience to crises, as consultants often help businesses form anti-crisis plans, modernize processes and reorient to new markets. At the same time, consulting is a mirror of institutional quality, because the demand for it increases sharply where rules are complex, risks are high and information is asymmetric, and decreases where regulatory and market mechanisms work predictably.

The most noticeable changes in recent years are related to digitalization, the transition to hybrid formats of interaction and the growth of the share of analytical services. Virtual teams, remote projects, the use of cloud tools, automation of data collection and the application of technologies based on artificial intelligence for risk and scenario analysis have reduced time costs, expanded access to expertise and made possible shorter decision-making cycles. This has a direct positive effect on economic development, as management changes are implemented faster, losses from inefficiency are reduced, and innovations are replicated more easily in branches and partner networks. At the same time, competition in the consulting market is increasing, as clients compare suppliers globally, not just locally, and more often expect a product approach, i.e. ready-made modules, platforms, templates, standards that can be quickly implemented. At the macro level, this means lowering barriers to the modernization of small and medium-sized businesses, increasing demand for digital skills, the emergence of new professions, and a transformation of the labor market, where more and more experts work on a project-by-project basis rather than within a single employer.

As a result, changes in the consulting environment affect economic development through the speed of knowledge dissemination, the quality of management decisions, and the ability of

businesses to adapt to technological and market shifts. The positive effect is enhanced where consulting is integrated with human capital development, i.e. when consulting is accompanied by staff training, skills transfer, and the creation of internal centers of expertise. The quality of institutions is also an important condition, as transparent rules, fair competition, and an effective judicial system reduce transactional risks and make consulting decisions more effective. For public policy, this means supporting access for small and medium-sized businesses to consulting programs, encouraging digital skills, and establishing standards of ethics and data security in consulting services. When the consulting market is competitive, technologically advanced, and results-oriented, it becomes a catalyst for productivity and innovation, and therefore contributes to long-term economic security development.

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SPECIFIC FEATURES OF CROSS-CULTURAL COMMUNICATION IN MARKETING CONSULTING UNDER CONDITIONS OF SUSTAINABLE DEVELOPMENT

Globalization, cultural diversity, and the growing importance of sustainable development as a strategic paradigm increasingly shape the contemporary marketing consulting environment. Consulting projects in marketing are no longer limited to market analysis, brand positioning, or promotional strategies; they increasingly address issues related to environmental responsibility, social impact, ethical branding, and long-term stakeholder value. Under these conditions, cross-cultural communication becomes a critical factor influencing the effectiveness of consulting engagements, particularly when sustainability objectives are embedded in marketing strategies.

Marketing messages, brand narratives, and sustainability claims are deeply embedded in cultural contexts that define how consumers, managers, and stakeholders interpret value, trust, responsibility, and legitimacy. Consequently, consultants must navigate not only differences in language but also divergent cultural norms related to authority, risk perception, time orientation, collective responsibility, and ethical expectations. Failure to account for these differences may lead to misinterpretation of sustainability initiatives, resistance from local stakeholders, or reputational risks for client organizations. Theoretical foundations of cross-cultural communication provide an essential framework for understanding these challenges. Cultural dimensions such as power distance, individualism versus collectivism, uncertainty avoidance, and long-term orientation significantly shape communication styles and decision-making processes in organizations [1]. In marketing consulting, these dimensions affect how sustainability strategies are presented and justified.

Cross-cultural dilemmas in marketing consulting also arise from differing value orientations between universal standards and local practices. From this perspective, sustainability frameworks often represent universal principles, while marketing implementation requires sensitivity to particular cultural and market-specific contexts [2]. Consultants must therefore balance the need for consistency in global sustainability narratives with the necessity of local adaptation. A standardized sustainability message may strengthen brand coherence, but without cultural adjustment it risks appearing superficial or disconnected from local realities. In high-context cultures, much of the meaning is conveyed implicitly through relationships, shared assumptions, and nonverbal cues, whereas low-context cultures rely on explicit verbal messages, formal documentation, and articulated arguments [3, p. 85]. These differences shape the perception of sustainability-related

recommendations. In high-context situations, trust and long-term relationships may be necessary for accepting sustainability marketing strategies. In low-context situations, on the other hand, transparency, data-driven justification, and clear accountability mechanisms are often the most important factors. Consultants who overlook these distinctions risk undermining credibility, even when their technical analysis is sound.

The sustainable development paradigm adds a normative dimension to marketing consulting communication. Sustainability is not a neutral concept; it involves ethical judgments about acceptable business behavior, intergenerational responsibility, and the distribution of benefits and risks. Global frameworks such as the Sustainable Development Goals provide a common reference point for aligning corporate marketing strategies with societal expectations [4]. However, interpretations of these goals vary across cultural and institutional contexts. Some markets perceive sustainability narratives as externally imposed or politically motivated, while others perceive them as enhancing legitimacy and trust. Cross-cultural competence allows consultants to turn global ideas about sustainability into stories that make sense to local people and stakeholders without losing credibility.

In conclusion, cross-cultural communication is a system-forming element of marketing consulting in the context of sustainable development. It influences how sustainability challenges are defined, how marketing solutions are legitimized, and how recommendations are implemented across diverse cultural and organizational settings. Sustainable development intensifies the importance of cross-cultural competence by introducing long-term value orientations, ethical considerations, and heightened transparency requirements. Consequently, effective marketing consulting under sustainability conditions requires not only analytical expertise but also advanced intercultural communication skills that enable consultants to bridge global principles and local meanings, thereby supporting responsible and sustainable market transformations.

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THE IMPORTANT ROLE OF THE SOCIAL ECONOMY AS A METHOD FOR PREVENTING SOCIAL EXCLUSION

The social economy is becoming increasingly important in the functioning of social organisations and in the social activities of newly emerging economic entities and continues to develop as an interdisciplinary scientific field. Thanks to the social economy, various local communities, including those at risk of social exclusion, have opportunities and possibilities to learn, develop, and use their own resources in the labor market. The social economy is a combination of elements of economics and social activity. Social organisations serving local communities need good managers who know what they are doing, who can design, plan, forecast, and manage human capital, who know the problems they are addressing, and who are focused on developing these communities. Knowledge of the social economy, in turn, allows for the effective management and implementation of an entity's strategy, steering it in the right direction. Each social

enterprise or organisation builds its history, operating strategies, management methods, and organizational structure and manages its own finances and ideas based on its human resources. They rely on the power of marketing interactions that take place in everyday life.

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EFFICIENCY OF CONCENTRATED FEED USE IN AGRICULTURE: ANALYTICAL ASSESSMENT AND IMPROVEMENT PATHWAYS

Rational provision of the livestock sector with concentrated feeds occupies a decisive place in the system of productivity reproduction, since this group of resources determines the energy and protein balance of feeding, the level of nutrient conversion, and the final economic results. The rational use of feed resources directly affects the level of animal productivity, production costs, and the economic performance of agricultural enterprises. On a global scale, the issue of supplying high-quality concentrated feeds is a critical factor in the competitiveness of agricultural production, as the efficiency of using these resources directly influences live-weight gains, dairy cattle productivity, and the cost of livestock products.

Research by O. Shpykuliak & O. Sakovska emphasizes that cooperation among producers allows for the optimization of resource use, cost reduction, and access to modern technologies, thereby creating the basis for improving feeding efficiency and the economic sustainability of farms

[1, p. 186]. I. Kozak et al. highlight the features of traditional rural systems using the example of the Krzemienica community (Poland), with an emphasis on the rational use of natural and production resources; these conclusions can be extrapolated to the system of concentrated feed use: optimization of the feed base requires consideration of local specificities, resource availability, and traditional feeding practices that affect livestock productivity [2, p. 96]. M. Humeniuk et al. [3, p. 82] stress that the rational use of resources, including feeds, is the foundation of the competitiveness of small farms.

The competitive environment and rising resource prices make it particularly important to analyze the efficiency of using concentrated feeds, which makes it possible to identify reserves for increasing production profitability and to form strategic directions for optimizing the feed base. Providing agricultural producers with concentrated feeds involves a set of measures aimed at forming and maintaining a sufficient feed base for livestock production, including: organizing the production of grain and industrial crops that serve as raw materials for concentrates; developing infrastructure for their processing and storage; establishing logistics and feed supply systems directly to farms; and controlling feed quality and nutritional value. An important determining factor in the efficiency of agricultural enterprises is the economic accessibility of concentrated feeds, which requires a comprehensive analysis of price dynamics, the cost structure of their procurement, and correlations with livestock productivity.

Providing livestock with concentrated feeds is one of the key “nodes” between resources (grain fodder, compound feeds, oilseed meals, etc.) and the outcome (live-weight gain, milk yield, production cost), which justifies the directions of agricultural production development, since this group of feeds forms the basis of the energy and protein balance in the rations of cattle, pigs, and poultry. In the state statistics of Ukraine, this is measured in feed units and through two key indicators: the feeding level – total feed consumption (of all types and concentrated feeds separately) overall and per one conventional head of cattle; efficiency – feed consumption for the production of 1 centner of livestock products (cattle gain, pig gain, 1 centner of milk).

The methodology of the State Statistics Service clearly defines the composition of “concentrates” and the rules for converting them into feed units, which ensures comparability between years and categories of farms. In the system of agricultural economics, concentrated feeds have not only a resource dimension but also a strategic one, as they accumulate the results of intensive crop production, processing technologies, and logistics, making them a kind of integral indicator of the interconnection between crop and livestock production.

The analysis of the provision of agricultural producers with concentrated feeds and the assessment of the efficiency of their use shows that this category of feeds is a key strategic resource that determines the intensity, productivity, and profitability of livestock sectors. Concentrated feeds constitute the foundation of the energy and protein balance of rations; therefore, their economic accessibility, supply stability, and quality directly correlate with livestock productivity and production costs. A systemic approach to analysis includes the assessment of price dynamics, cost structure, supply logistics, and industry standards, which makes it possible to identify internal reserves for increasing profitability. The use of state statistical indicators – the feeding level and feed consumption per unit of output – creates an objective analytical basis for comparing efficiency over time and across different types of farms. Thus, optimizing the feed base and increasing the efficiency of concentrated feed use is not only a technological but also an economically strategic priority that determines the competitiveness of agricultural production and the sustainable development of livestock farming.

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PROBLEMS IN THE HUMAN RIGHTS PROTECTION SYSTEM IN SPAIN

Problems in the human rights protection system in Spain often manifest themselves not as a lack of legal guarantees, but as difficulties in their practical implementation, especially when society enters periods of political tension and acute identity conflicts. In such conditions, the burden on the courts increases, polarization increases, and judicial decisions and disciplinary procedures begin to be evaluated by the public through the prism of political positions, which weakens trust in the impartiality of institutions. A separate area of risk is the issue of the independence of the judiciary and the standards of behavior of judges in the public sphere, when the line between professional ethics and the right to freedom of expression is the subject of debate. Researchers, analyzing cases surrounding the Catalan crisis, draw attention to the fact that disputes over the freedom of expression of judges, as well as general doubts of a part of society about the independence of judicial institutions, become a factor that complicates the perception of the system as completely neutral [1]. Another cluster of problems is related to freedom of expression, where tension arises between the need to counter hate speech and violent extremism while not creating an intimidating effect on citizens, journalists and activists. The academic literature on Spain highlights that criminal legal approaches to online speech and case law that expands state control over offensive speech can provoke self-censorship, even when the speech does not pose an immediate danger. The situation is further complicated by the fact that the rules of social media platforms sometimes operate more rigidly and less transparently than state procedures, which affects people's decisions to speak or remain silent. The result is a problem of the quality of public debate, when the fear of sanctions, blocking or litigation gradually narrows the space for criticism, satire and sharp political assessments that are a normal part of democratic life.

Systemic challenges also include the work of law enforcement agencies and the limits of their powers during protests and public safety issues, as well as the sensitive issue of migration policy in border areas, where human rights are tested in practice every day. Discussions around the so-called Citizen Security Law, which critics call a law that restricts freedom of speech, show that vague wording and high fines can create a deterrent effect for journalists and photojournalists when covering police actions. This issue has attracted the attention of both international expert institutions and organizations specializing in freedom of expression.

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THE IMPORTANCE OF THE ROLE OF THE RULE OF LAW IN THE FORMATION AND DEVELOPMENT OF THE RULE OF LAW

The rule of law is a basic principle without which a state governed by law cannot be formed or develop stably. Its essence lies in the fact that law is above political expediency, personal interests of officials and situational decisions of the authorities. When the rule of law operates, the rules are known in advance, equally binding for everyone, and the actions of the state have clear boundaries. This creates a sense of predictability, since a person understands that his rights do not depend on the mood of an official, on the influence of an opponent or on changes in the political situation [1-2]. That is why the rule of law is the foundation of trust in the state, because trust arises where a citizen sees consistency, transparency and legal certainty in the decisions of government bodies. The importance of the rule of law for the formation of a state governed by law is best revealed through the mechanism of limiting power. The state governed by law differs from a state where laws simply exist in that legislation does not turn into an instrument of arbitrariness, but is subordinated to the principles of justice, equality and protection of human rights. The rule of law requires that any interference by the state with human freedoms must have a legal basis, a legitimate aim and be proportionate, i.e. not excessive in relation to the aim pursued. This makes impossible practices where the authorities try to justify violations of rights by referring to general slogans or formal norms that do not correspond to justice. In such a system, the court becomes not a formal appendix, but a real guarantee, capable of stopping illegal decisions, restoring violated rights and ensuring the responsibility of officials.

For the development of a state based on the rule of law, the rule of law has not only political and legal, but also socio-economic significance. Where rules are stable and enforced, corruption decreases, the level of contractual discipline increases, and citizens are more likely to choose legal ways to protect their interests. Business receives clear terms of the game, investors assess risks as lower, and society benefits through job creation and expanded opportunities for development. At the same time, people feel more secure in their daily lives, as the risk of illegal decisions in the areas of education, medicine, labor, property, and social protection is reduced. Ultimately, the rule of law promotes social cohesion because it provides a common framework of justice, where conflicts are resolved not by force, but by legal procedures.

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HOUSING PROVISION AS A COMPONENT OF SUSTAINABLE DEVELOPMENT IN UKRAINE DURING WARTIME AND POST-WAR RECONSTRUCTION

Contemporary transformations in socio-economic relations, technological development and the consequences of war have a significant impact on the understanding of housing provision. Under such conditions, the content and essence of housing provision need to be rethought in the context of the concept of sustainable development. Housing can no longer be viewed solely as a

physical object or element of social infrastructure, as it is an important component of a decent standard of living. Accordingly, housing provision is an element of comprehensive state policy, primarily domestic housing policy, which aims to ensure decent living conditions, social integration and the rational use of resources. At the same time, existing approaches to understanding housing provision as a legal category remain fragmented, which complicates the formation of an effective regulatory model capable of adequately responding to contemporary challenges, in particular demographic shifts, urbanisation processes, environmental risks and post-war reconstruction needs.

Housing provision can be seen as a system of legal, organisational, and economic measures aimed at meeting the housing needs of the population through state, regional, and local housing policies [1]. It has a complex legal nature, combining public and private law regulatory mechanisms [2, p. 127]. Currently, the state of the housing stock and the level of housing provision for the population in Ukraine remain inadequate, which necessitates both a rethinking of existing housing policy instruments and an overhaul of the mechanisms for their implementation in general [3, p. 32]. At the same time, adequate housing provision contributes to improving living standards, strengthening social stability and meeting the basic needs of citizens [4, p. 225]. In the context of war and post-war recovery, housing provision must become an important element of the sustainable development of Ukrainian society and the economy. In the post-war period, housing takes on strategic importance as it ensures the restoration of demographic potential, stimulates economic activity, creates a safe and inclusive environment, and increases the resilience of communities to future crises. Thus, housing provision in the reconstruction period is a systemic component of Ukraine's sustainable development, on which the restoration of human potential, economic growth and the formation of a new social architecture of the state depend.

Housing provision is directly linked to sustainable development goals. The essence of sustainable development lies in the formation of viable models that balance the economic, social and environmental aspects of social development [5, p. 13]. A decree of the President of Ukraine approved 17 Sustainable Development Goals for the period up to 2030, which serve as guidelines for the preparation of forecast and programme documents, as well as for the development of regulatory and legal acts, taking into account the balance between the economic, social and environmental dimensions of the state's development [6]. At the same time, in the context of large-scale destruction of the housing stock as a result of the war and a significant increase in the number of internally displaced persons, the current list of Goals does not contain a separate goal dedicated to housing provision. This creates a conceptual gap between the declared system of sustainable development and the real challenges faced by Ukraine. In this regard, there is a need to either establish a separate national sustainable development goal focused specifically on housing provision or to review the existing indicators within the framework of the current 17 Goals.

To sum up, we can identify a number of areas that are necessary for achieving sustainable development at the national level: making housing provision a separate national sustainable development goal or integrating relevant indicators into existing goals; ensuring a comprehensive approach that combines housing stock renovation, economic sustainability and environmental safety; aligning national policy with international standards and actively seeking international support for housing rehabilitation and social infrastructure development. This approach will not only help meet the basic housing needs of the population, but also ensure the restoration of human potential, economic development and the formation of a sustainable social environment in Ukraine.

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THE ROLE AND IMPORTANCE OF THE NATIONAL BANK IN CURBING INFLATIONARY PROCESSES IN EU COUNTRIES

In the European Union, the national bank, i.e. the national central bank, is the key institution for containing inflation, as it is the one that formulates or implements monetary policy and is responsible for maintaining confidence in money [1]. In countries that use the euro, national central banks work within the Eurosystem together with the European Central Bank and ensure the practical implementation of decisions on rates, liquidity and financial market operations, as well as the collection of statistics and analytics for inflation forecasts. In European Union countries that have not adopted the euro, the national bank independently sets the parameters of monetary policy, often based on an inflation targeting regime, manages the interest rate, liquidity operations and reserve requirements. Regardless of the currency regime, the central bank affects inflation through the cost of credit, demand dynamics, the exchange rate of the national currency, the financing conditions of businesses and households, and through the stability of the banking system, which determines whether the regulator's decisions are transmitted to the economy without disruptions.

The real ability of a national bank to curb inflationary processes depends to a large extent on trust and the quality of communication, because inflation is not only a statistical indicator, but also the expectations of people and companies about future prices. When expectations deviate from the target level, returning inflation to the desired trajectory becomes more difficult and more costly for the economy, which is why central banks attach great importance to anchoring expectations through a clear goal and consistent decisions. An important condition is institutional independence, as empirical studies have shown a link between more independent central banks and lower inflation without a clear deterioration in real sector performance, and new reviews emphasize that reforms that strengthen independence can significantly affect inflation under certain political and institutional conditions.

Transparency is a separate tool for containing inflation, as a higher level of openness and clarity of the regulator's signals can weaken the link between current inflation and long-term expectations, making inflation less inertial. At the same time, the role of the national bank in the European Union countries cannot be reduced only to raising the rate, since modern inflation waves often have a strong supply-side component related to energy, logistics and geopolitical risks, and then an accurate assessment of the causes of inflation and the duration of shocks is required. In such a situation, the national bank enhances the anti-inflationary effect through a combination of instruments, including interest rate policy, liquidity management, macroprudential restrictions, as well as communication, which reduces the risk of self-feeding inflation through wages and pricing. For the euro area countries, the ability of national central banks to ensure a smooth transmission of the European Central Bank's decisions to lending and financial markets at the national level is of additional importance, since the fragmentation of financial conditions weakens a common anti-

inflationary policy. The practical conclusion is that effective inflation containment in the European Union countries is the result of a combination of independence, professional analytics, instrumental capacity and clear, responsible communication, which together form the trust without which monetary policy works much worse.

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MANAGEMENT OF FINANCIAL RESOURCES OF ENTERPRISES IN THE CONDITIONS OF SUSTAINABLE DEVELOPMENT

Modern requirements for the balanced development of business entities, taking into account a balanced attitude to natural resources, ensuring the growth of well-being and social security of the population determine the relevance of the study.

Conceptual requirements for ensuring sustainable development and mechanisms for their implementation have been studied in the works of such scientists as A. Boyle, U. Berens, B. Danalishyn, M. Dolishny, M. Kyzym and others. However, these works do not reflect modern trends in ensuring sustainable development of enterprises.

The purpose of the study is to develop practical recommendations for improving the activities of enterprises in the context of implementing a sustainable development strategy.

The need to implement a Sustainable Development Strategy in Ukraine is due to internal and external factors. At the United Nations Summit, 17 global Sustainable Development Goals were adopted for the period until 2030. In order to ensure the national interests of Ukraine in sustainable economic development, the Decree of the President of Ukraine “On the Sustainable Development Goals of Ukraine for the period until 2030” No. 722/2019 of September 30, 2019 [1] was issued.

Based on the results of the work, the Government approved the Order of the Cabinet of Ministers of Ukraine №1190-r of November 29, 2024 “Some Issues of Ensuring the Achievement of Sustainable Development Goals in Ukraine”, which approved national tasks, indicators of their achievement, target values until 2030 and identified coordinators for each goal of the development strategy. New national tasks and indicators were determined taking into account the martial law in Ukraine: tasks for the reconstruction and restoration of damage caused by the consequences of the armed aggression of the Russian Federation, demining of mined territories, the environmental crisis caused, including by the armed aggression of Russia, the availability and arrangement of shelters, etc. [2].

In modern conditions, special emphasis is placed on identifying the impact of the global economy on the formation of financial resources of enterprises, the need for a critical assessment of development criteria in the face of increasing environmental and social threats. In the context of economic globalization, the process of transforming the infrastructure environment of an enterprise occurs with the intensification of the migration of financial, industrial and intellectual capital.

Enterprises need to identify the main factors of the macro- and microenvironment and their impact on the formation of the policy of managing the financial resources of enterprises. In particular, "Information disclosed in accordance with the European Sustainability Reporting Standards (ESRS)" allows users of sustainability reporting to understand the significant impact of

the enterprise on people and the environment, as well as the significant impact of sustainable development on efficiency and position of the enterprise" [3].

In order to ensure sustainable development of the Ukrainian economy, it is necessary to carry out a number of measures to increase the efficiency of economic entities, increase their competitiveness, improve the investment climate, develop energy-saving and environmental technologies and infrastructure. The following methods should be used: state regulation, operational control of production and technological processes, resource provision, financial and investment management, analysis and audit of financial statements, responsible investment, social and environmental policy, risk management, and others.

In the process of management, enterprise managers identify strategic and current goals for enterprise development based on achieving social and environmental effects. For the successful implementation of the economic component in ensuring sustainable development of enterprises, it is necessary, first of all, to effectively manage the formation, distribution and use of available financial resources. Special emphasis should be placed on the innovative development of enterprises.

To accumulate funds at enterprises to ensure sustainable development goals, it is necessary to use such mechanisms and tools as project financing, optimization and diversification of financial risks, a joint-stock mortgage fund, a subordinated direct investment fund, "green" and climate bonds, etc.

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SUSTAINABLE REGIONAL DEVELOPMENT OF UKRAINE: PROBLEMS AND PROSPECTS OF FINANCING UNDER MARTIAL LAW²

The current stage of Ukraine's development is defined by two powerful yet contradictory processes: on the one hand, the ongoing institutional reform of financial decentralization aimed at achieving European standards of fiscal autonomy; on the other, the unfolding full-scale Russian military aggression, which has radically transformed the national financial and budgetary landscape. In this context, the financing of sustainable regional development, which entails the balanced implementation of the Sustainable Development Goals (SDGs) at the local level, faces unprecedented challenges that demand immediate adaptation and the search for new, prospective mechanisms.

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Financial decentralization, serving as a cornerstone of the European integration course, has substantially strengthened the fiscal autonomy of local self-government bodies. Between 2015 and 2024, the own financial resources of Ukraine's local authorities increased more than fourfold. The share of own revenues in the total revenues of local budgets exceeded 70% in 2024, a figure that approaches average European standards [1]. This achievement, underpinned by an increase in the expenditure coverage ratio by own revenues to 0.724, created a financial foundation for investments in the social sphere, infrastructure, and environmental programs, which became the basis for sustainable regional development. Under external shocks such as the COVID-19 pandemic and, notably, military aggression, this level of autonomy allowed communities to demonstrate high adaptability and financial resilience, ensuring the funding of critical needs despite a decline in transfers.

However, martial law has created a paradox of fiscal shock and centralization. The necessity to mobilize national resources for defense has led to a sharp shift in the balance between central and local budgets. The share of general local budget revenues in the consolidated budget of Ukraine – a key indicator of the financial weight of regions – plummeted from 45.17% in 2015 to a critical 18.94% in 2024 [2]. This forced reduction of 26.23 percentage points, while necessary for ensuring national security, has effectively halted the decentralization process and pushed Ukraine away from European norms. Beyond external shocks, the financing of sustainable regional development faces the internal challenge of deepening regional inequality. By transferring 60% of Personal Income Tax (PIT) locally, financial decentralization has created an imbalance wherein communities with a robust economic base (large industrial centers, Kyiv) accumulate significantly greater resources compared to depressed or rural areas, which are most in need of investment in sustainable regional development. This fiscal inequality directly contradicts the concept of balanced development and requires improved equalization mechanisms through new intergovernmental transfers, as well as targeted funding for the reconstruction and social support of regions most affected by the war (specifically, the Donetsk and Kharkiv regions, where revenues have contracted by 20–30%).

A critical issue is the insufficient quality of financing for certain SDGs. Correlation analysis has demonstrated that while the increase in local authorities' own revenues positively impacts general poverty reduction (SDG 1) and access to education (SDG 4), it is simultaneously accompanied by inefficiencies in the realm of social justice. Specifically, the growth in local budget revenues was accompanied by a slowdown in income growth for the bottom 40% of the population (SDG 10 “Reduced Inequalities”) [3]. This indicates a need to reorient local financial plans and programs so that financial resources are transformed into targeted social and economic measures aimed at the most vulnerable population strata and regions.

Consequently, under martial law conditions, the strategic roadmap must prioritize strengthening regional institutional development through personnel training, as well as targeted investment in SDGs that have shown insufficient efficiency. Particular emphasis must be placed on the environmental component of sustainable regional development, which has suffered significant damage due to the war. The financial autonomy of regions, bolstered by international aid, must be directed toward balanced reconstruction, where the fiscal capacity of each region is supported by equalization mechanisms, and the quality of governance meets European standards. Only by overcoming fiscal inequality, mitigating war-induced shocks, and strengthening institutional capacity can local finance truly become a stable and balanced engine for Ukraine's regional development.

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CORPORATE CULTURE INFLUENCE ON THE ENTERPRISE ECONOMIC DEVELOPMENT

Traditionally, the focus has been on hard elements such as upgrading technology and equipment and standardizing processes, while the soft empowering effect of corporate culture on employees' behavioral motivation and collaboration efficiency has been overlooked [1]. The essence of labor productivity is the optimization of the "input-output ratio". From the perspective of the academic theoretical framework, corporate culture enhances labor productivity through the triple mechanism of «cognitive synergy - motivational stimulation - behavioral norms» [2]. From the academic consensus, long-term growth in labor productivity depends on the synergy of «hard factors» and «soft factors», and corporate culture, by optimizing the soft factors, provides a sustainable internal impetus for productivity improvement and avoids the problem of «diminishing marginal returns» caused by relying solely on technological input.

From the perspective of «reputation management theory», corporate culture shapes the social image of the enterprise through «value externalization» and enhances brand premium capacity. When enterprises incorporate concepts such as «social responsibility» and «honest operation» into their culture and convey them to the market through concrete practices, they can build the reputation perception of a «responsible enterprise» [3].

In a market environment with increasing product homogeneity, customer service quality and corporate reputation have become core variables for differentiated competition. Corporate culture influences economic outcomes through the transmission path of «employees – service – customers – reputation – performance» (Table 1).

Table 1. Connections Between Links in the Service Profit Chain Driven by Corporate Culture and Empirical Data [4, 5].

Transmission Link	Specific Performance	Academic Empirical Data
Corporate Culture Intervention	Enhancing employee satisfaction (meeting needs for belonging and growth)	The employee satisfaction score of enterprises with strong culture reaches 4.3/5 a 43% increase compared to the industry average of 3.0/5 (2022, <i>Journal of Applied Psychology</i>).
Optimization of Customer Service Quality	Improved customer response efficiency, reduced service complaint rate	After the improvement of employee satisfaction, the customer service response efficiency is accelerated by 20%-30%, and the complaint rate is reduced by 40% (2022, <i>Harvard Business Review</i>).
Improvement of Customer Satisfaction and Loyalty	Enhanced customer willingness to repurchase, increased willingness to recommend	1. Customer satisfaction increases from the industry average of 70% to 84%-91% (a 20%-30% increase).
		2. Customer loyalty increases from the industry average of 60% to 69%-72% (a 15%-20% increase) (2022, <i>Harvard Business Review</i>).
Growth of Economic Performance	Revenue growth, improved product premium capability	1. For every 10% increase in customer loyalty, the corresponding revenue grows by 8%-12%.
		2. Enterprises with strong reputation culture have a product premium capability of 10%-20%, higher than the industry average (2023, <i>Journal of Business Ethics</i>).

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SOCIAL SECURITY IN MODERN SCHOOLS IN EU COUNTRIES

Social security in modern schools in the European Union is formed as a combination of social protection, support for well-being and prevention of risks that prevent a child from learning and developing normally. This is not only about physical safety in the school building, but also about everyday mechanisms that reduce inequality, support mental health, help families in difficult circumstances and prevent social isolation. A prime example is school feeding programs, which in the 2022-2023 school year covered about 25 million children and involved investments of at least 12 billion euros, while the study also highlights the multi-sectoral benefits of such programs, in particular for health, education and social protection [1]. As a result, the school becomes not only a place of learning, but also an institution of basic support, where the child receives minimum guarantees, regardless of family income, migration status or other factors. An important role in this model is played by an approach in which responsibility for the well-being of children is not confined to a single psychologist or a separate programme, but is shared between school management, teachers, parents, local services and the educational environment itself. The European Commission is developing recommendations for well-being and mental health policies in schools that are based on a systemic, whole-school approach and are consistent with the broader framework of child rights and a supportive learning environment. In practice, this means working on the classroom climate, policies to respond to violence and discrimination, supporting children from vulnerable groups, and establishing support services, including through the involvement of social workers in schools. Research from Switzerland shows that school social workers are perceived as key actors in social problem-solving, although the assessment of their impact and the emphasis on prevention can vary significantly between schools, depending on local conditions and collaborative practices. That is why social safety in schools does not require one-off actions, but rather coordinated procedures, resources and regular training of staff.

The effectiveness of social safety in schools is best demonstrated when programs affect both behavioral risks, digital threats and psychological resilience. A systematic review and meta-analysis of school-wide interventions published in 2025 found a statistically significant reduction in the odds of cyberbullying by about 25 percent, regular smoking by about 31 percent and cyber aggression by about 37 percent in the intervention groups compared to the control, while the authors also emphasize that part of the results depends on the quality of implementation and how fully the school-wide approach framework is implemented.

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METHODOLOGY OF FINANCIAL STATEMENT PREPARATION, ANALYSIS, AND AUDIT OF ITS INDICATORS: FINANCIAL AND ECONOMIC ASPECTS OF SUSTAINABLE DEVELOPMENT PROVISION

In the context of current economic instability, global climate change, and social challenges, the importance of ensuring the sustainable development of enterprises is becoming increasingly relevant. Companies should strive not only for short-term financial stability but also for long-term economic, social, and environmental sustainability. Financial statements are one of the main tools that allow enterprises to communicate with investors, government bodies, consumers, and other stakeholders, reflecting not only financial but also social and environmental outcomes of their activities [1].

In this context, financial statements should include not only traditional indicators such as income, expenses, assets, and liabilities but also elements that help assess the impact of the company on the environment and social processes. This could be an assessment of environmental impact, as well as indicators of social initiatives, such as working conditions, local community development, and support for education and healthcare programs. Integrating such aspects into financial statements allows companies not only to increase transparency but also to contribute to achieving sustainable development goals by reducing the negative environmental impact and improving community living conditions.

Enterprises that integrate the principles of sustainable development into their operations become more attractive to investors, as transparent financial statements that include social and environmental aspects allow for a more accurate assessment of their long-term prospects. This is becoming increasingly important in the context of current trends in global financial markets, where investors are paying more attention to corporate social responsibility and environmental sustainability. Investing in companies that demonstrate sustainable development helps minimize risks associated with potential social and environmental issues.

Financial statement analysis in the context of sustainable development involves not only assessing economic results but also considering the efficiency of natural resource use, energy efficiency, reduction of CO₂ emissions, and other indicators reflecting environmental impact. It is also important to evaluate the company's social initiatives, such as investments in communities, support for cultural and educational projects, as well as policies that improve labor conditions. All these factors significantly affect the company's financial performance because, without environmental and social sustainability, companies may face regulatory and reputational risks that complicate their operations in the market [2].

Thus, assessing and verifying these indicators is an important part of the audit process, which must contribute to ensuring not only financial but also social and environmental responsibility of the company. Auditing financial statements, which includes assessing environmental and social aspects, helps identify potential risks associated with non-compliance with sustainable development standards. It also provides companies with an opportunity to improve their

sustainable development strategy by identifying areas where they can reduce environmental impact or increase positive effects on the social sphere.

Including social and environmental indicators in financial statements helps form a more comprehensive picture of the company's operations, aligning with sustainable development requirements. Moreover, this allows for more accurate forecasting of future financial results, as companies that fail to account for these factors may face significant financial and reputational losses in the context of global environmental and social challenges [3].

Thus, sustainable development and financial statements are not separate categories but should complement each other.

A company's financial statements should reflect not only economic but also social and environmental outcomes of its activities, which will create a solid foundation for its long-term development. Integrating sustainable development principles into the process of preparing, analyzing, and auditing financial statements is a key condition for increasing transparency in business operations and ensuring their competitiveness in global markets.

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THE IMPACT OF POLAND'S ENTRY INTO NATO ON ITS NATIONAL SECURITY

Poland's accession to the North Atlantic Treaty Organization on March 12, 1999 was a turning point for its national security, as the country moved from the logic of self-deterrence to the logic of collective defense and joint planning. In practical terms, this meant the emergence of an additional defense mechanism linked to the guarantees of the Washington Treaty, as well as the inclusion of Poland in the system of allied threat assessment, defense planning and regular consultations. Membership increased Warsaw's political weight, as security decisions began to be made in a wider circle of allies, where the Polish position became part of the overall strategy, and not just a national response. At the same time, the approach to security itself changed, as threats began to be interpreted not only as the possibility of direct military pressure, but also as the risks of hybrid actions, cyberattacks, provocations in the airspace and attempts at destabilization through migration or information tools. As a result, for Poland, NATO membership has become not a symbolic status, but an institutional framework that sets standards, procedures and expectations for the state's readiness for long-term security competition [1].

The Polish Armed Forces have undergone a transformation, focusing on standards of interoperability, training and joint operations, which has gradually increased their ability to act together with allies. An additional factor has been the presence of multinational structures and units on Polish territory, which strengthens deterrence and at the same time creates an infrastructure base for faster deployment of assistance in the event of a crisis. The decisions of the 2016 Warsaw Summit, which included strengthening the eastern flank and the Extended Forward Presence initiative with the deployment of multinational battle groups, have established Poland as one of the key security nodes in the eastern direction. This provides advantages in the form of exercises, joint exchange of experience and increased operational readiness, but at the same time strengthens Poland's responsibility as a state that must be ready to ensure its own defense until the arrival of the main allied forces.

The third block of consequences concerns the balance of benefits and obligations, since membership in the North Atlantic Alliance increases the level of security guarantees, but requires high and stable defense spending, infrastructure development, and the ability to counter non-military forms of pressure. In the 2020s, Poland became one of the leaders in terms of the share of defense spending in gross domestic product, and this works as a signal of readiness for deterrence and as a contribution to collective defense. At the same time, the importance of state resilience is growing, since the challenges on the eastern flank include both military risks and hybrid scenarios that require coordinated work of military, border, cybersecurity, and crisis structures. Therefore, the impact of Poland's accession to the North Atlantic Alliance on its national security is most accurately described as a combination of enhanced guarantees, deeper integration into alliance mechanisms, and increased requirements for its own capabilities and responsibility for the security of the region.

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ECONOMIC JUSTIFICATION FOR IMPLEMENTING LABORATORY MONITORING OF THE POPULATION'S NUTRITIONAL STATUS TO PREVENT CHRONIC DISEASES

The rising prevalence of non-communicable chronic diseases (including cardiovascular diseases, type 2 diabetes, obesity, and metabolic syndrome) is closely linked to disordered eating behaviors and latent nutrient deficiencies. Many of these conditions develop over years without clinical manifestations, complicating early detection. Laboratory monitoring of the population's nutritional status, assessment of biochemical markers that reflect actual nutritive status, offers an opportunity to identify at-risk groups and implement timely preventive measures. At the same time, systematic monitoring requires financial resources and a clear justification of its economic feasibility [1-3].

Aim of the study. To assess the economic efficiency of implementing a system for laboratory monitoring of the population's nutritional status and to determine the potential medical, social, and economic benefits of its adoption.

Materials and methods. The study employed an analysis of contemporary scientific literature, cost-effectiveness modelling for two scenarios (current situation vs. implementation of laboratory monitoring), calculation of direct and indirect costs (equipment, personnel, reagents, logistics), as well as sensitivity analysis of key parameters (population coverage, test costs, effectiveness of preventive interventions). The methodology included the use of cohort models and QALY/HALY indicators to evaluate long-term outcomes.

Results. The calculations indicate that systematic laboratory monitoring of nutritional status may yield substantial long-term economic and health benefits. With at least 20–30% of the population covered by annual baseline panel testing, an 8–15% reduction in chronic diseases associated with metabolic disorders is expected within 5–10 years. Cost-effectiveness modelling shows that investments in laboratory monitoring are offset by reduced expenses for treating complications and hospitalizations, while the incremental cost-effectiveness ratio (ICER) in most scenarios remains below commonly accepted thresholds, demonstrating the cost-effectiveness of implementation. Additional benefits include improved accuracy of public nutrition programs: access to real biochemical data enables targeted interventions for high-risk groups, optimization of educational campaigns, and enhanced effectiveness of programs aimed at preventing obesity,

micronutrient deficiencies, and cardiovascular diseases. Furthermore, integrating laboratory data into the national electronic health system would allow the Ministry of Health to develop more accurate forecasts and economic models for procurement planning, while reducing costs related to unnecessary or duplicated testing. Thus, the introduction of laboratory monitoring may serve as a tool for strengthening the financial sustainability of the healthcare system [4, 5].

Conclusion. Laboratory monitoring of the population's nutritional status is a promising and economically justified approach to preventing chronic diseases. Model calculations suggest that even partial implementation of the system can significantly reduce long-term medical expenditures and improve population quality of life. For maximum impact, a phased introduction is recommended, with a focus on the highest-risk groups, integration of results into national electronic systems, and combining laboratory data with nutritional and educational preventive programs.

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THE ESSENCE AND CONTENT OF POLITICAL SECURITY IN TODAY'S CONDITIONS

Political security in the present-day context is a state and at the same time a process in which the political system retains legitimacy, manageability and the ability to make decisions without systemic failures, and society recognizes the rules of political competition and accepts the results of the choice as legitimate. Its essence lies not only in the physical protection of government bodies or territorial integrity, but primarily in preserving the basic conditions of political coexistence, which include the rule of law, the real division of powers, the presence of effective institutions of checks and balances, political pluralism, as well as guarantees of human rights and freedoms [1]. The content of political security is manifested in the ability of the state and society to prevent political violence, unconstitutional methods of changing power, the destruction of electoral procedures and the undermining of trust in state institutions. In the modern sense, it is closely related to the quality of governance, the level of transparency and accountability of officials, as well as the extent to which citizens have effective mechanisms for political participation, including peaceful protests, public control and freedom of speech. Today, political security is increasingly under pressure from threats that are not limited to classic scenarios of a coup d'état or direct forceful pressure on the government. Internal risks are growing due to the polarization of society, the radicalization of political rhetoric, the decline in trust in institutions, corruption and a sense of injustice, which make citizens more vulnerable to mobilization based on resentment and fear. At the same time, external influences are intensifying through information operations, interference in electoral processes, the financing of destructive political networks, as well as through cyber attacks on state registries and critical communication systems. A separate challenge has been manipulative practices in the digital

environment, where the infrastructure of social networks can incite conflict, amplify extremist messages, and reduce society's capacity for rational discussion. In addition, there are risks associated with synthetic media and fake audio and video, which are created using artificial intelligence technologies, which complicate the establishment of credibility and undermine the authority of official sources. As a result, political security loses stability when the common basis of trust is destroyed, and conflict becomes a profitable tool for political mobilization.

The content of political security in modern conditions is expedient to reveal as a set of institutional, legal, social and communication mechanisms aimed at preserving democratic procedures and the stability of the state and society to destabilization. In the institutional dimension, the key ones are the independence of the court, the professionalism of the civil service, the capacity of parliamentary control, high-quality election administration, as well as effective procedures for preventing conflicts of interest. In the legal aspect, clear rules of political competition, real responsibility for bribery, violence and interference in elections, as well as the protection of human rights as a safeguard against arbitrariness are important.

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INCLUSIVENESS OF INSURANCE SERVICES IN THE UKRAINIAN LIABILITY INSURANCE MARKET

As Ukraine advances towards the achievement of the Sustainable Development Goals, the establishment of an inclusive environment in the financial services sector has gained particular significance. Among these services, insurance holds a prominent place as a key mechanism for safeguarding the property interests of individuals and business entities. The liability insurance market is distinguished by its wide functional orientation and the variety of forms and types of coverage it provides, which sustains steady demand for such services even under adverse macroeconomic conditions. At the same time, the worsening financial situation of households and businesses has substantially restricted demand for voluntary insurance products, pushing the need for additional protection down the list of priorities. In this context, ensuring the inclusiveness of services in the liability insurance market becomes a strategic imperative that goes far beyond mere social inclusion and constitutes an essential precondition for preserving the stability and functional capacity of Ukraine's entire insurance sector.

The inclusiveness of insurance entails providing all segments of the population – irrespective of income or wealth level, age, gender, health status, place of residence or any other characteristic – with access to adequate, affordable and comprehensible insurance protection that is tailored to their specific risks and needs [1].

We fully agree with the assertion that the inclusiveness of insurance services yields a number of substantial benefits that extend well beyond the insurance market itself and affect the economy as a whole. Among the most important of these are the reduction of financial vulnerability of households and small enterprises, thereby preventing them from falling into poverty traps as a result of unforeseen events; the alleviation of fiscal pressure on public social assistance and healthcare systems; the strengthening of societal resilience, particularly in the context of population ageing, climate change, and rising cyber risks; and the promotion of economic growth through the encouragement of entrepreneurship and long-term financial planning.

The recently introduced regulatory amendments, aimed at aligning Ukrainian insurance legislation with European Union standards, have resulted in a substantial increase in insurance policy premiums, particularly for compulsory motor third-party liability insurance (MTPL insurance). This development has provoked considerable public outcry and sparked intense debates regarding the justification and appropriateness of these measures. The rise in prices for compulsory civil liability insurance poses risks of diminished accessibility for broad segments of the population, which runs counter to the social purpose of insurance and to European principles that require a reasonable balance between financial affordability and adequate quality of insurance protection [2, p. 303]. Against the backdrop of declining solvency among the Ukrainian population, force-majeure circumstances, and macroeconomic imbalances, such a trend is clearly at odds with the concept of ensuring inclusiveness of financial and insurance services.

Leading international practices rightly point out that enhancing the inclusiveness of insurance markets requires concerted action across five interrelated dimensions [1, p. 33]: 1) rebuilding and maintaining trust in the insurance sector; 2) designing simple, relevant and modular products that customers readily understand and value; 3) employing digital and alternative distribution channels to facilitate access and reduce costs; 4) intensifying efforts to improve financial and insurance literacy; 5) establishing constructive cooperation with the public sector – ranging from joint awareness campaigns to public-private partnerships and, where necessary, regulatory incentives or compulsory schemes incorporating inclusive features.

Ukrainian scholars actively endorse the concept of inclusive innovation development, emphasizing that such innovations serve as a powerful driver for the advancement of the domestic insurance market. Inclusive innovations encompass the personalization of insurance services, enhancement of their accessibility, adoption of insurance-related technologies, and collaboration with various organizations [3, p. 216].

Thus, the global trend towards ensuring the inclusiveness of insurance services constitutes a direct response to the social, risk-related, and economic challenges present in virtually all countries worldwide. The current level of inclusiveness of insurance services in the Ukrainian liability insurance market requires further in-depth examination and the development of well-grounded approaches to its enhancement, with due consideration by state regulatory authorities.

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SOCIO-INFORMATIONAL FOUNDATIONS OF SUSTAINABLE DEVELOPMENT PLANNING IN JAPAN

Sustainable development planning has become a strategic priority for advanced economies facing demographic change, technological transformation, and environmental challenges. Japan represents a distinctive case in this context, as it has developed a comprehensive approach to sustainable development based on strong social institutions, advanced information systems, and a culture of long-term strategic planning. The socio-informational foundations of sustainable

development in Japan combine social cohesion, public participation, digital governance, and data-driven decision-making, enabling the country to address complex sustainability challenges in a systematic manner [1].

A key socio-institutional feature of sustainable development planning in Japan is the high level of social responsibility and collective orientation embedded in Japanese society. Social trust, civic discipline, and a strong sense of shared responsibility facilitate the implementation of long-term development strategies. These social characteristics support cooperation between government, business, and local communities, which is essential for achieving sustainable development goals. Public awareness and education play a crucial role in shaping environmentally responsible behavior and social support for sustainability-oriented policies [2].

Information and digital technologies constitute another fundamental pillar of Japan's sustainable development planning system. Japan has actively integrated information and communication technologies (ICT) into public administration, urban planning, environmental monitoring, and disaster risk management. The concept of "Society 5.0," promoted by the Japanese government, emphasizes the use of big data, artificial intelligence, and the Internet of Things to create a human-centered and sustainable society. This approach allows policymakers to rely on real-time data and advanced analytics when designing and implementing sustainability strategies [3].

Socio-informational integration is particularly evident in Japan's approach to environmental sustainability. Digital monitoring systems are widely used to track air and water quality, energy consumption, and waste management performance. These information systems enhance transparency, accountability, and policy effectiveness. At the same time, public access to environmental information encourages citizen engagement and strengthens social control over environmental performance, reinforcing the link between information availability and sustainable development outcomes [4].

An important dimension of sustainable development planning in Japan is disaster risk reduction and resilience building. Given the country's exposure to natural hazards such as earthquakes, tsunamis, and typhoons, Japan has developed advanced socio-informational systems for disaster preparedness and response. Early warning systems, integrated information platforms, and community-based communication networks play a vital role in minimizing human and economic losses. These systems demonstrate how social organization and information technologies can jointly enhance sustainability and resilience [5].

Demographic challenges, particularly population aging and urban concentration, also influence Japan's sustainable development strategies. Information-based planning tools are increasingly used to optimize healthcare delivery, urban infrastructure, and social services for an aging population. Smart city initiatives and digital platforms enable more efficient allocation of resources and improve the quality of life, thereby contributing to social sustainability. In this context, information systems serve as a bridge between social needs and policy responses [6].

At the national level, Japan's sustainable development planning is closely aligned with global frameworks, including the United Nations Sustainable Development Goals. Japan actively integrates international sustainability standards into domestic policies while adapting them to national socio-cultural and informational contexts. This alignment enhances policy coherence and supports Japan's role as a global leader in sustainable development governance [7].

In conclusion, the socio-informational foundations of sustainable development planning in Japan are characterized by the effective integration of social values, institutional cooperation, and advanced information technologies. This integrated approach enables Japan to address environmental, social, and economic challenges in a holistic and forward-looking manner. The Japanese experience demonstrates that sustainable development planning is most effective when social capital and information systems are combined to support evidence-based policymaking, public participation, and long-term strategic vision.

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ENVIRONMENTAL ASPECTS OF ENSURING SUSTAINABLE DEVELOPMENT

Sustainable development has become a fundamental paradigm of modern economic and social progress, emphasizing the need to balance economic growth, social well-being, and environmental protection. Among these components, environmental aspects play a decisive role, as natural ecosystems constitute the material and resource basis for long-term development. Intensifying climate change, biodiversity loss, pollution, and depletion of natural resources have highlighted the urgency of integrating environmental considerations into national and global development strategies [1].

Environmental sustainability implies the rational use of natural resources, minimization of environmental degradation, and preservation of ecological balance for future generations. In this context, economic activities must be aligned with environmental limits, ensuring that production and consumption patterns do not exceed the regenerative capacity of ecosystems. Failure to address environmental challenges not only threatens ecological stability but also undermines economic security and social resilience at both national and global levels [2].

One of the key environmental aspects of sustainable development is climate change mitigation and adaptation. Greenhouse gas emissions resulting from industrial production, energy generation, and transportation represent a major source of environmental risk. The transition toward low-carbon development models, renewable energy sources, and energy-efficient technologies is therefore essential for reducing environmental pressure while supporting economic growth [3]. Environmental policies aimed at climate neutrality also stimulate innovation, green investments, and the emergence of new markets.

Another important dimension of environmental sustainability is biodiversity conservation. Ecosystems provide essential services, including food production, water regulation, climate stabilization, and disease control. The degradation of ecosystems and loss of biodiversity weaken these services, increasing vulnerability to natural disasters and economic shocks. Sustainable development strategies increasingly recognize biodiversity protection as an integral component of environmental security and human well-being [4].

Pollution control represents an additional environmental challenge directly linked to sustainable development. Industrial emissions, waste generation, and plastic pollution pose serious threats to air, water, and soil quality. The implementation of circular economy principles, waste minimization, recycling, and environmentally friendly production processes contributes to reducing pollution and promoting sustainable resource management [5]. In this regard, environmental regulations and market-based instruments play a crucial role in encouraging responsible corporate behavior.

Environmental aspects of sustainable development are also closely connected with social and economic dimensions. Environmental degradation disproportionately affects vulnerable populations, exacerbating inequality and social tensions. Access to clean water, safe food, and

healthy living conditions is a prerequisite for inclusive and sustainable development. Consequently, environmental policies must be designed in a way that supports social justice and equitable distribution of environmental benefits and costs [6].

At the international level, environmental sustainability requires coordinated action and global cooperation. Environmental problems transcend national borders, making international agreements and multilateral frameworks essential. Global initiatives such as the United Nations Sustainable Development Goals provide a comprehensive framework for integrating environmental priorities into economic and social policies worldwide [7]. International cooperation also facilitates technology transfer, capacity building, and financial support for sustainable development initiatives.

For countries undergoing economic transformation or post-crisis recovery, environmental aspects of sustainable development acquire particular significance. Integrating environmental standards into reconstruction and development strategies allows states to avoid environmentally harmful growth paths and ensures long-term resilience. Green infrastructure, sustainable urban development, and environmentally responsible industrial modernization contribute to economic recovery while minimizing environmental risks [3].

In conclusion, environmental aspects constitute a core pillar of sustainable development and require systematic integration into economic, social, and institutional frameworks. Addressing climate change, protecting biodiversity, reducing pollution, and promoting sustainable resource use are not only environmental imperatives but also strategic priorities for long-term economic stability and social well-being. Strengthening environmental governance, fostering innovation, and enhancing international cooperation are essential for achieving sustainable development in an increasingly complex and interconnected world.

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ARTIFICIAL INTELLIGENCE AND ADVANCED ANALYTICS IN CORPORATE FRAUD DETECTION AND FINANCIAL RISK MANAGEMENT: FROM REACTIVE CONTROL TO PREDICTIVE GOVERNANCE

The accelerating digitalization of corporate processes has simultaneously increased the scale and opacity of economic crime, exposing the limitations of traditional rule based audit systems that rely on static rules and ex post investigations. In complex, data intensive ecosystems such as global supply chains, multi channel retail and networked financial institutions, conventional controls struggle to detect collusive schemes, synthetic transactions and adaptive fraud strategies. Artificial intelligence (AI) and advanced analytics are increasingly positioned as core instruments of corporate governance and economic security, yet their implementation raises significant questions

of data quality, interpretability, ethical accountability and alignment with enterprise risk management frameworks. This article addresses these challenges by examining how AI based fraud and financial risk detection can be operationalized as a predictive and governable capability rather than a purely technical add on.

The main purpose of the study is to systematize the evolution of AI and analytics approaches to corporate and financial fraud detection and to assess their practical impact in real organizational settings. The research pursues three interrelated objectives: first, to trace the historical progression from statistical and rule based systems to deep learning, graph based models and explainable AI; second, to evaluate the performance and governance implications of these technologies across different sectors; and third, to formulate recommendations for embedding AI driven fraud analytics into enterprise risk management and AI governance frameworks consistent with ISO 31000:2018 and ISO/IEC 42001:2023. In doing so, the article contributes to bridging the persistent gap between technical innovation and responsible corporate governance in the field of fraud prevention.

Methodologically, the study adopts a mixed methods design that combines quantitative model testing with qualitative triangulation. The empirical basis consists of 2.7 million corporate transactions and 480,000 procurement records drawn from three multinational enterprises in manufacturing, retail and financial services. After rigorous data cleaning, balancing and integration, the authors implemented an ensemble of analytical techniques. These included supervised learning models such as logistic regression, support vector machines and random forests, deep learning architectures based on convolutional and long short term memory networks for high frequency and sequential data, and graph neural networks for capturing collusive and network based fraud patterns. Model performance was evaluated using precision, recall, F1 score and AUC against legacy rule based and statistical baselines. Explainable AI tools, primarily SHAP and LIME, were applied to interpret model decisions, while semi structured interviews with compliance officers and risk managers were used to contextualize quantitative findings within organizational practice.

The results demonstrate that AI integration substantially improves both the efficiency and effectiveness of corporate fraud detection. Across the three case enterprises, ensemble and deep learning models reduced financial losses from fraud by 38–44 per cent relative to traditional systems and achieved F1 scores around 0.90, with particularly strong gains in detecting low frequency, high impact anomalies. Sectoral analysis reveals differentiated strengths. In manufacturing, unsupervised anomaly detection and graph based models proved effective for uncovering collusive supplier schemes and duplicate purchase orders in environments with limited labeled data. In retail, temporal deep learning combined with streaming analytics enabled the near real time detection of synthetic refund fraud and account takeovers at very large transaction volumes. In financial services, graph neural networks coupled with gradient boosted trees excelled at identifying insider trading patterns and layered money laundering structures in complex transactional networks. Across all sectors, the adoption of explainable AI methods improved transparency of model outputs, facilitated regulatory dialogue and enhanced internal trust, since auditors and compliance staff could see which features and relationships drove individual alerts.

Beyond algorithmic performance, the study underscores that organizational and ethical conditions strongly mediate the value of AI based fraud analytics. Firms with integrated ERP, CRM and financial systems, frequent model retraining and hybrid human–AI review workflows recorded significantly higher detection accuracy and lower false positive rates than organizations with fragmented data and purely automated pipelines. Embedding AI models within ISO 31000 based enterprise risk management structures created a continuous feedback loop, in which detection, assessment, response and monitoring mutually reinforced each other rather than functioning as isolated stages. At the same time, the research shows that explainability and ethical AI governance are preconditions for sustainable deployment. The use of SHAP and LIME to generate case level explanations, combined with formal AI ethics policies, differential privacy safeguards and clear lines of accountability, reduced compliance costs and shortened regulatory review cycles. These findings support the view that technological sophistication and ethical integrity are complementary rather than competing requirements in the design of fraud analytics ecosystems.

The article concludes that AI and advanced analytics, when embedded in robust data governance and risk management frameworks, transform corporate fraud detection from a reactive, rule bound activity into a predictive and strategically governed function. However, several challenges remain. They include the need for standardized benchmarks for explainable AI in fraud contexts, better integration of behavioral and psychological indicators, and stronger alignment with emerging international standards and OECD AI principles. Future research should therefore focus on multimodal, self learning systems that combine numerical, textual and network data, and on organizational models that institutionalize human in the loop oversight without undermining analytical efficiency. In this way, AI driven fraud detection can evolve into an auditable, adaptive and ethically grounded pillar of corporate resilience in the digital economy.

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THE IMPACT OF STATE FINANCIAL POLICY ON ACHIEVING SUSTAINABLE DEVELOPMENT GOALS

Sustainable development is a multidimensional concept that involves simultaneously ensuring economic growth, social justice, and environmental protection. The Sustainable Development Goals aim to end poverty, protect the planet, and ensure peace and prosperity for all people around the world. There are 17 Sustainable Development Goals in total, which are comprehensive and interrelated. Measures in one area affect the final results in others, which is why all efforts in the field of economic and social development must ensure a balance between the social, economic and environmental dimensions of sustainable development [1].

State financial policy acts as a mechanism for macroeconomic regulation and resource allocation and is crucial for mobilizing financial resources, redistributing them and directing them toward priority areas that ensure the achievement of sustainable development goals. In view of globalization, climate challenges, and economic instability, the role of state financial policy in

ensuring stable and equitable development of society is becoming even more important [2].

Achieving Sustainable Development Goals requires the formation of a financial policy whose measures will be aimed at combining economic efficiency, social justice and environmental responsibility. The state implements its financial policy through a financial mechanism, the composition and structure of which are determined by the level of economic development, property relations and national characteristics [3; 4].

State financial policy can set priorities, such as education, healthcare, infrastructure, environmental projects, support for rural areas, and social programs, which directly correlate with Sustainable Development Goals.

For financial policy to be effective and focused on sustainable development, it is important not only to have resources, but also to have the right budgetary architecture, transparency, coordination of financial and social policies and adaptability to change [5]. After all, without a clear structure, effective management, forecasting and evaluation of results, public funds may be spent inefficiently.

State policy can create incentives for private investment in projects that support sustainability: environmental infrastructure initiatives, green technologies, innovation and the development of small and medium-sized businesses that promote employment. This approach combines public and private funding, enabling the implementation of large-scale sustainable development projects.

Through budgetary policy, social programs, redistribution mechanisms, and support for socially vulnerable groups, the state can ensure fair participation in economic growth for all population groups, thereby promoting social stability. This is particularly important for achieving Sustainable Development Goals: no poverty and reducing inequality.

Thus, state financial policy is a tool that can and should be directed towards the implementation of Sustainable Development Goals, ensuring the effective distribution of financial resources and stimulating socio-economic and environmental growth. The effectiveness of such a policy depends not only on the volume of resources, but also on qualitative characteristics: transparency, institutional capacity, planning, evaluation mechanisms and the attraction of private capital. Important areas include environmental and “green” investments, social programs and infrastructure development, which form the basis for sustainable development.

In Ukraine, given the current challenges, state financial policy must take into account global standards of sustainable financing, integrate ESG approaches, stimulate private investment, strengthen budgetary architecture, and ensure the social orientation of finance.

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THE STOCK MARKET IN THE DIGITAL ERA: DRIVERS OF SUSTAINABLE DEVELOPMENT

The digitalization of the financial sector has become a defining trend in global economic development. The stock market, as a key element of national and global financial infrastructure, is particularly sensitive to technological change. In today's environment, the digital transformation of the stock market is not only a factor enhancing its efficiency but also one of the strategic instruments for ensuring sustainable development and strengthening a country's financial resilience.

The deepening of digitalization creates new channels for investors' access to financial instruments, expands opportunities for raising capital, and promotes greater market transparency. Artificial intelligence, big data, blockchain, and cloud technologies are shaping a new architecture of the stock market, in which traditional operations are automated, and financial intermediaries gain fundamentally new tools for risk management.

One of the key trends is the development of digital exchange platforms that ensure faster, safer, and more accessible capital circulation. Electronic trading systems are becoming increasingly widespread, reducing transaction costs and minimizing the human factor. The use of algorithmic trading and high-frequency operations significantly increases market liquidity, although it also requires improved regulatory mechanisms [1].

Digitalization is stimulating the emergence of new forms of assets, particularly tokenized securities. Tokenization makes it possible to digitize real and financial assets, simplify their circulation, and expand investor access to investment opportunities-especially important for the development of small and medium-sized enterprises. In addition, the use of blockchain technologies strengthens the transparency of transactions and reduces the risks of manipulation.

An important component of sustainable development is the enhancement of financial inclusion. Digital investment platforms, mobile applications, and robo-advisors simplify market entry for broad segments of the population. This contributes to the improvement of financial literacy, the activation of savings, and the formation of long-term investment behavior. In this way, the stock market becomes an effective mechanism for accumulating domestic capital necessary for the implementation of sustainable economic projects.

Digital transformation also strengthens the potential for sustainable and responsible investment (ESG investing). Technologies for collecting and processing big data make it possible to effectively assess companies' ESG indicators, improve reporting standards, and provide access to high-quality, non-standardized information on the environmental, social, and governance impacts of businesses. This creates the prerequisites for the transition to an environmentally balanced economic model with an emphasis on long-term social responsibility.

At the same time, digitalization is accompanied by a number of risks that require the attention of regulators and market participants. Cybersecurity threats are increasing, technological failures may cause significant financial losses, and the high speed of operations can complicate the monitoring of manipulative activities. Regulatory policy should take into account the need to create flexible, adaptive, and technology-oriented standards that ensure a balance between innovation development and investor protection [2].

For Ukraine, the digital transformation of the stock market is particularly important in the context of European integration and the need for economic recovery. Building modern market infrastructure, developing a national exchange, implementing blockchain-based property rights registration, digital domestic government bonds, and electronic licensing represent realistic directions capable of strengthening the financial system's resilience. The development of a regulatory «sandbox» for fintech innovations is also crucial, as it will promote the formation of a competitive investment environment.

Thus, the digitalization of the stock market is a powerful driver of sustainable financial and economic development, as it enhances investment accessibility, increases market efficiency, promotes transparency, and forms new long-term mechanisms for capital mobilization. The success of digital transformation depends on coordinated efforts of the state, financial institutions, and innovative companies working together to modernize the market and strengthen its global competitiveness.

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UNIVERSITY COOPERATION IN THE EU COUNTRIES AND BEYOND ITS BORDERS IN TODAY'S CONDITIONS

University cooperation in the European Union and beyond is increasingly based on long-term networks, where partners do not simply exchange students or implement short-term projects, but jointly build educational trajectories, infrastructures and research programmes. The most visible form of such cooperation has been the inter-university alliances within the framework of the European Universities Initiative, supported by the Erasmus+ and Horizon Europe programmes, which by the end of 2024 will encompass 64 alliances and over 560 higher education institutions [1]. The policy benchmark set in the university strategy was to deploy 60 such alliances by mid-2024, which underlines the scale and speed of institutionalisation of cooperation. For universities, this means moving to a model where commonality is created through coordinated curricula, mutual recognition of learning outcomes, the development of joint digital solutions, and through the wider involvement of local communities and businesses in educational and innovation practices. Cooperation outside the European Union today manifests itself as a combination of academic mobility, joint educational programs, partnerships to increase university capacity, and joint research in topics that cannot be effectively covered within one country. An important tool here remains Erasmus+, which effectively works as a bridge between universities in program countries and partner countries, and the European University Association survey covered 500 institutions in 49 program and partner countries, which demonstrates the real breadth of the geography of cooperation. The logic of global partnerships is gaining importance, as universities form consortia with non-European participants for research, double degrees and innovation projects, but experts also warn of the risk of reducing the attractiveness of global cooperation if alliances are excessively narrowed to participants from the European Union and associated countries. At the same time, mobility and international interaction remain a channel for skills development and institutional internationalization, as confirmed by the Erasmus Impact Study on the impact of participation in Erasmus+ on skills, employability and internationalization of higher education institutions.

At the same time, university cooperation in the current context has noticeable limitations that determine whether the alliance will become a real joint institution or remain a set of parallel initiatives. Key barriers include different national funding rules, personnel procedures, quality requirements and recognition of qualifications, as well as technological incompatibility of information systems, which makes it more difficult to launch common course catalogues, shared student data and shared educational services. At the level of the social logic of cooperation, researchers show that the formation of alliances often reproduces status hierarchies and builds on pre-existing connections, although policy design can create opportunities for the involvement of less prestigious institutions and a wider geographical reach. It is additionally emphasized that such

alliances have both potential and risks, in particular the complexity of internal coordination, conflict resolution mechanisms, maintaining the commitment of participants and the alignment of organizational cultures, on which the real sustainability of cooperation and its effectiveness depend.

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BIG DATA AND ANALYTICS FOR FORECASTING AND PLANNING SUSTAINABLE ENTERPRISE DEVELOPMENT

In the modern context of digital transformation, companies are increasingly integrating Big Data and analytics tools into their strategic planning, resource management, and sustainable development processes. The vast amounts of data generated by operational activities, customer interactions, logistics processes, environmental measurements, and the external competitive environment provide a foundation for informed decision-making. Big Data analytics enables accurate forecasting of environmental, social, and economic indicators, which is critically important for developing strategies oriented toward ESG principles and the long-term sustainability of a business [1].

Sustainable development of an enterprise involves optimal resource use, reducing environmental impact, responsible social practices, and effective corporate governance. Big Data is a key tool for modeling development scenarios, assessing risks, and guiding evidence-based management decisions [2]. Globally, analytical platforms offer competitive advantages, increase investment appeal, and help companies adapt to new sustainability regulations. A major application of Big Data is monitoring and forecasting environmental impact. Data from sensors, satellites, smart devices, and IoT platforms allow measurement of CO₂ emissions, energy use, water consumption, waste, and other sustainability indicators. Real-time processing with machine learning enables accurate forecasts of resource load, helping companies adjust production processes promptly [3].

Analytical models are also used to assess risks related to climate change, natural fluctuations, or rising resource costs. Predictive analytics helps companies transition to energy-efficient technologies, optimize supply chains, and develop decarbonization projects in accordance with global environmental standards. Thus, Big Data becomes the foundation of environmentally responsible management and the development of strategies aimed at minimizing environmental impact. Big Data in the social and managerial aspects of sustainable development. The social dimension of sustainable development is also actively supported by analytical technologies. Companies use Big Data to assess workplace safety levels, evaluate the effectiveness of HR policies, plan employee training, and forecast productivity. The use of digital tools in the field of social responsibility makes it possible to manage employee engagement, identify the needs for human capital development, and improve the quality of internal communications.

In the field of corporate governance, Big Data ensures transparency, objectivity, and well-grounded decision-making. Analytical systems are integrated into ESG reporting processes, allowing companies to automate data collection and improve the reliability of indicators. This is particularly important in the context of global regulatory changes, including the implementation of European CSRD standards and requirements for non-financial reporting.

At the international level, major corporations are demonstrating significant progress in using Big Data for sustainable development. Companies in the United States, Japan, South Korea, and EU countries integrate analytical platforms to monitor carbon footprints, optimize supply chains considering environmental risks, forecast market trends, and assess the social impact of their activities. Enterprises use machine learning models to calculate the effectiveness of energy-saving

programs, manage safety risks in production processes, and enhance corporate responsibility. The use of big data analytics is particularly active in the financial sector: international banking groups develop ESG credit risk models, use satellite monitoring data to assess borrowers' environmental impact, and implement stress testing of ESG factors. In the manufacturing sector, analytical systems make it possible to reduce energy consumption and create closed-loop supply chains, which contributes to the development of a circular economy [3].

Ukrainian enterprises are also demonstrating positive dynamics in the application of Big Data for modernizing management systems and supporting sustainable development. Large companies in the fields of energy, agribusiness, IT, and logistics are actively implementing digital platforms for monitoring production processes, analyzing resource indicators, and forecasting market changes. The use of IoT technologies and automated control systems is increasing, enabling enterprises to optimize energy consumption, improve environmental performance, and comply with international ESG requirements. Big Data analytics helps Ukrainian companies strengthen social responsibility by managing HR processes, ensuring employee safety, improving communications, and supporting corporate volunteer initiatives. With Ukraine's integration into the European economic space, implementing analytical systems for non-financial reporting, ESG risk assessment, and long-term strategy development is increasingly important [2].

Big Data and analytics are key to transforming enterprises according to sustainable development principles. Predictive models, machine learning, and digital platforms improve environmental, social, and managerial efficiency, ensuring resilience and competitiveness. International experience shows that integrating Big Data into sustainability practices is a highly promising direction, allowing Ukrainian companies to meet global standards, enhance their international presence, and build long-term responsible business models.

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EUROPEAN INTEGRATION IMPACT ON SOCIO-ECONOMIC ASPECTS OF GREENING TRANSPORT ENTERPRISES

The official status of a candidate country for EU membership obliges Ukraine to fulfill certain requirements and carry out reforms. In particular, European integration processes require the adaptation of Ukrainian legislation in the field of ecology, which ultimately changes environmental standards regarding the activities of transport enterprises.

The process of greening transport enterprises involves reducing the negative impact of their activities on the external environment. The issue of greening logistics processes in supply chains is becoming more relevant. As evidenced by the results of research conducted by Ukrainian scientists, there are numerous manifestations of non-compliance of the Ukrainian logistics system with international environmental standards [1].

In order to ensure the increase in the competitiveness of domestic transport enterprises and the transport and logistics system of Ukraine as a whole, it is necessary to address a number of issues. In particular, we are talking about innovative solutions in the field of ecologization of

transport and logistics activities of domestic enterprises. Such solutions include the use of energy and resource-saving technologies, as well as modern vehicles.

In this aspect, the experience of using e-trucks is interesting, taking into account the global course on greening the economy. Electric freight transportation is an innovative trend in the greening of the transport and logistics sector. Among the advantages of electric trucks are savings in maintenance, a modular body system, environmental friendliness, and noiselessness. In commercial activities, electric trucks are used in postal transportation, carriage of metal structures, and in urban and suburban transportation of small and medium load capacity [2].

From the point of view of minimizing the negative impact of transport on the environment, the growing role of intermodal transportation is promising. The purchase of new locomotives, modernization of wagons and railway tracks in Ukraine will increase the economic, social and environmental efficiency of transportation, in particular by reducing dependence on diesel fuel, reducing operating costs, and improving the quality and reliability of transportation.

Bringing road transport standards into line with EU requirements also has economic, social and environmental aspects. The social aspect concerns the requirement for regular professional training of drivers. A technical inspection of vehicles is also mandatory for the timely detection of technical malfunctions and reducing the risk of accidents. In addition, there is a requirement to inform about the CO₂ level of new trucks in order to increase the environmental awareness of buyers. The ban or restriction on the import of old trucks that do not meet environmental standards into Ukraine forces the domestic market to be updated. An important result of the implementation of the above measures is the reduction of environmental pollution, the reduction of morbidity and the improvement of the quality of life.

Thus, the transport market is gradually being oriented towards European trends in “green” transport.

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IMPORTANCE OF SOCIAL-ETHICAL ANALYSIS OF ORGANIZATION’S LIFE CYCLE FOR RISK MANAGEMENT IN THE PROCESS OF SUSTAINABLE DEVELOPMENT

In today’s reality, organizations are forced to adapt to new realities while maintaining a high level of social responsibility. According to the ideas of sustainable development, the social aspects of business activities are now as important as traditional economic indicators. Therefore, there is a need for such management that takes into account the impact of the organization’s activities on the environment and society, as a whole, throughout the entire life cycle of the company.

The life cycle is a sequence of stages of development from emergence to possible decline or revival. Each stage has its own management priorities and level of risk, which understanding by management ensures high performance [1]. To achieve the set goals, in our opinion, it is reasonable to focus on the four main stages of the cycle – inception, growth, maturity and decline.

At the stage of inception, an organization occupies a market niche, management is mainly intuitive, and the structure is informal and undifferentiated [1; 2]. The main risks of this phase are lack of experience, financial instability and insufficient awareness of competitors. In modern conditions, in particular during the war in Ukraine, requirements for ethics and increased social responsibility are added to ensuring proper working conditions and employee safety. It is important

to immediately take into account the environmental aspects of the activity and not transfer negative consequences to the subsequent stages of the life cycle. It is believed that for the diagnosis of risks at this stage, the method of expert assessments, building a goal tree and a risk map should be used [3].

At the growth stage, an organization expands its activities, formalizes its structure, develops new markets [1]. The main risks here may be excessive diversification, ineffective marketing policy, or dependence on key personnel, which negatively affects the social aspects of activity. Thus, rapid expansion without proper assessment of potential can lead to overloading of employees, a decrease in the quality of services, or a violation of the ethical standards of partners. To diagnose such risks, it is advisable to use such analysis as SWOT, ABC, financial and portfolio, which allows for a thorough assessment of the consequences, as well as timely adjustment of the growth strategy [3].

At the maturity stage, an organization achieves stability, but the growth rate slows down. The main task is to maintain market positions and improve products, processes and services [2]. The key risks here are a decrease in flexibility and innovative activity, and hence the turnover of progressive personnel. Therefore, it becomes critically important to take into account the social approach, because transparency of activities, compliance with ethical standards and minimizing the negative impact on society help to mitigate the effects of organizational, personnel and reputational challenges. Here, the integrated use of organizational, managerial, technical, and economic analyses allows the company to identify problems in a timely manner and maintain competitiveness at the proper level [3].

The stage of decline is characterized by a reduction in sales and profits, a search for ways to maintain markets, bureaucratization of the structure and a complete loss of flexibility [1]. It becomes extremely important to prevent social destabilization here – the organization must mitigate the negative impact of the crisis, create its own communication network, avoid sharp cuts, and maintain basic quality standards. For risk diagnostics, companies should use the analysis of market positioning and segmentation, portfolio, personnel and matrix analyses [3].

A great example of the sustainable passage of the main stages of the life cycle is Rozetka company [4]. Founded as a small online store of cosmetics and perfumes, it quickly moved to growth, expanded its range and formed a full-fledged team. At the maturity stage, the company invested in logistics, automation and marketing, while developing standards of responsibility to customers and partners. In the crisis year of 2014, despite the short-term cessation of operations, the company avoided a long-term decline thanks to systematic work with risks, transparency of communications and preservation of customer trust. In 2018, it actually entered the stage of revival, turning into a full-fledged marketplace, which made it the leader of the Ukrainian e-commerce sector, which it still is.

Thus, the analysis of the organization's life cycle is an effective tool for ensuring sustainable development, which makes it possible to predict risks at each stage and choose appropriate measures available for this. In terms of uncertainty, the adaptive management, consideration of socio-ethical aspects, and systematic work with challenges allow not only to reduce the negative consequences of crises and recession, but also to ensure the revival and sustainable development of the business model.

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ANTI-CRISIS FINANCIAL MANAGEMENT AS A FACTOR OF SUSTAINABLE ENTERPRISE DEVELOPMENT

Modern conditions of enterprise functioning are characterized by a high level of economic instability, increasing financial risks, intensified competition, and the impact of crisis phenomena of both global and national origin. Military actions, disruptions of logistics chains, inflationary processes, and limited access to financial resources significantly complicate the ability of business entities in Ukraine to ensure stable operations. Under such conditions, anti-crisis financial management becomes particularly relevant as an instrument for maintaining solvency and ensuring sustainable enterprise development.

Anti-crisis financial management is regarded as a system of managerial decisions and measures aimed at the early identification of crisis threats, minimization of negative financial consequences, and creation of conditions for recovery and further development of an enterprise. Unlike traditional financial management, the anti-crisis approach has a preventive and adaptive nature, which enables enterprises to respond promptly to changes in the external environment and maintain financial stability in the long term.

An important component of anti-crisis financial management is financial diagnostics, which provides an assessment of liquidity, solvency, profitability, and business activity of an enterprise. Timely identification of negative trends in the dynamics of financial indicators makes it possible to develop well-grounded anti-crisis decisions and prevent the escalation of a deep financial crisis. Scientific studies confirm that systematic financial monitoring is a key factor in increasing the effectiveness of anti-crisis measures.

Anti-crisis financial management is closely related to the concept of sustainable development, as it ensures a balance between economic efficiency, financial security, and long-term strategic objectives of an enterprise. Financial stability creates prerequisites for the implementation of investment projects, introduction of innovations, preservation of human capital, and enhancement of corporate social responsibility. In turn, this contributes to strengthening the competitive positions of enterprises and their ability to achieve sustainable growth.

A special role in the system of anti-crisis financial management is played by financial risk management. Identification, assessment, and minimization of risks—particularly credit, currency, investment, and operational risks—help reduce the probability of financial losses and ensure the stability of cash flows. Research indicates that the implementation of comprehensive anti-crisis mechanisms increases the level of economic security of enterprises and reduces their vulnerability to external shocks [4].

Thus, anti-crisis financial management is an important factor in ensuring the sustainable development of enterprises in an unstable economic environment. Its effective implementation contributes to enhancing financial stability, adaptability, and competitiveness of business entities, forming a solid foundation for their long-term development.

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INVESTMENTS IN MARKETING STRATEGY TO INCREASE COMPETITIVENESS

Investments in a marketing strategy to increase competitiveness should be viewed as investments in the company's ability to consistently create value for the client and convert this value into sales, loyalty and profit. In practice, this means that money should go not only to advertising, but also to the entire logic of entering the market. Research, segmentation, selection of target groups, formation of positioning, updating the product portfolio, setting up sales channels, service, communications and pricing. When the strategy is built, investments become an "amplifier" and give the effect of scale. If a company invests in campaigns without a clear strategic framework, it often gets a short surge in demand, but does not consolidate the advantage, because the customer does not understand what exactly makes the brand better than alternatives. Scientific results show that marketing investments can positively affect the value of the company, and therefore make financial sense not only in the operational plane, but also from the position of the capital market [1-2]. The second important idea is that competitiveness is enhanced when investments are distributed between three blocks. The first block is marketing communication, which ensures recognition and trust. The second block is marketing innovation, i.e. new ways of communicating value, updating the service, sales format, and interacting with the customer. The third block is uniqueness, when the company relies on the distinctive characteristics of the offer and supports them with evidence, such as guarantees, service packages, demonstrations of results, reviews, and stories of use. Empirical data on the example of small and medium-sized enterprises show that the use of such strategies is associated with higher competitiveness, and the combination of several approaches can provide synergy.

In order for investments to really increase competitiveness, discipline and constant assessment of the effect are required. First, it is advisable to plan the budget as a portfolio, where there is a share for quick sales, a share for brand building, and a share for product development and customer experience. Secondly, it is worth determining in advance what the expected result is, for example, an increase in market share, an increase in repeat purchases, a decrease in the cost of acquiring a customer, an increase in the average check, a decrease in churn. Thirdly, it is important to have an analytics circuit so that decisions about channels, creatives, prices and offers are made on data, not on intuition. Then the marketing strategy becomes a tool for managing the competitive position, and investments work as a controlled lever. As a result, the company receives not only more contacts and applications, but also a more stable brand, a better offer and a stronger ability to withstand price competition.

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FORMING A MECHANISM FOR ENTERPRISE RESILIENCE: SYNERGY BETWEEN MOTIVATIONAL MANAGEMENT AND SECURITY STRATEGIES

Full-scale military aggression has transformed the priorities of Ukrainian enterprises: development strategy has given way to the need to build resilience - the dynamic ability to quickly adapt and recover from destructive influences. For critical infrastructure enterprises, survival depends on the resilience of their personnel. Traditional methods of security and motivation management, which functioned separately, proved insufficient to counter direct military threats.

The relevance of the study lies in the need to substantiate and model an integrated mechanism that uses the synergy of security strategies and motivational management to ensure the continuity of operational activities.

Theoretical analysis shows that in conditions of military and economic crisis, personnel needs regress to the basic levels of Maslow's pyramid (safety, physiological needs, etc.). Accordingly, security-oriented management becomes a key motivational tool. Measures aimed at protecting assets (in particular, the life and health of employees, etc.) and ensuring financial stability cease to be exclusively a function of risk management and become the strongest factor of intangible motivation.

This raises the issue of achieving an adequate level of business resilience.

One of the main characteristics of business resilience is the ability of an organization to adapt.

There are two main types of resilience:

static resilience, which characterizes the ability to maintain the structure and functions of a system in shock conditions within the limits of the resources available to the organization, given their growing shortage;

dynamic, which, in the event of a shortage of resources in crisis conditions, allows an organization to build capacity, thus ensuring recovery and development through adaptation mechanisms [1].

At the same time, the category of socio-economic resilience is becoming more widespread, covering the ability of both society as a whole and individual social groups or communities and organizations to adapt, reorient themselves if necessary, and recover after shock situations [2]. The main feature of this type of resilience is the preservation of social cohesion, functionality, and the ability of the system to respond effectively to external and internal challenges.

Increasing the resilience of an enterprise as a key factor in its strategic stability requires a comprehensive approach that combines strategic planning, human capital development, digital transformation, and socially responsible management.

Resilience, unlike passive stability, requires active personnel resilience - the ability of a team to maintain high productivity and loyalty under conditions of constant stress.

High staff loyalty and trust, achieved through investment in security, is a critical element of personnel security. It minimizes the risks of insider threats, sabotage, and significant staff turnover, ensuring operational flexibility and the ability to quickly restore business operations.

The empirical stability of a company in complex regions is due to the implementation of a two-vector synergy between the Security Service (SS) and the company's HR management, which can be represented by the "Vector Synergy Model: Security - Motivation - Resilience".

Vector I: Security as a motivational tool (Protection Vector):

Physical security measures (equipping shelters, rapid relocation, clear instructions in case of

alarms) and economic guarantees (timely payment of salaries, support for those mobilized) remove basic stress, which is a fundamental motivation for continuing to work in a risk zone.

Vector II: Motivation as a security factor (Loyalty Vector):

The proposed model illustrates the integration of these vectors, where Security + Motivation + Resilience, emphasizing that the result of synergy exceeds the sum of individual measures.

Thus, the resilience of an enterprise arises as a result of the complex interaction of internal and external factors of the economic environment. Especially in conditions of martial law, it is based on a balanced combination of financial stability, managerial adaptability, a strong corporate culture, the integration of innovative technologies, and the establishment of effective partnerships, and directly depends on the formation of security-oriented motivation - a system of incentives that prioritizes the security needs of employees.

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FORMULATING A STRATEGY FOR DEVELOPING THE LOGISTICS SYSTEM OF NIBULON IN CONDITIONS OF CRISIS UNCERTAINTY

In conditions of deep and unpredictable crisis, characterized by rapid degradation of infrastructure and blockage of key transport arteries, classic logistics strategies optimized for stability become unviable. For a company such as NIBULON, whose logistics model has historically been based on highly productive but monocentric (single-direction/corridor-oriented) routes, the transition to an adaptive management paradigm is critically important [2,3].

Adaptive management in the context of NIBULON's activities is not just a change of routes, but the ability of the system to quickly redirect the flow of raw materials and products to alternative, albeit less efficient, corridors. This concept is based on the principle of redundancy. This means that the company must consciously invest in reserve capacity (e.g., development of the Danube fleet, terminals in the West), which may seem economically unnecessary in stable conditions. However, as crisis analysis shows, it is this principle that is critically necessary to ensure a rapid recovery of export potential after a failure, which is the direct opposite of the pre-war strategy, optimized for minimum costs.

A company's viability in the market, survival, development, and constant business transformation determine its market resilience. The business resilience approach developed by BCG (Boston Consulting Group) - "sense, adapt, thrive, and transform" - is a dynamic strategy that helps managers set a course for the future and build a more resilient enterprise, regardless of where they started [1]. In the case of NIBULON, achieving a high level of resilience requires not only physical diversification of assets, but also the implementation of technologies such as Demand-Driven Resilience (DDR) Strategy, which allows the system to respond quickly to changes in external conditions, and not just to changes in internal demand. Therefore, to develop an adaptive strategy, NIBULON uses an integrated methodology that combines qualitative and quantitative analysis methods focused on risk and investment management.

The basis is scenario planning, which involves the development of at least three key scenarios for the development of events: "Baseline" (partial functioning of the Danube and limited rail exports), "Optimistic" (restoration of river logistics and unblocking of one seaport), and

“Pessimistic” (complete blockade of the south and the need to switch entirely to western land hubs). This allows the company to prepare investment and operational plans for each scenario in advance, minimizing response time.

Bottleneck analysis has identified critical points in the system that limit overall throughput. For NIBULON, these are: southern sea corridor: Historically, it has accounted for the lion's share (up to 70%) of the company's export volume. However, there are risks that make it almost impossible to use it for stable planning. This is not just a high risk, but a critical vulnerability that caused an instant drop in the company's export potential by two-thirds. The strategic conclusion is not to restore it, but to immediately search for and invest in a strategic replacement for this corridor.

River terminals. NIBULON terminals on the Dnieper and Southern Bug rivers, which were the backbone of river logistics, are at moderately high risk. Although physical destruction is less likely than a complete blockade of seaports, navigation restrictions caused by security risks render these assets incapable of maintaining a continuous supply chain. Their role in the short term is limited to asset conservation and use for domestic storage rather than export.

Danube port cluster. This route has proven to be key to ensuring resilience. With the lowest risk among waterways, it has become critically important. However, its historical capacity was limited because it was not a priority in the pre-war strategy. The main vulnerability here is infrastructure congestion and limited terminals that cannot quickly accept volumes transferred from large seaports.

Rail hubs. These have the lowest level of risk and are an important element of an adaptive strategy. However, their historical share in NIBULON's exports has been minimal. The key bottleneck here is the technological problem of transshipment due to the difference in track gauge (1520 mm in Ukraine and 1435 mm in Europe). This limits speed and requires immediate investment in transshipment terminals to increase this route [2,3].

The proposed strategy for the development of the NIBULON logistics system should be three-tiered, based on the principles of risk diversification and increased resilience. Its main goal is to transition from a monocentric model to a multimodal, geographically diversified network capable of functioning even in conditions of high uncertainty.

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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE OLYMPIC GAMES

AI technologies are increasingly influencing the way the Olympic Games are organized, starting with security, logistics and crowd management. Organizers work with huge amounts of data on transport, venue occupancy, queues, accreditation, delegation placement and volunteer work, so AI-based algorithmic systems help to forecast demand and allocate resources more flexibly. A separate area is video analytics, where AI-based systems detect atypical situations in real time, such as suspicious clusters, abandoned objects or sudden changes in crowd movement, which increases the speed of response of services and reduces operational risks. At the same time, it is in this area that the most acute issues of transparency, legality of data processing and control arise, ensuring that decisions remain under human supervision and that the use of technology does not turn into a

constant practice of mass surveillance outside the event [1-2]. On the sports side of the Olympics, AI-based technologies support athlete training by analyzing training loads, movement techniques, and injury risks, as well as by more accurately selecting individual recovery programs. Computer vision and AI-based models can process training and competition videos, highlight key movement phases, compare them to reference patterns, and tell coaches where split seconds or stability are being lost. An important block concerns refereeing and rules control, as automated decision support potentially reduces the influence of the human factor, but at the same time creates new risks associated with model errors, data bias, and how decisions are explained. Therefore, not only accuracy becomes critical, but also appeal procedures, algorithm audits, and a clear rationale for athletes and spectators of what exactly was recorded by the system and how it influenced the decision.

For viewers and media, AI technologies are transforming the Olympic Games experience, as personalized broadcasts, automated highlight creation, multilingual subtitles and recommendation systems make content more accessible and relevant to specific audiences. AI systems are also being used in on-site visitor services, such as navigation, route guidance, disability support, and facility optimization, including energy and maintenance. However, as data and automation become more important, cybersecurity, privacy, and fair rules for using such solutions to ensure that technological advantage does not undermine the level playing field become more important. Ultimately, the impact of AI technologies on the Olympic Games should be seen as a balance between efficiency and trust, with responsible governance, transparency, and ongoing assessment of the impact on human rights and the fairness of the competition.

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ESG INDICATORS AS THE BASIS FOR MANAGERIAL DECISION-MAKING IN MODERN ORGANIZATIONS

Relevance of the study. In the current conditions of sustainable development, digitalization of management processes and the growth of society's requirements for the social and environmental responsibility of organizations, the integration of non-financial indicators into the management system is becoming increasingly important. Traditional financial indicators do not fully reflect the real sustainability of organizations in the long term, which necessitates the use of integrated approaches to assessing the effectiveness of management decisions [1; 2].

One of such approaches is the concept of ESG (Environmental, Social, Governance), which has been transformed from a non-financial reporting tool into a key element of strategic management and an information basis for managerial decision-making [3; 9]. Modern research confirms that organizations with high ESG performance demonstrate an increased level of trust from stakeholders, investors, and society, as well as greater adaptability to crisis challenges [10; 11].

ESG indicators cover non-financial aspects of organizations' activities that directly affect their long-term performance and sustainability. The Environmental component reflects the level of environmental responsibility of the organization, in particular the efficiency of natural resource use,

emission management, and environmental risks. The Social component characterizes interaction with personnel and society, working conditions, human capital development, labor protection, inclusiveness and social responsibility. Governance covers corporate ethics, management transparency, governance structure, compliance, and risk management system [4; 5].

Modern scientific research proves that it is the social and managerial components of ESG that have a significant impact on the quality of management decisions and the reputational stability of organizations, especially in the context of growing public attention to responsible management [12; 14].

ESG indicators are increasingly used as an information base in the process of making managerial decisions at the strategic and operational levels. They are used in the development of development strategies, the formation of investment decisions, human resources management, the construction of personnel motivation systems and crisis management [6; 11].

Recent studies have focused on the role of the ESG approach in risk-based management, in particular in identifying non-financial risks, reducing reputational losses, and ensuring the long-term sustainability of organizations [9; 12]. At the same time, scientists draw attention to the problem of discrepancies in ESG rating assessments, which requires a critical analysis of ESG data in the process of managerial decision-making [12].

The integration of ESG indicators into the management system contributes to the formation of a culture of responsible management, increasing the competitiveness and social legitimacy of organizations. According to the results of international research, organizations that systematically implement an ESG approach demonstrate better results in the field of long-term planning, human capital management, and interaction with stakeholders [10; 15].

The ESG approach is of particular relevance for educational and public organizations, where it is used as a tool for assessing the quality of management processes, the level of social responsibility and transparency of managerial decision-making [13; 17]. This confirms the cross-sectoral nature of ESG as a modern management paradigm of sustainable development.

Conclusions. ESG indicators in modern conditions cease to be exclusively an element of non-financial reporting and acquire the status of a key information basis for managerial decision-making. Their systematic use provides a comprehensive management approach focused on long-term sustainability, social responsibility and effective corporate governance. Further development of ESG practices is an important prerequisite for the formation of sustainable and developmental management models in the face of modern socio-economic challenges.

Keywords

ESG indicators, sustainable development, management decisions, corporate governance, social responsibility, management.

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MODERN FEATURES OF THE DEVELOPMENT OF ANTHROPOLOGY AS A SCIENCE

Contemporary anthropology is increasingly emerging as an integrative science that simultaneously maintains a classical focus on culture, social relations, and ways of life, while actively rethinking its own boundaries, descriptive language, and ethical principles of research. There is a shift from the notion of anthropology as a discipline that observes “others” to an approach in which the researcher recognizes his own positionality, the impact of power and inequalities on the production of knowledge, and responsibility to the communities with which he works. This has led to a strengthening of trends related to decolonization, critical analysis of the legacy of colonial practices, revision of museum policies, the return of cultural values, and a reassessment of who has the right to speak on behalf of certain groups. Theoretical development is associated with increasing attention to the processes of globalization, migration, transnational networks, new forms of work and inequality, and the interaction of human life with technological environments. Anthropology increasingly works at the intersection of sociology, economics, political science, cultural studies, history, law, and science and technology studies, stimulating the emergence of joint research agendas and more complex interpretive frameworks. In this context, the role of comparability is growing not as a mechanical comparison of cultures, but as a careful analysis of how local practices are related to global institutions, markets, media, and governance regimes, and how people adapt to uncertainty, crises, and rapid change [1]. Digital ethnography and online community studies, platform and algorithmic environment analysis, online communication observation, and mixed approaches, where material practices of everyday life are considered together with digital traces, are widely used. At the same time, the interaction between cultural anthropology, biological anthropology, and archaeology is increasing, leading to an increased use of laboratory methods and complex interpretations. For example, studies of the origins and mobility of ancient populations combine archaeological data, anthropological analysis of burial practices, paleoecological reconstructions, and ancient DNA and isotopic approaches. At the same time, there is a growing need for transparent data procedures, reproducibility of research steps, and responsible storage and access to field materials, as anthropological data are often sensitive and tied to specific people and communities. In many subfields, teamwork is gaining importance, with research being carried out not by individual authors but by interdisciplinary teams that combine the skills of ethnographers, historians, statisticians, visual analysts, and biological methods specialists. This is

also changing the culture of scientific writing, as different standards of evidence and different ways of explaining social reality need to be reconciled.

Anthropologists work on topics of immediate social importance, including inequality, racism, gender, health, population aging, urbanization, environmental change, conflict, information impacts, and transformations in education and media. Partnership models of research are becoming more common, in which community members are not objects but co-researchers, participating in formulating questions, interpreting materials, and disseminating results. At the same time, there is a growing demand for ethical reflection, including informed consent, privacy protection, harm minimization, fair distribution of research benefits, and responsible representation of the voices of people who have fewer resources for self-defense in the public space. Communication with wider audiences through open lectures, media texts, podcasts, exhibition projects, and consultations for public administrations and NGOs is also becoming significant. As a result, modern anthropology is developing as a science that combines the depth of qualitative description with methodological diversity, a critical attitude towards its own tools, and the desire to be useful to society, without losing scientific rigor and attention to context.

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E-VETERAN AS A TOOL FOR MODERNIZING STATE MEDICAL AND SOCIAL SECURITY FOR VETERANS IN UKRAINE

The e-Veteran portal of Ukraine (<https://eveteran.gov.ua/>) has been created for veterans, providing access to information on benefits and statuses provided by law for individuals in categories under the Law "On the Status of War Veterans"[1] in an accessible and simple format. E-Veteran is a system based on the Unified State Register of War Veterans [2]. The e-Veteran portal offers war veterans medical and rehabilitation services, including psychological support, individualized treatment plans for chronic diseases and the consequences of combat injuries, rehabilitation measures, prosthetics and the provision of assistive devices. The portal provides access to information on medical institutions and services that collaborate with state programs for veterans and also offers consultations with specialists who support veterans in completing documents, determining eligibility for benefits and arranging treatment. The portal's database contains information on veteran statuses, associated guarantees and benefits, and mechanisms for contacting institutions and specialists for medical, psychological, social and rehabilitation support.

The public administration's vision for the e-Veteran platform is to transform it into a unified digital hub for veterans, providing access to all services, including medical, psychological, social and rehabilitation care, spa treatment, benefits and information support. The platform allows for the submission of support requests, the receipt of a personalized support plan and the use of a e-Card integrated with local and state resources. Development entails standardization of procedures, reduced bureaucracy, transparency in service provision and personalized support for veterans, regardless of their place of residence. Key challenges include the uneven content of the database across different regions, dependence on the availability of resources and institutions, the need for coordination between government agencies and the risks associated with war, the destruction of institutions and population displacement. In the long term integration with other government systems will improve the effectiveness of state support, the speed of service delivery and veterans'

trust in the state by creating a systemic approach to veterans' policy and reducing corruption and bureaucratic barriers.

It has been established that experts are increasingly inclined to the conclusion that a so-called preferential approach to veterans' policy has emerged in Ukraine, which is inherently flawed and ineffective. Instead of creating conditions for veterans' integration into civilian life conditions that would facilitate their economic independence, competitiveness and social mobility the state is effectively encouraging parasitic practices that are transforming into persistent patterns of dependence on budget payments. The provision of predominantly economic benefits (one-time payments, discounts on utilities, land rights, etc.) that are not accompanied by appropriate educational, socio-psychological and rehabilitation measures (vocational training, retraining, advisory support, career development programs) leads to veterans' social and psychological well-being remaining unchanged. In the absence of sustainable reintegration mechanisms a vicious cycle of dependence on benefits arises that fail to address systemic problems. Meanwhile, the social effectiveness of budget expenditures is minimal and veteran dissatisfaction is growing.

The problem is compounded by the growing number of veterans, as the current generation, aged on average 25 to 45, is active, highly motivated, digitally literate and socially engaged. Access to information has improved significantly, but access to decision-making processes at both the national and local levels remains limited, creating an imbalance between expectations and institutional capacity. According to an analysis of demographic and social trends, issues of social, legal and medical protection for veterans will remain relevant for at least several decades. Given security challenges the state must accelerate reform of the veterans' policy sector.

Particularly pressing issues include the transfer of benefits administration functions to local governments and the effectiveness of a unified automated system for veterans' services. In practice, most of the truly needed state guarantees are already being implemented at the local level: funding for discounts on utilities, free travel, medical care and the implementation of housing and land rights is provided either entirely through local budgets or through mixed schemes with partial subsidies.

Thus, from a legal perspective, the basic procedures are generally regulated and the transition to local administration will not require significant legislative changes. However, key risks relate to the unification of benefit provision standards, compliance with the principles of equality and non-discrimination (Article 24 of the Constitution of Ukraine [3]), and ensuring the financial capacity of communities to exercise delegated powers in accordance with the requirements of the Budget Code. The introduction of electronic systems for recording, monitoring and providing benefits is a potentially effective tool for increasing transparency. However, it requires comprehensive legal regulation from the protection of veterans' personal data to the creation of unified registries and integration with state information systems.

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THE IMPACT OF DIGITAL MARKETING COMMUNICATION CHANNELS ON PROMOTING SUSTAINABLE DEVELOPMENT INITIATIVES AMONG YOUTH

Over the past decade, digital platforms have become the defining environment in which young people consume information, form personal beliefs, and engage in social activism. In these conditions, the issue of spreading sustainable development ideas takes on a qualitatively new dimension, as modern communications not only facilitate access to knowledge but also create mechanisms for influencing the behavior of the younger generation. Digital marketing channels form a kind of "interaction ecosystem" where information is not imposed from above but is transmitted through a continuous dialog between users and with organizations that promote sustainable development initiatives in the environmental, social, and institutional spheres. Young people function naturally and effortlessly in digital spaces, making them the key entry point for promoting new models of responsible behavior.

Digital communication channels are characterized by the speed of information dissemination, interactivity, adaptability, and the possibility of message personalization. Unlike traditional media, where content was distributed linearly and one-way, social networks and digital services allow any user to become not only a consumer but also an active creator and distributor of information. This versatility is what makes them extremely effective in building public support for sustainable development initiatives. Young people today are much more likely to learn about climate change issues, waste sorting, alternative energy sources, or supporting local communities not from scientific sources, but through short videos, stories, interactive clips, or participation in digital challenges. This communication method is significantly below the perception threshold, opening up the possibility of engaging even those who were not previously interested in environmental or social issues.

The influence of visual platforms — TikTok, Instagram and YouTube — deserves special attention. They work on the principle of emotional engagement, where information is not just presented but experienced through images, rhythms, stories, and short humorous or motivational forms. Young people react much more actively to such formats than to rational arguments, making digital channels an effective tool for changing attitudes and shaping new behavioral patterns. Numerous videos about minimalism, reusing items, switching to reusable products, environmental life hacks, urban activism, or "green" experiments create a wide range of social models that a young audience can identify.

Equally important is the role of influencers — opinion leaders whom young people trust significantly more than official institutions. When bloggers, musicians, athletes, or authoritative educational content creators support a particular sustainability initiative, it creates a powerful motivational incentive for others to follow suit. The influence of influencers is not limited to the dissemination of information: they are capable of normalizing certain behavioral patterns, making them socially prestigious and fashionable. For example, sorting waste or refusing single-use packaging can be perceived by young people not as an obligation but as an attribute of a modern, progressive lifestyle. Thus, digital communications combine an educational function with the ability to shape new social norms.

Digital marketing communications also play a role as a tool for engaging in practical activities. In addition to information campaigns, young people often interact with volunteering platforms, environmental monitoring mobile apps, maps of local initiatives, digital public participation services, or educational websites that offer the opportunity to take an interactive course on sustainable development. The availability of digital tools makes participation convenient and accessible: there are no complex procedures required to join — just a few clicks are enough. Additionally, various gamification elements, such as earning points, rankings, individual

"achievements," or comparisons with friends, increase the desire to participate in projects because they transform environmental actions into an intriguing and understandable game.

The digital space also facilitates the self-organization and self-identification of youth communities that unite around the topic of sustainable development. In such communities, what's important isn't official calls but horizontal interaction, sharing experiences, discussing successful cases, and mutual support. Young people often perceive changes as starting "from the bottom up," so the very atmosphere of participation is valuable to them: the opportunity to be part of a movement that has real results. Digital communication channels guarantee constant feedback, providing the opportunity to see the impact of your actions through publications, updates, and interactive analytical tools. Such interaction creates a sense of significance, without which long-term inclusion in sustainable practices would be impossible.

Overall, digital marketing communication channels form a complex multi-level influence infrastructure where informational, motivational, emotional, social, and behavioral components interact simultaneously. Young people are not only gaining knowledge about sustainable development, but they are also joining digital communities, participating in projects, creating their own content, and spreading ideas among their peers. All of this allows us to speak of digital marketing as one of the most powerful tools for transforming societal practices, capable not only of informing but also of shaping new behavioral patterns and strengthening the civic responsibility of the younger generation.

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THE IMPACT OF THE SERVICE SECTOR ON THE TRANSFORMATION OF THE MODERN ECONOMY IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

In the global economy of the twenty-first century, a steady shift in structural proportions towards the service sector has become increasingly evident. Today, this sector represents not only the dominant share of GDP in most countries but also a fundamental driver of economic growth and social progress. The service economy plays a central role in the transition to a sustainable development model, where economic processes are combined with ecological responsibility, social equity, and the rational use of natural resources. Services generate new mechanisms of competitiveness, open opportunities for technological innovations, and transform the interaction between business, the state, and society.

The service sector differs fundamentally from material production, as its activity is primarily associated with the creation of intangible value — knowledge, information, service technologies, intellectual products, and digital solutions. This underlines its strategic importance in the shift toward a knowledge-based economy, which is essential for sustainable development. Unlike the industrial model, where growth depended on increasing volumes of physical resources, the service economy enables efficiency gains without exerting significant environmental pressure.

Structurally, the service sector has become the foundation for the emergence of new market segments. IT services, fintech, educational services, medical technologies, logistics, creative industries, consulting, digital marketing, cultural and recreational services are among the fastest-growing sectors influencing the transformation of employment and the formation of new competencies required for an innovation-driven economy. According to the European Commission [1], 80% of new jobs in EU countries are created specifically in the service sector, particularly in high-tech and knowledge-intensive domains.

In the context of sustainable development, the role of services becomes even more pronounced. Firstly, service-based models facilitate the implementation of "green" technologies without significant material consumption. Digitalization, remote service provision, resource management automation, online education, telemedicine, and shared-use models all allow economies to minimize environmental impact. Shared economy models — car sharing, equipment

rental, service hubs — reduce the demand for new physical goods and decrease the ecological footprint.

Secondly, the service sector strengthens social capital and improves human development. Medical, educational, cultural, informational, and social services create conditions for inclusion, reduce inequality, and provide access to knowledge and social integration. The availability and quality of services directly affect living standards — a key component of sustainable development. Within the UN Sustainable Development Goals (SDGs), the service sector is central to achieving Goals 3, 4, 10, and 11 [2].

A third important aspect of service-sector transformation is digitalization. Digital technologies increase productivity, ensure transparency, expand access to services — even in remote regions — and reduce the consumption of physical resources. E-governance, electronic procurement systems, mobile banking applications, smart energy management, digital educational platforms, and automated logistics systems all contribute to modernizing economic structures. According to UNDP [3], digital service development can reduce operational costs by up to 20% and substantially decrease the ecological footprint of public and private organizations. Innovative service models also play a crucial role in the transition to a green economy. Energy service companies (ESCOs) provide energy-efficiency solutions based on guaranteed performance; circular business models integrate product life cycles with service components; and green financial services — including green bonds, eco-loans, and sustainable investment funds — support environmental initiatives. Through services, environmental objectives are incorporated into business processes and management models.

The service sector also transforms business logic itself. Companies increasingly shift from single-product transactions to long-term service-based relationships, where customer experience, flexibility, digital communication, and social value become crucial. Marketing in this paradigm evolves into a tool for social influence, reputation management, and the promotion of responsible consumption. Thus, the service sector is not only a distinct part of the economy but also a strategic mechanism for transforming the entire economic system toward sustainable development. It shapes a new structure of employment, enables the transfer of knowledge and innovation, supports digital modernization, creates inclusive social opportunities, and minimizes environmental impact. In this sense, the service economy does not merely reflect contemporary trends but forms the foundation for the long-term resilience and sustainability of national and global economic systems.

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CONCEPTUAL PRINCIPLES FOR THE IMPLEMENTATION OF ECONOMIC EXPERTISE IN THE STRUCTURE OF THE NATIONAL ECONOMY OF UKRAINE WITH AN ORIENTATION TOWARD THE SUSTAINABLE DEVELOPMENT GOALS

The contemporary transformation of Ukraine's national economy is unfolding under the combined influence of several interrelated challenges: war-related threats and the destruction of economic infrastructure, deep structural imbalances, the need for integration into the European economic space, and the urgent requirement to rebuild economic resilience and competitiveness on fundamentally new principles. At the same time, Ukraine has declared its commitment to achieving the Sustainable Development Goals, which implies a shift in economic policy from the logic of short-term efficiency to the logic of long-term stability, inclusiveness, and resource efficiency.

Under these conditions, economic expertise becomes a key tool that ensures scientifically grounded evaluation of decisions, programs, projects, and reforms in terms of their impact on the architectonics of the national economy and their alignment with sustainable development principles.

In its broad sense, economic expertise refers to a systemic analytical process aimed at identifying the economic consequences of decisions made by public authorities, business entities, local communities, and other stakeholders. Economic expertise may take various institutional forms — forensic, regulatory, investment, fiscal-budgetary, tariff-related, tax, or environmental-economic — yet in any of these forms its core purpose is to identify risks, assess potential effects, and formulate recommendations for optimizing decisions. The conceptual foundations of implementing economic expertise imply that this instrument must not be applied sporadically but embedded into the continuous logic of the national economy as an integrated system.

The architectonics of the national economy of Ukraine can be understood as a structure of interconnected layers — macroeconomic, mesoeconomic (sectoral, regional, cluster), microeconomic (enterprises, households), and supranational (the European economic space, global markets). Decisions made at each of these levels shape the overall configuration of economic development, influence resource allocation, production structure, innovation dynamics, spatial organization of economic activity, and social outcomes. In the traditional paradigm of economic policy, control was exercised mainly through administrative, fiscal, or formal legal mechanisms. The sustainable development paradigm, however, requires a more sophisticated and scientifically grounded toolkit capable of capturing multidimensional effects — economic, social, environmental, institutional, and reputational. Economic expertise, integrated into decision-making processes, becomes precisely such a tool.

The conceptual principles for implementing economic expertise with an orientation toward the Sustainable Development Goals involve, first of all, its institutionalization as a mandatory component of policy development and decision-making. This means that major economic policy documents, draft laws, investment programs, national and regional development strategies must undergo independent, methodologically regulated expertise that evaluates not only fiscal impacts or short-term efficiency but also long-term effects on the sustainability of the economic system. Secondly, such expertise must rely on the principles of scientific validity, systemic reasoning, and transparency: the use of appropriate analytical models, openness of assumptions and methods, and verifiability of conclusions.

Orienting the expert evaluation process toward the Sustainable Development Goals adds an additional value dimension. Whereas traditional economic expertise was often limited to the criterion of economic feasibility, the contemporary approach requires integrating a triple logic: economic effectiveness, social justice, and environmental safety.

A key conceptual premise is the understanding of economic expertise as an internal component of the architectonics of the national economy rather than an external add-on to it. This means that expert functions must be integrated into the activities of core state institutions, local governments, sectoral regulators, the judicial system, audit and consulting organisations, as well as major corporate actors, especially in sectors of natural monopolies, energy, transport, and finance. Such integration presupposes the development of stable channels of data exchange, unification of methodologies, professional standards, a system of expert training, and compliance with ethical norms. In this sense, economic expertise becomes part of the information-analytical framework of the economy — ensuring completeness, reliability, and interpretability of data for decision-making.

Among the central principles of the conceptual model of implementing economic expertise are the principles of prevention, multi-level integration, inclusiveness, and responsibility. Prevention implies that expertise should be carried out at the stage of planning decisions, rather than only retrospectively, when negative consequences have already manifested in the form of debt crises, financial imbalances, social conflicts, or environmental degradation. Multi-level integration requires assessing decisions across various levels of the economic system — for instance, evaluating a tax reform not only in terms of its macroeconomic effect but also its impact on household finances, small and medium-sized enterprises, and local communities. Inclusiveness

means involving a wide range of stakeholders — businesses, civil society, and the academic community — in discussing expert conclusions, which enhances the legitimacy and quality of recommendations.

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THE POWER OF THE NEGOTIATION PROCESS IN THE ACTIVITIES OF MODERN POLICE

The power of negotiation in modern policing is evident primarily in its ability to reduce violence where the situation is rapidly escalating into a high-risk phase. Negotiations provide the police with a tool of influence that works through trust, emotional control, and the gradual return of a person to a more rational state, rather than through physical coercion. This is especially important during hostage-taking, barricading, suicide attempts, family conflicts, incidents of threats, and in cases where any mistake could result in the loss of life. Negotiations create time, and time is often a key resource that allows you to gather information, assess motives, clarify risks, prepare safe scenarios, and reduce the intensity of the confrontation. In the philosophy of the police service, negotiations reinforce the idea of serving society, as the priority becomes saving lives, minimizing harm, and reducing traumatic consequences for victims, suspects, and police officers themselves [1-2]. The negotiation process is of great value because it is a structured communication technology, not a random “skill in speaking”. The practice of crisis negotiations is built around a sequence of steps that include preparation, establishing contact, active listening, building empathy, building mutual understanding, achieving influence and safely ending the incident. In modern conditions, negotiations are increasingly used in suicidal crises, where the outcome depends on whether it was possible to reduce the level of emotional tension, restore a sense of support and convince the person to accept help. That is why modern approaches emphasize the quality of listening, the accuracy of paraphrasing, the correct reflection of emotions and the careful formation of trust, because without this, influence turns into pressure and can worsen the situation.

A special strength of negotiations in modern police is that they form professional standards of behavior in a crisis and support the manageability of complex operations. The negotiator often does not work in isolation, but as part of an organized system, where there is a division of roles, communication with the command, interaction with tactical units, medical services and psychological support specialists. This helps to avoid chaotic decisions, reduces the risk of escalation due to conflicting commands and increases the predictability of police actions for all participants in the incident. Studies of the professional path of police negotiators emphasize the importance of selection, training, supervision, as well as support after serious incidents, since working with crises accumulates psychological stress and affects the stability of the quality of communication.

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FISCAL AUTONOMY AS A KEY FACTOR FOR SUSTAINABLE DEVELOPMENT OF REGIONS IN UKRAINE

Amidst martial law and economic instability in Ukraine, local budgets have faced a critical need to overcome financial imbalances. The level of fiscal autonomy, determined by the ratio of own tax revenues to official transfers, serves as a key indicator of a region's resilience and its ability to independently finance social and economic needs, as governed by the principles of Ukraine's budget system [1]. The aim of this study is to assess the transformation of the local budget using the example of Khmelnytskyi Oblast during 2018–2024. This region was selected because the dynamics of its budget indicators clearly demonstrate a radical transformation of the revenue model: from critical dependence on official transfers to the dominance of own tax revenues.

To assess the level of fiscal autonomy, a structural analysis of Khmelnytskyi Oblast's budget revenues was conducted using base and chain methods based on data from the state web portal “Budget for Citizens” [2]. A visual representation of these structural changes is provided in Figure 1.

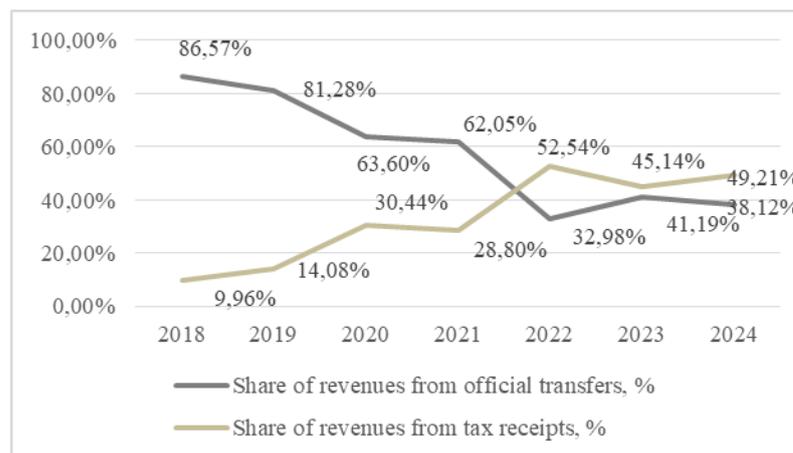


Figure 1. Dynamics of the Share of Tax Revenues and Official Transfers in the Local Budget of Khmelnytskyi Region (2018–2024)

Source: Compiled by the author based on [1]

The study revealed fundamental changes in the budget formation model. In the base year of 2018, the region was critically dependent on external state support: official transfers accounted for 86.57% of total revenues, while own tax revenues amounted to only 9.96%. However, by 2024, the share of official transfers decreased by more than half, falling to 38.12%. Conversely, the share of tax revenues increased significantly, reaching 49.21% of the total budget. In 2022, despite the start of the full-scale invasion, the region demonstrated significant resilience: tax revenues peaked at 52.54%, and dependence on transfers fell to its lowest level — 32.98%. This structural redistribution confirms the transition from a subsidized model to a model of financial self-sufficiency, driven by the need to adapt to reduced external funding during wartime.

Such a transformation has a direct impact on the social stability of the region. The growth in the share of own revenues increases budget flexibility: local self-government bodies gain the ability to promptly finance urgent needs (for example, support for IDPs or eliminating the consequences of emergencies) without waiting for state funds.

However, the transition to fiscal autonomy carries certain risks. The analysis highlights a critical reduction in development expenditures. In particular, spending on economic activity fell significantly, amounting to only 1.34% of total expenditures in 2024. This lack of investment in

infrastructure and economic projects poses a threat to long-term competitiveness and requires the search for alternative financing instruments, particularly the attraction of international grants.

The conducted study allows us to assert that fiscal autonomy is a fundamental prerequisite for the economic development of the region. First, the increase in tax revenues incentivizes local authorities to develop entrepreneurship and legalize shadow employment, as the success of local business entities is automatically converted into an increase in the community's financial resources through tax payments. Second, under martial law, fiscal autonomy becomes a factor of national security at the regional level. The ability to independently cover protected and critical expenditure items ensures swift decision-making and the uninterrupted functioning of the region's life support systems, regardless of the frequency of receipts from the state budget.

Thus, a high level of financial self-sufficiency is a critical condition for the region's survival. It transforms the budget system from a mechanism for distributing funds into a tool for stimulating the economy and a foundation for national security at the local level.

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SUSTAINABLE DEVELOPMENT IN THE CONTEXT OF FRAGMENTATION OF THE WORLD ECONOMY

Fragmentation does not lead to a chaotic state of the world economy – but instead of a global economy, the world becomes divided into geo-economic blocks with changes in the centers of economic power, spheres of influence of certain currencies, and so on [1].

To solve the problems of fragmentation of the world economy, it is necessary to solve four interrelated tasks: first, strengthening trade to increase its sustainability; second, strengthening joint actions to resolve the debt problem; third, modernizing cross-border payments; and, fourth, combating climate change-an existential threat that dominates all others.

From our point of view, the fragmentation of the world economy leads to the development and new filling of the main risks of the world economy at the global level, which cover both climate issues and their derived risks.

- Risks of unpredictable global shocks

Unpredictable global shocks, on the one hand, create prerequisites for the transition from globalization processes to fragmentation, on the other hand, fragmentation increases and develops precisely due to new unpredictable global shocks. Such upheavals can be illustrated by the coronavirus pandemic, aggression against Ukraine, and natural disasters that occur from time to time.

- Global warming risks

From the point of view of fragmentation of the global economy, taking into account the risks of global warming plays an important role. The risks of global warming have been identified for a long time. But it is in recent years that they have become most prominent.

- Food and water security risks

The fragmentation of the global economy directly affects such an important area as food and water security risks. Moreover, both from the point of view of fragmentation itself and from the point of view of the reasons that led to fragmentation, there are risks to food and water security. In

turn, the risks of food and water security in the context of the global economy concern the widest range of inhabitants of the planet.

- Risks of social conflicts

Fragmentation has a direct impact on the risks of social conflict, which is primarily due to a real threat to international peace and security. The effects of climate change are reflected in competition for resources such as land, food and water, as well as increasing socio-economic tensions and leading to mass migration of the population. Droughts in Africa and Latin America are a direct cause of political unrest and violence.

Fragmentation is a process that is developing in the world and significantly replaces the traditional parameters of globalization [2]. In fact, economic fragmentation is a counterweight to globalization processes. Fragmentation is one of the consequences of post-coronavirus development and the war in Ukraine and has prospects of dividing the world into geopolitical blocs with their own technical standards, reserve currencies and payment systems.

The fragmentation of the world economy is intensifying due the war in Ukraine. In this case: a) the war distracts efforts from solving issues of the world economy; b) the consequences of war for the world economy in the short and medium term are more than negative. The combination of these two factors increases the destructive impact of fragmentation and makes it extremely problematic to return the world economy to the level of globalization development of the previous decade. In addition, the factor of large-scale aggression against Ukraine leaves open a number of additional issues related to the end of military operations, the post-war restoration of the national economy, the alignment of political and economic forces in the world after that, and so on.

The fragmentation of the world economy implies, on the one hand, taking into account the shocks of the widest range, and, on the other, a fairly balanced approach to the choice of countries and international organizations as donors to the process of post-war reconstruction of the Ukrainian economy. This is due to a decrease in the volume of global financial resources that can be used for reconstruction, and an increase in the isolation of the world's countries on their own problems.

Fragmentation has a negative impact on the risks of the global economy, including climate risks. The main direction of the impact of fragmentation on the risks of the world economy is that the reversal of globalization processes itself distracts attention from solving global processes of humanity. If we add to this the sources of fragmentation itself, the further fragmentation develops, the further the main risks of the global economy will be beyond an adequate response. This fully addresses the risks of global warming, food and water security, natural disasters, and the risks of social conflict.

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DIVERSIFICATION OF EXPORT MARKETS FOR ENTERPRISES IN THE FLOUR MILLING AND CEREAL INDUSTRY AS A FACTOR IN THE STABILITY OF THE SECTOR

After 2022, the Ukrainian flour and cereal industry found itself under pressure from logistical constraints, changes in demand, and political barriers in traditional markets in Asia and Africa. In response, a significant portion of export flows shifted to EU markets, which affected the structure of supplies and created new opportunities, but also new risks for the stability of the industry [1, 2].

The purpose of the study is to evaluate the success of the export market diversification strategy (reorientation from Asia/Africa to the EU) for enterprises in the flour and cereal industry and to analyze its long-term prospects for the sustainability of the industry.

The paper analyzes official export statistics, reviews sectoral reports, provides a comparative analysis of the geography of supplies in the period up to 2022 and after 2022 marketing years, and conducts a SWOT analysis of diversification.

The results of the study showed a trend towards change in export destinations. In the 2024/25 season, a significant share of flour exports already goes to EU countries—about half of all shipments in the relevant sub-sector, which was the result of both temporary trade initiatives (Solidarity Lanes, temporary trade preferences) and the restructuring of logistics for export-oriented enterprises [1, 3].

Among the positive consequences of such reorientation are access to the large solvent EU market, higher price and quality requirements, more stable payments, and partial insurance against market shocks in Africa/Asia. However, the change in export directions is also associated with certain restrictions: EU quota and tariff mechanisms, political pressure from European producers (anti-dumping/quota decisions), logistics costs for land/river routing, and the need to comply with strict phytosanitary and certification requirements [2, 3].

In the short term, reorientation made it possible to preserve part of the export volumes and revenues during the blockade of the Black Sea routes; however, the total export volume and cargo flow remain sensitive to military-logistical factors and seasonality of production [3, 4]. Regarding the long-term prospects for stabilizing the industry, the following should be noted. Diversification in favor of the EU can be a sustainable factor only if: production standards are adapted to European regulations; investments are made in supply chains (land/river corridors, storage); political support is provided (trade agreements, possible adjustment of quotas/tariffs); simultaneous preservation of market share in other regions as a hedge against shocks in the EU. Without these conditions, increased dependence on the European market creates new point risks for the stability of the industry [1, 2].

Given the results of the study, it is advisable to outline the key areas for strengthening the export stability of the flour and cereal industry. The recommendations include the formation of bilateral logistics routes to the EU and alternative markets with investments in multimodal corridors [2], improving product compliance with EU standards through certification, compliance with phytosanitary requirements, and the introduction of modern quality management systems at enterprises [3]. It is also important to develop state mechanisms to support exports, such as grant and loan programs, information support tools, and strengthening diplomatic dialogue on quotas and market access [4]. In addition, it is advisable to pursue a policy of «smart diversification», maintaining a presence in traditional markets in Asia and Africa while balancing their share in line with logistical, market, and political risks [2].

Thus, diversification of export markets, in particular reorientation towards EU markets, has proven to be an effective short- and medium-term tool for preserving export revenues for the flour and cereal industry. To transform this process into a sustainable factor for stabilizing the industry,

targeted investments are needed in compliance with standards, logistics, and public policy that combines access to the EU with the preservation of alternative trade channels [1–4].

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REENGINEERING OF BUSINESS PROCESSES IN HEALTHCARE INSTITUTIONS AS THE BASIS OF THEIR SUSTAINABLE DEVELOPMENT

Business process reengineering (BPR) is an important condition for reforming the domestic health care system (HCS) and ensuring the sustainable development of medical institutions, as it is aimed not simply at improving individual aspects of their activities, but at radically transforming institutions in order to adapt them to new business conditions, constant challenges, growing competition and the need to constantly improve the quality and accessibility of medical services. It is the sustainable development of a health care institution (HCI) that determines its ability to function effectively, ensure its own competitiveness in the long term, be financially sustainable, introduce innovations, and meet the needs of society in providing quality services.

As domestic and international practice shows, BPR makes it possible to identify and eliminate bottlenecks in healthcare institutions, avoid duplication of functions, optimize costs, reduce excess inventory, increase labor productivity through process optimization and greater transparency, actively implement innovations, improve medical logistics, rationalize the utilization of medical equipment, and redesign business processes. Since the sustainable development of health care institutions is focused on patients and preserving their health, it involves constantly improving the standards of medical care. Optimization of processes, the introduction of scientifically based clinical protocols reduces the variability of treatment outcomes, reduces the risk of medical errors, and provides faster access for patients to the necessary medical services. In addition, BPR lays the foundation for increasing the innovative activity of health care institutions, as it requires the implementation of modern medical information systems (MIS), telemedicine, electronic medical records (EMR), and patient flow management, which is the basis for the further technological development of institutions.

The effectiveness of the activities and sustainability of each HCI largely depends on the level of personnel development, the formation of a corporate culture, staff involvement, the creation of a comfortable internal environment in the institution, and the elimination of unnecessary bureaucracy. This allows you to retain qualified and motivated employees, ensure coordinated teamwork of the staff, maintain proper morale in the team, which ultimately creates conditions for increasing the interest of employees not only in achieving high personal indicators, but also in implementing the strategic goals of the institution's development.

But it should be noted that the implementation of BPR in HCI is a complex and long-term process, which is accompanied by several specific problems and risks:

- resistance to change on the part of the staff, which, as a rule, can be caused by fear of losing their jobs, changing the usual working environment, or the need to master new technologies and methods of work;
- the complexity and multifaceted nature of medical processes, which include many interconnected stages, require the participation of various specialists and equipment, which complicates their fundamental redesign;
- insufficient qualifications and interest of the institution's top management, which is one of the main obstacles to successful BPR;
- limited resources and lack of qualified specialists in health care institutions who are knowledgeable in change management;
- problems with technology integration, since the digitalization of business processes and the construction of modern MIS is a complex and costly task;
- unreasonable and unrealistic goals regarding the scope, timing, budget, or results of the BPR project.

Among the main risks faced by HCIs when implementing BPR projects are the risk of reducing the quality of medical care, since improperly planned reengineering can temporarily disrupt established patient care processes; operational risks that can lead to certain disruptions in the current activities of the HCI during the transition period; financial risks associated with the possibility of exceeding the budget; legal and regulatory risks that may be due to non-compliance with legislative requirements, medical standards and protocols during process redesign; personnel risks that can lead to the outflow of qualified personnel; reputational risks associated with failure to achieve the goals of the BPR project or deterioration in the quality of patient care. Therefore, successfully overcoming these problems and risks requires careful project planning, effective change management, and the involvement of change management specialists.

Conclusions. Business process reengineering is not just a one-time project to optimize the activities of a healthcare institution, but a strategic approach to change management that forms the basis for the long-term, sustainable and competitive development of a medical institution. It allows you to create an efficient, flexible, and innovative healthcare system that can meet the requirements of the future.

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UNIVERSAL CORPORATE INTERACTION CODE AS A SOCIO-INFORMATIONAL BASIS FOR SUSTAINABLE DEVELOPMENT AND A PSYCHOLOGO-LEGAL TOOL FOR PREVENTING CROSS-CULTURAL CONFLICTS

In the current context of globalization, socio-informational factors have become key for the sustainable development of international corporations. The high speed of information exchange and the increasing importance of social capital create a need for effective management of multicultural teams. One of the main challenges remains cross-cultural conflicts, caused by differences in values, communication styles, psychological attitudes, and legal perceptions of normative behavior.

Research by T. Stanko, M. Davaei, M. Gunkel, V. Taras, K. Chu, F. Zhu, and R. Qawasmeh confirms that such conflicts are complex and require coordinated psychologo-legal mechanisms. In this context, the 5D Corporate Interaction Code (5D CIC) is proposed as a universal model that maintains the stability of the socio-informational environment and reduces the risk of conflict interactions.

To test the effectiveness of this approach, a survey was conducted among employees of international companies in Europe, Ukraine, the Caucasus, and Asia using CRSI, OCI, TKI, ICSI, E.

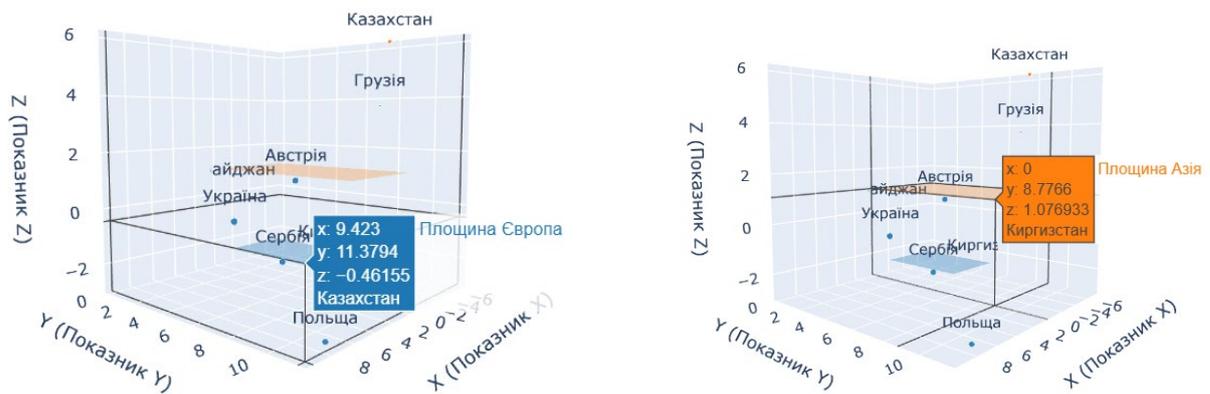


Figure 1. 5D Model of Survey Results (2025)

Hall tests, Orlova–Zhuravlyova methodology, and ME. The integrated results are presented as a multidimensional model in Figure 1. The 5D model shows regional differences in cross-cultural behavior: European teams demonstrate high individualism and cognitive flexibility; Ukrainian teams show the highest adaptability; Caucasian teams are more reactive; Asian teams demonstrate discipline and a tendency toward structured behavioral models. The indicators are grouped along three axes: X – cross-cultural attitudes and social orientation; Y – mediation effectiveness; Z – adaptability.

The results confirmed the need to coordinate psychological, legal, and socio-informational aspects of corporate interaction, which became the basis for the development of the universal 5D CIC. The psychological dimension includes the development of empathy, trust, and constructive dialogue. The legal dimension defines formal rules, mediation procedures, and responsibility of parties. The organizational dimension structures communication and response protocols. The socio-informational dimension ensures transparency in digital interaction and ethical communication standards. The strategic dimension aims to support sustainable development by reducing conflict and improving team effectiveness.

Thus, 5D CIC integrates psychological principles, legal norms, and socio-informational regulators into a unified system of corporate interaction. Its implementation enhances psychological safety, reduces conflict levels, strengthens legal and organizational stability, and supports the strategic resilience of international companies in multicultural environments.

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ANALYTICAL EVALUATION OF THE RESULTS OF THE ACTIVITY OF AN ENTREPRENEURSHIP SUBJECT USING COMPUTER TECHNOLOGIES

The digitalization of the business environment significantly changes the approaches to the analytical activity of an entrepreneurial entity in general and the evaluation of the results of its activities in particular. Traditional assessment methods based on retrospective analysis are giving

way to computerized approaches based on the use of specialized software products, analytical platforms and artificial intelligence technologies. The introduction of computer technologies is a determining factor that transforms the process of analytical assessment to a qualitatively new level. Therefore, the computerization of analytical work has turned from an automation tool into a key factor of competitiveness, which is the basis of the digital transformation of business.

Analytical assessment of performance is the process of studying financial and economic indicators to identify trends, influencing factors and reserves for improving efficiency. With the development of information technologies, this process has evolved from simple spreadsheet editors to complex integrated ERP systems, Power BI and Tableau, Big Data technology, machine learning and AI. Analysis of the existing chronology of the stages of using computer technologies in analytical assessment of performance showed existing trends of change from simple automation to intelligent analysis, which reflects the general trend of digital transformation of business [1].

In the conditions of business digitalization, computer technologies play a key role in the organization and implementation of analytical processes. The study of economic literature allowed us to identify the following main areas of their use [2]:

1) automation of routine analytical data processing, which concerns: the use of specialized software for quick calculations of performance indicators; the use of accounting information systems (SAP, BAS ERP) and the generation of real-time reporting;

2) business analytics (BI) and data visualization, which involves: using BI platforms (Power BI, Tableau, QlikView) for interactive analytics; building dashboards and dynamic reports; identifying trends, deviations and anomalies in significant amounts of data;

3) data mining and Big Data includes: analyzing large arrays of structured and unstructured data; applying clustering, segmentation, associative analysis algorithms and searching for hidden patterns and influencing factors;

4) predictive and predictive analytics for creating forecasting models based on historical data; using statistical methods and machine learning algorithms; calculating development scenarios and assessing risks;

5) artificial intelligence and machine learning in analytics, which combines: developing and implementing chatbots and expert systems; automating decision-making (AI-driven decision making); self-learning systems for market and consumer behavior analysis;

6) cloud technologies and SaaS platforms for storing and processing data in a cloud environment; use of Software-as-a-Service (SaaS) models for analytical data; remote access to data and analytical tools;

7) integration of IT into corporate management systems, which combines the use of ERP systems to integrate accounting, analytical and planning functions, automated data exchange between various departments and the construction of a single information base of the business entity.

Analysis of modern practice shows that the introduction of computer technologies significantly transforms traditional approaches to organizing analytical work at enterprises. The use of automated information systems, spreadsheets, business analytics, artificial intelligence technologies and cloud services allows processing large data sets much faster, more accurately and more efficiently. Thanks to the computerization of analytical processes, the following is achieved: efficiency in obtaining management information; reliability and accuracy of calculations; automation of routine operations, which frees up specialists' time for more complex analytical tasks; in-depth analysis using modern Data Mining and predictive analytics tools; flexibility in modeling various development scenarios; increasing the competitiveness of enterprises through more substantiated management decisions. At the same time, the widespread introduction of IT into analytical activities requires solving a number of challenges: from ensuring information security and data confidentiality to training qualified personnel who possess modern analytical tools

Thus, modern computer technologies allow for analytical data processing quickly, on a large scale and with a high level of accuracy. This provides managers, investors and analysts with new opportunities for making informed management decisions and increasing business efficiency.

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APPLICATION OF MACHINE LEARNING ALGORITHMS IN FORECASTING ECONOMIC INDICATORS FOR SUSTAINABLE SUPPLY CHAIN MANAGEMENT

In the contemporary global economy, sustainable supply chain management has emerged as a critical imperative for organizations aiming to balance economic viability with environmental and social responsibilities. The integration of machine learning algorithms into forecasting economic indicators represents a transformative approach, enabling more accurate predictions of demand, costs, and resource utilization. This not only optimizes operational efficiency but also minimizes waste and emissions, aligning with sustainable development goals. Traditional forecasting methods, such as time series analysis, often fall short in handling the complexity and volatility of modern supply chains influenced by factors like market fluctuations, geopolitical events, and climate changes. Machine learning, with its ability to process vast datasets and identify nonlinear patterns, offers superior predictive power. For instance, algorithms can analyze historical sales data alongside external variables such as economic indices and consumer trends to forecast key indicators like inventory turnover rates and profitability margins.

Among the prominent machine learning techniques, long short-term memory networks, a type of recurrent neural network, excel in capturing temporal dependencies in sequential data, making them ideal for demand forecasting in supply chains. Research demonstrates that LSTM models reduce forecasting errors by up to 20-30% compared to conventional methods, leading to better inventory management and reduced overstocking, which in turn lowers carbon footprints associated with excess production [1]. Similarly, random forest algorithms, an ensemble learning method, provide robust predictions by aggregating multiple decision trees, effectively handling multicollinearity in economic datasets. They have been applied to predict supply chain costs, incorporating variables like raw material prices and transportation expenses, thereby facilitating cost-effective sourcing strategies that support sustainability. Support vector machines, another key algorithm, are utilized for classification and regression tasks in forecasting economic risks, such as supply disruptions, by mapping data into higher-dimensional spaces to find optimal hyperplanes. Studies highlight their efficacy in integrating big data from IoT sensors in supply chains, enabling real-time economic indicator forecasts that enhance resilience [2].

The application of these algorithms extends to various economic indicators crucial for sustainable practices. For example, in predicting gross margin returns on investment, machine learning models analyze supplier performance and market dynamics to recommend eco-friendly alternatives, such as shifting to renewable energy sources in logistics. This predictive capability allows companies to anticipate economic shifts and adjust strategies proactively, fostering circular economy principles where resources are reused and waste is minimized. Empirical evidence from recent implementations shows that ML-driven forecasting improves supply chain agility, with companies reporting up to 15% reductions in operational costs and enhanced compliance with environmental regulations [3]. Moreover, deep learning models, including convolutional neural

networks, have been adapted for multivariate forecasting, combining economic data with satellite imagery for agricultural supply chains to predict yield and pricing indicators, thus supporting food security and sustainable farming.

Despite challenges like data quality and model interpretability, the benefits of machine learning in this domain are substantial. Hybrid models combining multiple algorithms often yield the best results, as they leverage strengths from each to handle diverse data types. For sustainable supply chain management, accurate forecasting of economic indicators not only drives profitability but also promotes ethical practices, such as fair labor costing and reduced ecological impact. As technology advances, the adoption of explainable AI will further enhance trust in these systems, encouraging wider implementation across industries. Ultimately, machine learning stands as a pivotal tool in achieving long-term sustainability, ensuring that economic growth harmonizes with planetary boundaries [4].

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MANAGEMENT OF ACCOUNTS PAYABLE

Accounts payable are short-term financial obligations of an enterprise to other entities: suppliers, contractors, and employees [1]. In a market economy, effective management of accounts payable is an integral part of financial strategy, as it directly affects the liquidity, solvency, and profitability of the enterprise [6,5].

The main task of managing accounts payable is to ensure an optimal level of debt, at which the enterprise has a sufficient liquidity reserve to fulfil its current obligations while not accumulating excessive debts that may cause a loss of financial stability [3,4].

Based on the work of V. Yu. Suprun and O. A. Koval [8], accounts payable, although being a short-term source of borrowed funds, may ultimately negatively affect the financial stability of the enterprise.

For effective management of accounts payable, the following tools are used: systematic monitoring of settlements with suppliers, analysis of invoice payment terms, formation of payment schedules, as well as concluding agreements with deferred payment. Effective management also includes negotiations on discounts for early payment or debt restructuring in case of financial difficulties [6]. One of the key factors in evaluating efficiency is the accounts payable turnover ratio, which characterizes the speed of debt repayment to business partners.

Accounts payable turnover ratio:

$$KO_{к3} = \frac{D}{\overline{K3}}$$

D – revenue

$\overline{K3}$ – average amount of accounts payable [7]

Excessive indebtedness may indicate liquidity difficulties, while too little debt may indicate inefficient use of borrowed resources. The optimal structure of liabilities assumes that short-term obligations should be covered by liquid assets, and long-term obligations — by the enterprise's fixed capital [3,4].

Management of accounts payable has several rather significant problems. Among them are an excessive volume of accounts payable, low liquidity of the enterprise, and excessive dependence on creditor financing. Problems also arise when market conditions change, as well as due to fluctuations in exchange rates and inflation. These issues threaten the effective functioning of the enterprise.

To solve them, it is necessary to increase the turnover of current assets, regularly analyse liquidity indicators, and also create automated control over the maturity of accounts payable. The enterprise also needs to analyse financial risks associated with individual suppliers. Such solutions will ensure the financial stability of the enterprise [3,2].

The enterprise must take into account currency risks, inflation fluctuations, and changes in supplier credit terms. In addition, it should take into account economic and political changes in the country and fluctuations in demand for products. Lack of control may lead to insolvency, which negatively affects the business reputation, trust, and credit rating of the enterprise. This complicates the attraction of investments and financing in the future [1,6].

Conclusion

Thus, the system of managing accounts payable must be flexible, transparent, and aimed at ensuring the stability of cash flows. Its purpose is not only the timely fulfilment of financial obligations but also the minimization of costs associated with raising short-term financing. Successful debt management policy helps reduce bankruptcy risks, improve financial stability, and build long-term partnerships with business partners. It also allows increasing investment attractiveness and creates prerequisites for sustainable development in a market economy.

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INNOVATIVE FINANCIAL INSTRUMENTS IN THE ECONOMY FOR ENSURING SUSTAINABLE DEVELOPMENT: THE ROLE OF GREEN TECHNOLOGIES AND FINTECH

In the modern world, where the annual financing deficit for sustainable development in developing countries reaches approximately \$4 trillion, innovative financial instruments play a critical role in mobilizing resources to achieve the UN Sustainable Development Goals (SDGs) and the Paris Climate Agreement. This thesis explores the intersection of economic innovations and the financial-economic aspects of sustainability, analyzing how green bonds, AI, blockchain, and other tools facilitate the transition to a green economy by optimizing investments and mitigating risks [1].

The evolution of sustainability financing has been marked by significant growth. Since the World Bank issued the first green bond in 2008, the green, social, and sustainability (GSS) bond market has expanded substantially, with cumulative green debt surpassing \$3 trillion by November 2025. Global GSS bond issuance reached \$495 billion in the first half of 2025, reflecting a dynamic market despite a 13% year-on-year decline. These instruments bridge the financing gap - estimated at over \$3.9 trillion needed annually versus \$1.4 trillion available - by channeling private capital into ecological and social projects. Examples include India's \$2 billion sovereign green bond issuance in early 2023 to support net-zero goals and Egypt's pioneering green bond in the MENA region [2].

Key innovations include:

1. **Digital Technologies in Finance:** AI enhances sustainability risk assessments by analyzing big data on weather, climate, and business indicators, automating reporting and detecting anomalies. Blockchain provides traceability through decentralized ledgers, enabling asset tokenization (e.g., carbon credits) and smart contracts for automated compliance. IoT sensors facilitate real-time emissions monitoring, improving ESG reporting accuracy [3].

2. **Alternative Instruments:** Emission reduction-linked bonds guarantee principal repayment while redirecting coupons to projects, such as Vietnam's \$50 million bond for clean water initiatives, benefiting 2 million schoolchildren and reducing nearly 6 million tons of CO₂. The Rhino Bond in South Africa supports wildlife conservation, while catastrophe (cat) bonds transfer disaster risks to private investors, exemplified by Chile's \$630 million issuance for earthquake protection [4].

3. **Economic Models:** Ecosystem regulations restrict funding for harmful projects, while complementary local currencies (CLCs) bolster local resilience and are compatible with European policies. Employee ownership models in SMEs encourage long-term sustainable investments [1].

Challenges encompass data shortages, interoperability issues, scalability, security vulnerabilities, and short-term ESG initiative costs in high-risk settings, which are often offset by long-term benefits like enhanced market stability and reduced emissions, as observed in firms adopting green practices. In conclusion, integrating these innovations can accelerate the green transition but necessitates financial system reforms, including debt swaps and taxonomies [5]. This fosters not only ecological but also economic resilience, enabling developing countries to break cycles of underdevelopment.

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STANDARDIZED ANATOMICAL TERMINOLOGY AS THE BASIS FOR SUSTAINABLE DEVELOPMENT OF MEDICINE

In modern medicine, standardized anatomical terminology serves as a fundamental pillar for the sustainable development of healthcare systems, extending beyond professional communication to ensure diagnostic accuracy, patient safety, and the interoperability of digital technologies. This unified language facilitates global knowledge exchange and the mobility of professionals, directly contributing to the stability of medical education and practice in accordance with the UN Sustainable Development Goals, particularly Sustainable Development Goal 3 (Good Health and Well-being).

The sources of terminology formation are associated with the means of the general literary language with borrowings from other languages and, first of all, with borrowings of international Greco-Latin term elements [1]. As a core component of medical discourse, anatomical terminology relies on these elements to ensure conceptual precision and international uniformity in the naming of structures of the human body. The ways of term formation coincide with the ways of word formation of a lexical unit, and three ways of term formation are distinguished: the use of existing word-forming resources, the transformation of resources available in the language, and the creation of a completely new linguistic unit [2].

The main ways of term formation are: I. Morphological ways of creation (affixation, stem- and word-formation, abbreviation); II. Syntactic way (formation of stable term combinations); III. Semantic ways (metaphor and metonymy, eponymy) [2: 4]. At the same time, the derivational characteristic of terms and, in fact, the morphemic analysis of a terminological unit makes it possible to facilitate the translation process not only in terms of finding equivalents, but also in constructing the definition of terms [4; 2], which is crucial for safe clinical communication and interoperability of medical data across languages and healthcare systems.

Among these, quasi-composition involving affixoids –transitional units between roots and affixes – represents a highly productive method for enriching the vocabulary [1]. The suffixal method creates systematic consistency, exemplified by the suffixoid -itis to denote inflammatory diseases [4], [1], while prefixation allows for the precise formation of antagonistic terms, such as the distinction between hypo- and hyper- [1], thereby supporting clear differentiation of physiological and pathological states. Semantic derivation further expands the lexicon through metaphor and eponymy [2], [3].

In the context of the United Nations Sustainable Development Goal 3 (Good Health and Well-being) [5], standardized and systematically organized anatomical terminology plays a

foundational role in ensuring the quality and sustainability of medical education, clinical practice, and scientific research. The use of productive word-formation models and internationally recognized Greco-Latin elements enhances terminological stability, reduces ambiguity in professional communication, and supports long-term sustainability of medical knowledge systems. Thus, anatomical terminology functions as an essential infrastructural element of sustainable healthcare, linking linguistic standardization with clinical safety and educational continuity.

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THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT IN MODERN ECONOMIC SCIENCE

In the context of modern global challenges, such as climate change, depletion of natural resources, growing social inequality, and economic instability, the traditional paradigm of economic growth, based on the extensive use of resources, has proven incapable of ensuring long-term and balanced human progress [1, p. 35]. The concept of sustainable development (CSD), first officially formulated in the UN Commission on Environment and Development report *"Our Common Future"* (1987) as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" [2, p. 14], is acquiring key importance in modern economic science.

The relevance of researching the theoretical and methodological foundations of CSD is driven by the need to rethink the goals and tools of economic policy, and to integrate environmental and social imperatives into the decision-making process at all levels—from global to local. Modern economic science is seeking new models that would allow combining economic efficiency with social equity and environmental sustainability. This requires a deep analysis of existing theoretical principles and the development of adequate methodological tools.

Theoretical approaches to CSD include various models: from moderate (ecological modernization of the existing system) to radical (dematerialization of the economy, H. Daly's theory of a steady-state economy). In particular, the concept of the "green economy" focuses on investments in renewable energy sources, environmentally friendly technologies, and sustainable agriculture, which ensures low-carbon development and efficient use of resources. The "circular"

economy model develops the idea of minimizing waste through the reuse, restoration, and recycling of products and materials, challenging the traditional linear "take-make-dispose" model.

The practical implementation of the theoretical foundations of CSD is the 17 UN Sustainable Development Goals (SDGs), adopted in 2015 as part of the 2030 Agenda [3]. These goals cover a wide range of issues—from eradicating hunger to ensuring affordable energy and creating resilient infrastructure. They serve as a universal indicator and a roadmap for governments, businesses, and civil society worldwide, allowing the measurement of progress and the evaluation of the effectiveness of implemented policies.

For Ukraine, the implementation of the SDGs is particularly important, as they form the basis for developing national development strategies, especially in the context of post-war recovery and European integration [4, p. 45]. The use of these indicators allows for the unification of approaches to assessing sustainability at the global level.

Thus, the concept of sustainable development represents a fundamental shift in modern economic science, offering a new paradigm that goes beyond traditional GDP-oriented growth. The theoretical and methodological foundations of the CSD require the integration of economic, social, and environmental goals, the application of a systemic approach, and adherence to the principle of intergenerational equity.

The implementation of this concept requires the transformation of economic mechanisms, the development of "green" financing, and the introduction of innovative models such as the circular economy. In Ukraine, the application of the CSD and the achievement of the SDGs are critically important for ensuring sustainable post-war recovery, increasing the economy's competitiveness, and ensuring a high quality of life for citizens. Further scientific research should focus on developing specific mechanisms for the financial support of these transformational processes.

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PROSPECTS FOR IMPROVING THE TAXATION SYSTEM FOR BUSINESS ENTITIES IN UKRAINE

One of the key prerequisites for the successful development of small business is the simplification of tax administration. In many countries around the world, facilitating reporting procedures, reducing the number of mandatory forms, and switching to electronic services have boosted entrepreneurial activity. Ukraine also has significant potential in this area. Further digitalization of accounting and reporting, including improving the functionality of the taxpayer's electronic cabinet and implementing integrated data exchange systems with banks, state registers, and statistical authorities, will reduce administrative burdens on entrepreneurs, lower accounting costs, and ensure transparency of financial flows.

The issue of stability in tax legislation is gaining particular importance. Frequent changes in regulatory acts, new accounting requirements, and the introduction or cancellation of tax incentives create an atmosphere of uncertainty that negatively affects the investment attractiveness of small businesses [1]. To create a favorable environment, it is necessary to ensure predictability in tax policy, in particular by establishing clear and long-term rules. This will allow entrepreneurs to plan their activities, invest in development, expand production, and enter new markets. In addition, it is advisable to introduce so-called “tax holidays” for startups and microenterprises during the first years of their activity, which would help new companies strengthen their financial base and consolidate their market presence.

An important area for improving the tax system for SMEs is the reform of the simplified taxation system. Today it plays a crucial role by providing a convenient and accessible mechanism for tax payments. However, the system needs to be updated in line with current economic conditions and challenges. In particular, it is advisable to revise the criteria that allow SME entities to switch to the simplified system, taking into account not only income level but also number of employees, ownership form, and type of activity. It is also worth considering the possibility of increasing the turnover limits for single tax payers, which would allow more enterprises to benefit from this system. At the same time, it is important to avoid situations where the simplified system is abused for tax evasion by large structures posing as small enterprises.

To improve transparency and efficiency in accounting, attention should also be paid to the professional training and support of accountants and entrepreneurs. Government bodies and professional associations can facilitate the creation of free or affordable educational programs, online courses, and consulting platforms where entrepreneurs can obtain up-to-date information on changes in accounting and taxation, and master modern methods of financial reporting [2]. This is especially important for enterprises in regions with limited access to quality consulting services or where the level of digital literacy is lower.

Another important perspective is the development of partnership-based relations between tax authorities and representatives of small and medium-sized businesses. Transitioning from a punitive approach to one centered on cooperation, introducing voluntary audit practices, ensuring transparency of inspections, and reducing corruption pressure from supervisory bodies can significantly improve tax discipline. If entrepreneurs see the state not only as a controlling authority but also as a supportive partner, they will be more inclined to work openly, report honestly, and pay taxes on time.

It is also necessary to consider European experience in the field of tax support for SMEs. Many EU countries implement government support programs for small businesses in the form of reduced VAT rates, tax incentives for hiring new employees, and stimuli for environmental investments and digitalization [3]. Applying similar approaches in Ukraine would not only improve business conditions but also help address broader socio-economic challenges, such as reducing informal employment, lowering unemployment rates, and increasing production efficiency.

Overall, improving the accounting and taxation system for small and medium-sized businesses is one of the prerequisites for sustainable economic development in Ukraine. If the above directions are implemented, SMEs will not only become the foundation of a stable economy but also a reliable partner of the state in achieving strategic goals.

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COST CONTROL: TOOLS FOR INCREASING TRANSPARENCY AND JUSTIFICATION OF COST CALCULATION

Effective cost control is one of the key elements in enhancing the transparency and justification of cost calculation, as it ensures a systematic approach to cost formation and managerial decision-making. Internal control serves as an integral component of the cost management process and operates at all stages of information flow—from the initial documentation of business transactions to the preparation of financial and managerial reporting. As emphasized by Sarapina O.A. and Misiura O.Yu., a well-organized system of cost control contributes to improving the reliability of data necessary for cost calculation and minimizes the risk of information distortion [1].

A significant role in increasing the reliability of accounting data is played by internal inspections and internal audit, which make it possible to assess compliance of costs with established norms, the correctness of overhead allocation, and adherence to the enterprise's accounting policies. By verifying the accuracy of primary documents and accounting registers, internal audit promotes the improvement of internal procedures and strengthens resource-use discipline. The results of such inspections serve as the basis for enhancing the cost management system and forming a justified cost of production.

Improving the cost control system is impossible without the use of modern methods of analytics and management accounting. Researchers pay considerable attention to the implementation of the ABC-costing system, which provides for the allocation of indirect costs according to the factors that drive them. This ensures more accurate cost formation and greater transparency of cost calculation, makes it possible to identify the most resource-intensive processes, and justifies investment decisions regarding production modernization. This method is particularly important for enterprises where the technological process includes several stages with varying levels of resource consumption.

To improve cost management efficiency, an important tool is the system of key performance indicators (KPI), which reflects the effectiveness of departmental activities and enables the assessment of resource utilization efficiency [2]. Regular monitoring of KPIs provides management with information on deviations from target parameters, allowing for well-grounded decisions regarding cost optimization. Research in the field of performance management shows that the use of KPIs enhances employee motivation and reduces production losses.

The organization of budgeting as an element of cost control is also an important direction for increasing transparency and justification of cost calculation [3]. The formation of departmental budgets for energy resources, materials, labor costs, and technical maintenance creates a foundation for strategic cost management. Monitoring budget execution ensures timely responses to deviations and supports the rational use of resources, as highlighted in studies on budgeting practices.

Thus, the cost control system is formed as a complex set of methods, procedures, and tools aimed at ensuring the accuracy of cost calculation, enhancing the transparency of accounting information, and promoting the efficient use of resources. The application of modern approaches—such as variance analysis, internal audit, ABC-costing, KPIs, and budgeting—ensures well-substantiated managerial decisions and contributes to improving the overall efficiency of enterprise operations.

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STRATEGIC DIRECTIONS FOR THE DEVELOPMENT OF SOCIO-ECONOMIC SECURITY OF CITIES (EUROPEAN EXPERIENCE)

In the current context of globalization, cities – as key hubs of socio-economic development – face the need to adapt to emerging challenges, which necessitates the formation of effective local security and resilience policies. Socio-economic security has become one of the fundamental prerequisites for sustainable urban development, as its level determines the stability of the local economy, financial capacity of communities, competitiveness of enterprises, quality of life, and the ability of territories to withstand internal and external threats. Globalization processes present both significant opportunities-access to innovations, dissemination of advanced technologies, expansion of economic networks, attraction of investments-and serious challenges. Among the latter are increased economic dependency on external markets, rising socio-economic inequality, financial flow instability, as well as risks such as cyberattacks, migration pressure, and disruption of local production chains.

In Ukraine, military actions pose an additional dimension of threats directly impacting the socio-economic security of urban areas. Major infrastructure destruction, loss of human capital, population displacement, increased pressure on social systems, and declining investment activity underscore the need for a strategic approach to urban security and development. Under these conditions, ensuring the sustainable development of urban socio-economic security becomes particularly relevant. This requires a comprehensive analysis of threats and opportunities, identification of development priorities, creation of effective management mechanisms, and formulation of strategic directions to enhance resilience [1-3].

It is essential to consider European experience, where municipalities have successfully implemented models of economic and infrastructure resilience, digital transformation programs, human capital development strategies, inclusive policies, and risk management approaches. In this context, it is advisable to highlight key strategic directions based on the best practices of European Union cities, which may be adapted to the Ukrainian context. A summarized description of these directions and corresponding European examples is presented in the table below.

Table 1. Strategic Directions for the Development of Urban Socio-Economic Security (European Experience)

Strategic Direction	Benefits for the City	European Example
Economic Resilience.	Diversification of the economy, creation of new jobs, increase in investment	Berlin (Germany): transition from an industrial to a mixed innovation-based economy; development of creative industries
Infrastructure Modernization	High-quality services, fewer accidents, development of transport infrastructure	Copenhagen (Denmark): modernization of the transport network, bicycle infrastructure, and energy-efficient systems
Financial Capacity of the City	Stable budget, access to investment, financial independence	Warsaw (Poland): issuance of municipal bonds for infrastructure development
Inclusive social development	Social stability, support for vulnerable groups	Stockholm (Sweden): social integration policy, municipal social hubs
Labor market resilience and human capital development	Employment, innovation growth, modern skills	Amsterdam (Netherlands): reskilling programs, technology parks, startup hubs

Safety and Green Transformation	Clean environment, lower costs, climate adaptation	Helsinki (Finland): Green City Strategy, 100% carbon neutrality by 2030
Digitalization and Smart City	Transparency, service efficiency, resource optimization	Barcelona (Spain): one of the most successful smart city systems in Europe

Thus, alignment with modern European practices enables Ukrainian cities to adopt effective strategic planning tools, implement innovative solutions in social, economic, and environmental spheres, strengthen financial autonomy, and foster partnerships and international cooperation. This creates a foundation for enhancing the resilience of urban systems, ensuring their competitiveness, and establishing favorable living conditions for the population in a dynamic global environment.

Given the outlined challenges and the need to build resilient urban systems, the identification of strategic directions for strengthening the socio-economic security of cities becomes especially important. European experience demonstrates that effective urban resilience management is based on a comprehensive approach that integrates economic, infrastructural, social, environmental, and governance solutions. The application of such models enables municipalities to reinforce their institutional capacities, respond more effectively to external threats, and create conditions conducive to sustainable development.

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RISKS OF INSOLVENCY OF ENTERPRISES DURING WARTIME AND FINANCIAL MECHANISMS OF ACCOUNTS RECEIVABLE MANAGEMENT

Due to the full-scale war in Ukraine, enterprises have faced multiple problems such as disrupted logistics, destruction of production facilities, inflation, currency fluctuations, and a shortage of qualified workers. Because of this, issues related to insolvency and the growth of accounts receivable have become most evident. While in the pre-war period enterprises could more predictably manage cash flows and rely on the timely fulfilment of obligations by counterparties, today many companies face payment delays, frozen capital in debts, and reduced liquidity. This only complicates current operations and increases the likelihood of bankruptcy. During the period from March 2022 to November 2023, **6,482 Ukrainian companies officially initiated liquidation procedures**, while the share of bankruptcies among closures increased compared with the pre-war period, indicating the impact of the war on the financial condition of enterprises [1].

As an example, one can refer to the airline **Ukraine International Airlines (UIA)**. In 2023, the **Kyiv Commercial Court** opened bankruptcy proceedings against the company [2,3]. The main reason was a sharp deterioration of its financial state after the closure of Ukraine's airspace. Air transportation, which was the primary source of revenue, came to a halt, while the costs of aircraft maintenance and technical servicing remained equally high. Court documents indicate the company's debt obligations to the state-owned **Ukreximbank (State Export-Import Bank of Ukraine)** — nearly 39 million UAH, which confirmed the inability to fulfil its financial obligations on time [4]. In addition, significant pressure is created by unstable financing. Banks have become more cautious in issuing loans due to increased risks, and the cost of borrowing resources has risen.

For many enterprises, this means limited access to working capital, making timely settlements impossible. Companies cannot reliably forecast demand, resource prices, or the stability of supplier operations. According to the **Kyiv School of Economics**, around 109 large and medium-sized enterprises have suffered substantial operational losses due to destruction or occupation, which directly affects their solvency [5]. Examples include enterprises located in frontline regions, particularly Donetsk and Kharkiv. The **National Bank of Ukraine (NBU)** report for 2022–2023 notes that banks limited new lending to companies in affected regions due to an increase in non-performing loans and high financial risks [6]. A clear example is agricultural enterprises in the Kharkiv region — despite maintaining stable financial indicators before the war, they still received refusals for ordinary working capital loans, as banks considered such lending too risky, effectively pushing enterprises toward debt accumulation and loss of solvency.

Before the war, accounts receivable were relatively predictable and did not create significant problems for enterprises, as counterparties generally adhered to payment terms, and the economic environment was fairly stable. However, with the outbreak of the war, the situation changed. Enterprises increasingly encountered partners unable to pay on time, and repayment periods became uncertain.

There are **three main ways** to address these problems. The first is to analyse all risk factors and reduce sales volumes during a period of economic uncertainty. However, this is very difficult because those responsible for sales volumes and profits are under pressure from owners, who expect results no lower than in the previous year. When plans are reduced, management often proposes cutting staff and lowering the salaries of those who suggested the reduction. As a result, employees — even knowing that such plans are impossible to fulfil — still set them as before. Because of this, the volume of goods received by distributors from the company cannot be sold in the planned quantities, leading to accounts receivable, since there is simply no money to pay for the goods and demand is lower than expected. Therefore, it is very important to realistically assess and plan the company's capabilities.

The second way is to determine which clients will be able to pay in full, which will be able to pay partially, and which are already unable to pay anything. This helps management make informed decisions regarding further actions, such as: shortening payment terms, requesting prepayments more frequently, conducting more thorough checks of new clients, and setting credit limits for them. It is also possible to agree on installment payments — this is better than simply waiting several months, as the business will receive at least part of the money and be able to cover current expenses.

The third solution is **factoring**. After signing an agreement between the enterprise, the distributor, and the bank, the enterprise sends goods to the distributor. After the distributor receives the goods, the enterprise immediately receives money from the bank and transfers to it the right to claim the receivables. Then the distributor must settle not with the enterprise, but with the bank.

A real example of a company that suffered significant financial difficulties during the war is **Metinvest**. Although the company remained solvent, it incurred losses and was forced to adapt in order to preserve financial stability. Since the beginning of the war, part of its assets — including metallurgical plants in frontline regions — were destroyed or temporarily shut down, leading to decreased production and significant losses [7]. Due to logistical and export problems, the risks of non-repayment of accounts receivable increased, and the company's revenue decreased **2.17 times** compared with pre-war levels [8]. To cope with the crisis, Metinvest reduced its debt burden, revised its terms of cooperation with buyers, adapted logistics and business processes, and continued servicing its loan obligations. Thanks to this, the company managed to maintain financial stability and, by 2024, restored profitability, although revenue and production volumes remain lower than pre-war levels. Comparing the beginning of the war with today, it can be said that Metinvest moved from critical pressure on liquidity and losses to stable functioning due to a comprehensive approach: financial discipline, debt restructuring, adaptation of business processes, and control of accounts receivable.

Key financial and operational indicators		>> Contents								
Group / Indicator	Unit	6	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Financials										
Revenues	US\$ mn	3	8 931	11 880	10 757	10 453	18 005	8 288	7 397	8 050
Adjusted EBITDA ¹	US\$ mn	3	2 044	2 513	1 213	2 204	7 044	1 873	861	957
EBITDA margin	%	%	23%	21%	11%	21%	39%	23%	12%	12%
CAPEX	US\$ mn	4	542	898	1 055	663	1 280	354	284	235
Total debt ²	US\$ mn	9	3 017	2 743	3 032	2 937	2 242	2 077	1 981	1 705
Cash and cash equivalents	US\$ mn	6	259	280	274	826	1 166	349	646	657
Net debt ³	US\$ mn	8	2 298	2 463	2 758	2 111	1 076	1 728	1 335	1 048
Production										

The table is based on data from [8].

1. **Revenues** – money received from the sale of products and services. A decline from 18,005 million in 2021 to 8,288 million in 2022 shows that the war seriously affected sales and demand. [8]

2. **Adjusted EBITDA** – an indicator of the company's operating efficiency. There is a drop from 7,044 million (2021) to 1,873 million (2022) and further to 861 million (2023). This means that even with continued production, the company began earning significantly less from its core activities. [8]

3. **EBITDA margin (%)** – the percentage of EBITDA profitability relative to revenue. A decrease from 39% to 23% and then to 12% indicates that the war not only reduced income but also increased costs, lowering profitability. [8]

4. **CAPEX (Capital Expenditure)** – funds spent on equipment renewal and investments. The decline from 1,280 million in 2021 to 235 million in 2024 shows that the war limited investments in development, modernization, or new assets. [8]

5. **Total debt** – the company's overall indebtedness. The gradual decrease (from 2,242 million in 2021 to 1,981 million in 2022 and 1,705 million in 2023) indicates debt restructuring and a reduction of financial obligations. [8]

6. **Cash and cash equivalents** – money available for quick use. Sharp fluctuations (from 1,166 million in 2021 to 349 million in 2022 and 646 million in 2023) show the impact of the war on liquidity: an initial sharp decline followed by partial recovery. [8]

7. **Net debt (total debt – cash)** – reflects real debt pressure. A decrease from 1,728 million in 2022 to 1,335 million in 2023 indicates that the company managed to reduce risks through cash flow review and control. [8]

These indicators for 2021–2024 demonstrate the significant impact of the war on the company's operations. Revenue and adjusted EBITDA sharply decreased, while EBITDA profitability fell substantially, indicating reduced income and increased costs. The significant reduction in capital expenditures limited investments in development and modernization of assets. At the same time, the company succeeded in reducing total and net debt, partially restoring cash reserves and controlling liquidity, which reflects effective cash flow management. Overall, despite crisis conditions, Metinvest demonstrated the ability to adapt to the wartime environment and maintain financial resilience.

The full-scale war has complicated the financial operations of many enterprises, leading to increased insolvency and growth of accounts receivable. Problems arise due to the destruction of production facilities, disruption of logistics, economic uncertainty, and limited access to financing. The examples of UIA and Metinvest show that even large companies were forced to adapt, applying financial mechanisms for debt management and revising cooperation terms with counterparties to maintain liquidity and financial stability. Therefore, a systematic approach to financial control and adaptation of financial processes is a key factor for enterprise survival during wartime.

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DIRECTIONS OF REGULATORY ENSURANCE OF THE USE OF ARTIFICIAL INTELLIGENCE ON THE EUROPEAN LABOR MARKET

The digitalization of the world economy is one of the leading global challenges that outline the strategic guidelines for the civilizational development of mankind. Its main innovative component is the intensive use of artificial intelligence (AI) in all spheres of social production. As an object of application of artificial intelligence, it is advisable to consider the European labor market. The content of the latter is considered in relations between interested European countries regarding the mutually beneficial achievement of a combination of supply and demand for labor and the creation of modern conditions for its direct effective functioning and reproduction at a qualitatively higher level. In this regard, the regulatory support for the use of artificial intelligence in the European labor market allows for prompt and comprehensive clarification of issues regarding the terms of the contract for hiring labor, improves the technical, technological, and managerial basis of the production process, increases its productivity, strengthens the nature of labor, forms a rational regulatory basis for the sale of manufactured products and proper reimbursement of labor costs for workers.

In general, the regulatory support for the use of artificial intelligence is reflected in a number of European Union documents, such as General Purpose AI, GPAI, etc. [1]. As for the regulation of the use of artificial intelligence in the European labor market, taking into account the prospects for the implementation of this process, the following areas should be highlighted. As one of the main ones, the role of artificial intelligence in robotization and automation of production processes should be noted, which ensure their innovative modernization and increase the efficiency of their entrepreneurial activity. But, at the same time, this leads to the disappearance of professions related to manual labor and the growth of unemployment in recipient countries. Regulatory regulation of this impact of artificial intelligence involves the creation of institutional support for the retraining of workers in the direction of mastering new professions, in particular those related to the use of the advantages of artificial intelligence, digital literacy.

Important areas of regulatory support for the use of artificial intelligence, in particular, in the EU labor market are the use of digital technologies in solving employment issues, personnel management, monitoring their work, drawing up production programs, etc. As a means of preventing risks from the use of artificial intelligence, special attention should be paid to the possibility of human rights violations. This includes compliance with the ban on the use of biometric data of people, surveillance cameras, and the introduction of restrictions on the use of artificial intelligence in the areas of critical infrastructure, education, healthcare, banking, and justice.

In terms of the safety of using artificial intelligence, regulatory areas include the development of standardized requirements for the implementation and operation of robotic systems, determining indicators and risks of automation of production processes, and addressing the negative impact of artificial intelligence on the safety of workers and the environment.

The ethical component of the normative use of artificial intelligence is of particular importance. In the context of labor migration to European countries, automation of productive systems, border protection, establishment of norms for the volume of migrants and their possible social support are of greater importance. Important ethical normative directions for regulating artificial intelligence should be considered to be the protection of copyright, limiting the influence of digital technologies on the formation of political views, electoral systems, and establishing norms for the delineation of citizens' use of legal systems of artificial intelligence.

It is worth noting separately the influence of regional factors of labor market development in European countries on the regulatory use of artificial intelligence. First of all, this concerns the recent forced emigration of workers from Ukraine to the European Union as a result of the military aggression of the Russian Federation. In particular, in 2025, Poland accepted 996 thousand people, Germany 1 million 200 thousand people, and the Czech Republic 386 thousand people [2]. Among immigrants from Ukraine to the European Union, 65 thousand IT sector specialists are included, of which 25 thousand people (39%) work in Poland. Of course, a significant number of emigrants from Ukraine to Poland [3] and their long stay also affect a certain adjustment of the regulatory regulation of artificial intelligence in the EU and its coverage. This is generally an additional factor in the expansion of the European labor market, including in terms of its regulatory regulation through the balanced use of the advantages of artificial intelligence. This is, in general, an additional factor in the expansion of the European labor market, including in terms of its regulatory regulation, through the balanced use of the advantages of artificial intelligence.

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SUSTAINABLE DEVELOPMENT AS A COMMUNICATION CHALLENGE IN THE CONTEXT OF NEUROMARKETING AND BEHAVIORAL PROFILING

Sustainable development requires not only economic and institutional frameworks but also effective communication strategies capable of shaping social attitudes and changing consumer behavior. Research indicates that traditional forms of communication based solely on rational arguments often fail to produce lasting attitudinal change [1]. In response to these challenges, approaches grounded in behavioral sciences are gaining increasing importance, particularly neuromarketing and behavioral profiling, which enable the analysis of recipients' cognitive and emotional responses [2].

Neuromarketing and behavioral profiling are becoming increasingly important communication tools used in the planning and implementation of sustainable development strategies, as they allow for a deeper understanding of the cognitive and emotional mechanisms influencing social and consumer attitudes and behaviors. Neuromarketing is an interdisciplinary field that integrates neuroscience, psychology, and marketing in order to better understand consumer decision-making processes. Contemporary research employs methods such as

electroencephalography (EEG), eye-tracking, and physiological response measurements, which make it possible to identify levels of attention, emotional engagement, and motivation [3]. The integration of neuromarketing with marketing communication enables the design of messages that are better aligned with the actual cognitive processes of recipients, thereby increasing the effectiveness of communication campaigns [2]. Empirical studies confirm that sustainability-related messages developed using neuromarketing tools generate higher levels of attention and emotional engagement among audiences than neutral messages [4].

Behavioral profiling, in turn, enables audience segmentation not only on the basis of demographic characteristics but primarily according to behavioral patterns, emotional responses, and decision-making preferences [5]. In the context of sustainable development, behavioral profiling facilitates the identification of barriers and motivators of prosocial and pro-environmental behaviors, which is of crucial importance for planning effective communication strategies. Emotions and the framing of messages play a particularly significant role, as they influence behavioral intentions and the willingness to undertake actions consistent with the principles of sustainable development.

The analysis of the literature indicates that neuromarketing and behavioral profiling may constitute valuable and effective tools supporting communication for sustainable development, provided that they are applied in a responsible, transparent, and ethical manner [1]. The integration of insights from neuroscience, behavioral sciences, and marketing communication enables the design of messages that are better aligned with the actual cognitive and emotional mechanisms of recipients, thereby enhancing audience engagement and overall communication effectiveness.

Conclusions

The strategic use of neuromarketing and behavioral tools allows for more precise planning of educational, social, and marketing campaigns aimed at promoting prosocial and pro-environmental attitudes. As a result, such approaches may contribute to long-term changes in social and consumer behaviors and to strengthening public acceptance of sustainable development goals [4]. At the same time, it should be emphasized that the effectiveness of these communication initiatives depends not only on the sophistication of the applied methods but also on the level of public trust and the transparency of communication processes.

In light of the above considerations, neuromarketing and behavioral profiling should not be perceived as instruments of manipulation but rather as components of a responsible and ethically grounded communication strategy oriented toward the social good. When applied appropriately, these tools have the potential to support the implementation of sustainable development objectives by fostering informed, responsible, and lasting behavioral change at both individual and societal levels.

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TAX INCENTIVES FOR GROWTH IN THE PASSIVE INCOME OF UKRAINIAN HOUSEHOLDS

The globalization of the world economic space, against the backdrop of exogenous and endogenous shocks, exacerbates issues related to the culture of forming and actively utilizing passive income among households. The full-scale invasion of Ukraine has led to an increase in the risks of households not receiving or receiving insufficient income through traditional channels. In conditions where the issue of ensuring the financial stability of households is constantly becoming more acute, stimulating passive savings can become a way to maintain an adequate level of income for the population in a country at war.

The essence and characteristics of the concept of “passive income” have been considered by various authors. Thus, O. M. Bukhanevich considers passive income to be income that does not require the continuous personal participation of its owner or arises as a result of transactions with previously formed assets [1]. There is also a definition of passive income as the result of investing in property and property rights in objects permitted by law [2]. Karnauchenko A. S., Petrenko V. S., and Lopatnyov D. K. [3] define the diversity of passive income sources as manifested through their diversification. [2]. Karnauchenko A. S., Petrenko V. S., and Lopatnyov D. K. [3] determine that the diversity of sources of passive income manifests itself through their diversification in terms of investment periods, profitability levels, the amount of funds invested, and industry affiliation. However, the issue of tax incentives to increase the passive income of Ukrainian households under martial law has not been sufficiently studied and requires further elaboration.

The purpose of this work is to substantiate the role of tax policy in stimulating the growth of passive income of Ukrainian households, to study the peculiarities of taxation with regard to the main types of passive income, and to outline areas for improvement with a view to increasing the investment activity of the population and the financial stability of households in the context of current political and socio-economic challenges.

Ukraine's current tax policy provides for the taxation of passive household income with personal income tax (PIT) at a rate of 18% and military tax (MT) at a rate of 5% for most types of income [4]. Interest income on deposits, income from debt securities (except for certain government instruments), investment income, rental income, royalties, and copyright royalties are taxed in the usual way, which significantly reduces their attractiveness. Dividends accrued by residents of Ukraine (PIT – 5%) and dividends from non-residents or joint investment institutions (PIT – 9%) are distinguished. Domestic government bonds (DGB) and military bonds occupy a special place in the passive income system, as income from them is exempt from taxation, which significantly increases the attractiveness of this instrument for households and contributes to the accumulation of domestic investment resources [4].

Deposit transactions and real estate rentals remain the most popular sources of passive income among Ukrainians. These sources of income generate low investment returns and carry increased risks in wartime. In our opinion, effective tax policy instruments can encourage Ukrainians to shift their focus, as the policy of exempting government bonds and military bonds from taxation has significantly improved the attractiveness of certain financial instruments. There is also a reduction in the tax burden on dividends at the personal income tax level, but the underdeveloped stock market in Ukraine has negated this advantage. In our opinion, it is worth improving the preferential taxation system for households using the following sources of passive income: investment income, provided it is reinvested; rental income, royalty income, and copyright royalties, provided they are legalized and properly documented. Simplifying the administration of passive income taxation is also of significant importance. The implementation of these measures, taking into account international practices, will contribute to the growth of financial activity among

the population, the expansion of the investment potential of households, and the formation of long-term internal sources of economic development in Ukraine.

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DIGITALIZATION OF THE ATHLETICS COMPETITION SYSTEM

The digitalization of the athletics competition system begins long before the starting gun, because modern tournaments rely on a single digital circuit that combines participant registration, team accreditation, formation of start protocols, draw of races, timeline management and distribution of work tasks between judges and technical services. Data on athletes, applications for disciplines, admissions, substitutions, as well as schedule changes must be updated synchronously, otherwise errors occur in the start lists, on the scoreboard and in the information channels. Therefore, organizers build digital procedures for version control, logging of actions and rapid approval of decisions so that the competition secretariat receives confirmed data and teams see up-to-date information without delay. A separate layer of digitalization concerns document flow, when protests, clarification of results and service messages are recorded in the system, which reduces the risk of information loss and simplifies verification of who made the decision and when [1-2]. During the starts themselves, digitalization is most noticeable in the subsystems of recording results and refereeing control, where fully automated timing with photo finish is key, as well as transponder timing systems for starts outside the stadium and for intermediate marks and lap counting. The World Athletics regulations explicitly state that different timing methods are officially recognized, and in the case of fully automated timing and photo finish or transponder timing, appropriate judges are appointed to ensure the correctness and redundancy of the procedure. This means that digital means do not just speed up the work, they become part of the regulations, and require technical readiness, accuracy checks, as well as coordinated data exchange between cameras, starting devices, scoreboards and the results server. In the jumping and throwing sectors, digitalization is manifested through electronic devices for recording distances and synchronizing attempts with the protocol, which facilitates control of the order, time per attempt, fouls and confirmation of final values.

After the finish, digitalization continues in the form of rapid publication of results, formation of rating tables, automated reports for federations and media, as well as creation of a data archive for further analysis. For spectators, this means almost instant updates of protocols and visualizations, and for teams, it provides a basis for a detailed assessment of the dynamics of the races, the stability of the start, the distribution of speed by segments and the quality of the execution of technical elements. Importantly, digitalization makes issues of cyber resilience and reliability critical, since a network failure or an integration error can affect both the scoreboard and the

broadcast, and the official protocols. Therefore, in practice, backup scenarios, channel duplication, local data storage, as well as training of judges and technical teams to work according to the recovery procedure are implemented. In parallel, more accessible solutions for local starts are being developed, including research-proven approaches to digital timekeeping through mobile apps and low-cost tracking systems that do not replace the stadium standard, but increase organizational discipline and transparency in grassroots sports.

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DIGITALISATION OF GMP PROCEDURES AND CORPORATE SOCIAL RESPONSIBILITY

The digital transformation of modern production processes is a key factor in improving the efficiency and safety of goods, especially in areas where GMP (Good Manufacturing Practice) standards are applied. GMP standards define a set of requirements for production conditions, quality control, process documentation and product traceability. Traditionally, compliance with these requirements was based on paper-based document flow and manual control, which created risks of errors, delays, data loss and reduced production transparency. In the context of today's challenges – market globalisation, stricter product safety requirements and growing consumer expectations – the digitalisation of GMP procedures is becoming not only a technological innovation but also an element of corporate social responsibility.

Digital tools such as e-logbooks, eQMS, EBRs, and QR code and blockchain-based traceability systems provide a significantly higher level of control over the production cycle. They enable automatic recording of deviations, monitoring of critical parameters, and real-time validation and verification. This allows companies to minimise the human factor, prevent fraud and errors, and respond more quickly to incidents.

A striking example of the practical implementation of GMP digitalisation in Ukraine is the experience of the pharmaceutical company Farmak, which has introduced a comprehensive electronic quality management system (eQMS), electronic production records (EBR) and digital traceability tools. The company has transitioned from paper-based document management to an integrated platform that covers deviation control, change management, CAPA processes, and the creation of electronic batch records. This has reduced documentation processing time, lowered the risk of errors, increased production transparency and accelerated GMP audits. In addition, the QR batch identification system allows products to be quickly traced at all stages of the logistics chain, which builds consumer confidence and supports corporate social responsibility [1].

One of the key effects of digitalisation is increased transparency of production processes. This is important not only for internal control within the company, but also for external stakeholders – consumers, partners and regulatory authorities. Electronic traceability allows for the rapid identification of potentially risky product batches and the organisation of targeted sampling or recalls. As a result, the enterprise strengthens its reputation, demonstrates responsibility to society, and increases trust in the brand.

Corporate social responsibility in the context of GMP is not only about formal compliance with regulatory requirements, but also about a voluntary commitment to ensuring the highest level of product safety. The implementation of digital solutions is a tool that allows companies to stay ahead of the curve, preventing risks before they arise. From a sustainable development perspective, digitalisation contributes to the optimisation of resource use: reducing the amount of paper documents, reducing energy consumption, optimising logistics and increasing the overall productivity of the enterprise. This is in line with the principles of environmental responsibility, which are part of corporate social responsibility.

In addition, digital GMP systems are shaping a new culture of safety within companies. Employees gain access to interactive instructions, training modules, and automatic reminders about critical actions. This increases their engagement and responsibility, reduces the risk of human error, and creates an effective model of corporate behaviour. Corporate social responsibility is also manifested in ensuring safe working conditions and minimising risks for personnel.

An important aspect of the digitalisation of GMP procedures is the ability to integrate such systems with other production management tools – ERP, CRM, SCM. This makes it possible to create complex ecosystems in which management decisions are based on accurate data and predictive analytics. In turn, this contributes to improving product quality, reducing costs and increasing the competitiveness of the enterprise in the international market. This is particularly relevant for Ukrainian manufacturers who seek to meet EU requirements in the context of integration into European supply chains.

Thus, the digitisation of GMP procedures is not only a technological trend but also an important component of corporate social responsibility. It contributes to greater transparency and efficiency in production processes, ensures the protection of consumers and staff, supports environmental sustainability, and strengthens public trust in companies. In the context of today's challenges related to global competition and sustainable development requirements, the introduction of digital tools in the field of GMP is becoming a strategic necessity and a sign of responsible business.

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SUSTAINABLE DEVELOPMENT OF THE AGRICULTURAL MARKET AS A FACTOR OF ECONOMIC STABILITY

The agricultural sector is a key and strategically important component of Ukraine's national economy. Its functioning plays a decisive role not only in ensuring the country's food security and satisfying the domestic population's needs for basic food products, but also in meeting the needs of the foreign market. The agricultural sector has a significant impact on the formation of the country's export potential and its competitiveness in global markets. Ukraine occupies a leading position among global producers and exporters of agricultural products thanks to its significant natural resources and production capabilities. In this regard, research into the characteristics of the agricultural sector's development is particularly relevant in the context of sustainable development.

The issues of state regulation, sustainable development, and food security in the agricultural sector of the economy have been thoroughly researched in the scientific works of V. Megley [1], I. Tymashchuk and E. Borbolyuk [2], S. Gerasymchuk [3]. The works of these authors analyze the key mechanisms of state influence on the development of the agricultural sector in the context of

modern socio-economic challenges. Particular attention is paid to issues of improving the effectiveness of agricultural policy and strengthening the country's food security.

At the present stage, Ukrainian products occupy an important place in the international agricultural market, which determines the strategic role of the Ukrainian agricultural market. Ukraine supplies significant volumes of cereals, legumes, and other types of agricultural products. This determines its significant role in the formation of global food supply chains [4].

Wheat, corn, and soybeans dominate the structure of Ukrainian exports, while the dominance of raw material exports limits the formation of added value in the Ukrainian market. In 2021–2023, there were significant fluctuations in the structure of exports of these crops, with a gradual recovery of supplies in 2023 and an increase in exports of soybeans and corn, reflecting the adaptation of the agricultural sector to new economic and regulatory conditions. In 2021, soybean exports amounted to 1.1 million tons, and in 2022, soybean exports increased to 2.0 million tons, indicating a change in the structure of agricultural exports under the influence of external and internal factors. In 2023, soybean exports amounted to 3.5 million tons. In the period from September to July 2024–2025, soybean exports from Ukraine reached 3.97 million tons thanks to the large harvest in 2024 and favorable prices. The introduction of export duties in 2025 shifted the market focus to soybean oil and meal and led to an increase in soybean processing capacity in the Ukrainian market [5].

The main reason that prompted producers to process soybeans on the domestic market was the introduction of export duties on soybeans. The introduction of a 10% export duty created significant documentary barriers for farmers, as the legislative exemption for domestic producers is not accompanied by a clear mechanism for confirming the right to a duty exemption with customs authorities. The practice of paying a guarantee deposit, which is refunded later, leads to the freezing of financial resources of farmers and traders, limiting their liquidity and opportunities for foreign economic activity. As a result, the market structure is changing, domestic processing enterprises are becoming more attractive to producers, offering faster and more stable payments, which at the same time reduces soybean exports to foreign markets, focusing on the export of oil, soybean meal, and oilcake.

The agricultural sector of Ukraine is a strategically important sector of the national economy, playing a key role in ensuring food security, meeting the domestic needs of the population, and forming the country's significant export potential. The dynamics of grain exports in 2019–2024 indicate that the performance of agricultural production is highly dependent on a complex of internal and external factors, including crop yields, global price fluctuations, logistical constraints, and political risks. The main problems facing exports are unstable global prices, limited transport infrastructure, administrative and regulatory barriers, low levels of investment in storage and processing, and dependence on regulatory acts. The introduction of a 10% export duty on soybeans has led to changes in the market structure, encouraging producers to increase domestic processing capacities, which increases the profitability and stability of farmers' incomes. The increase in soybean acreage from 1.84 million hectares in 2023 to 2.032 million hectares in 2024 demonstrates the adaptation of agricultural producers to new conditions and their focus on the development of the agricultural market [5].

To ensure the sustainable development of the industry, it is necessary to improve agricultural technologies, modernize logistics capacities, and regulate regulatory and legal procedures, which will increase the efficiency and competitiveness of the agricultural sector at the national and international levels. Thus, a comprehensive approach to state regulation, production, and processing activities creates the conditions for strengthening economic security and sustainable development of the agricultural market in Ukraine.

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UNIQUE OPPORTUNITIES TO INCREASE WORK EFFICIENCY AT AN ENTERPRISE THROUGH THE IMPLEMENTATION OF A TIME MANAGEMENT SYSTEM

The implementation of a time management system in an enterprise opens up unique opportunities for increasing efficiency, because time is transformed from an abstract resource into a manageable element of processes. When a company formalizes planning rules, priorities, task performance standards, communication regulations, and decision-making procedures, a significant part of hidden losses disappears. Such losses include chaotic assignments, duplication of work between departments, delayed approvals, excessive meetings, frequent interruptions, and constant switching between tasks [1-2]. The time management system allows for a clearer alignment of employee workload with enterprise goals, increased predictability of order fulfillment, and reduced operation cycles, which directly affects service quality and competitiveness. It is important that this approach works not only in office functions, but also in production, logistics, and service, as it strengthens process discipline and makes dependencies between areas more transparent. Thus, the enterprise as an open socio-economic system gets more results with the same resources, and managers stop «putting out fires» and switch to managing priorities and the rhythm of work.

Tools can be corporate calendars, uniform rules for setting tasks, agreed-upon plan templates, a clear order of escalation of problems, as well as quality control of meetings, where the goal, required participants, decisions and responsible persons are determined. The rules become limits on parallel projects, time windows for approvals, delegation principles, a policy of working with urgent requests and protected periods for focused work without distractions. Skill development includes training staff in prioritization, planning and self-control, because without this, even the best digital tools turn into a formality.

It should be noted that the time management system allows you to see overloads, priority conflicts and risks of disruption earlier, as well as plan realistic volumes of work, which reduces the likelihood of burnout and staff turnover. It also enhances management fairness, as the rules for allocating time and responsibility become transparent and performance evaluations are less influenced by subjective impressions. This is particularly useful for organizations that operate in a project-based environment, have a high volume of customer requests, or are undergoing transformation, where chaos in priorities quickly erodes the impact of innovation. A meta-analytic review of time management behaviors among employees shows that time management is associated with better performance, higher job satisfaction, and lower levels of stress and burnout, and highlights the role of a sense of control over time as an important factor. Therefore, the unique advantage of implementing a time management system is that an organization simultaneously improves operational efficiency and strengthens long-term organizational resilience.

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TOWARDS RESPONSIBLE BUSINESS CONDUCT IN UKRAINE: SUSTAINABLE FINANCIAL SERVICES IN A NEW ECONOMIC AND LEGAL PARADIGM

Responsible business conduct (RBC) is quite a new conceptual approach for Ukraine's economic and legal paradigm, being internationally approved, thoroughly promoted and applied in business activities under the sustainable development agenda. In brief, in the OECD wording, RBC is about making sure that the activities of businesses and investors are aligned with the needs of society today and in the future. The RBC approach is determined on the basis of a three-dimensional framework established by the United Nations Guiding Principles on Business and Human Rights (UN Guiding Principles) [1], which cover the combination of the State's duty to guarantee and protect human rights, the corporate responsibility to respect human rights, and the responsibility of both the State and business to remedy the human rights violations caused by business. These Guiding Principles accumulate the spirit and the letter of all the UN and ILO fundamental values and norms, as well as the those of the European Convention on Human Rights, European Social Charter, etc. Currently, the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct (OECD Guidelines on RBC) [2] is a leading international set of standards, based on the international law, for how companies and investors should address their impacts on people, the planet and society. They are established for economic entities of all sectors, sizes and ownership structures, and concern the key sustainability issues – human rights and labour standards, anti-corruption, climate change, technology, etc. The UN Guiding Principles and the OECD standards find their legal ensuring in a number of the EU acts, national legislation of countries with leading economies, regulatory documents of international financial institutions – International Monetary Fund, World Bank Group (IBRD, IDA, IFC, MIGA, ICSID), etc.

Implementation of RBC into corporate policies and every-day operation of business entities help them efficiently prevent (by means of the due diligence frame including) and address negative impacts of their activities on individuals, communities and countries in which they operate, while contributing to the sustainable development. The role of institutions providing financial services (insurance, lending, financial leasing, investment guarantees, factoring, raising funds and bank metals subject to return, etc.) in RBC ensuring is determined by the fact that they are a component of the institutional mechanism for redistributing financial resources in the economy. For instance, the priorities of the World Bank Group, providing financial services worldwide and in Ukraine, prove incorporation of the RBC pattern into its activities. These priorities are: People: promote global health, inclusive education, and social protection; Prosperity: invest in projects, policies, governance, and systems that create opportunity and prosperity; Planet: provide sustainable food systems, water, and economies for healthy people and a healthy planet; Infrastructure: develop safe and sustainable energy, transportation, and urban mobility; Digital: accelerate digital access to create economic opportunity and to transform lives; Cross Cutting Areas: issues affecting all areas of development (Gender, Fragility, Conflict and Violence) [3].

To ensure RBC and meet the requirements of international financial institutions, helping Ukraine's resilience in wartime, and those of EU and OECD on the path to prospective membership, Ukraine should revise its economic and legal paradigm, which is currently framed

now by various policy acts: Concept of Realisation of the State Policy on Development of Socially Responsible Business in Ukraine until 2030, National Human Rights Strategy, Strategy of Human Development, National Economic Strategy until 2030, Strategy of Ukrainian Financial Sector Development, Digital Development Strategy for the Public Finance Management System until 2030, National Strategy for the Development of Financial Literacy by 2030, Strategy for Implementing Sustainability Reporting by Enterprises, Basic Principles (Strategy) of the State Environmental Policy of Ukraine, etc. These policy acts should be harmonised between each other and fully regard the international regulatory frameworks – the EU Copenhagen criteria for accession and the EU *acquis* chapters of negotiation clusters (primarily 1, 2, 3) [4], the OECD Guidelines on RBC, as well as those specific for financial institutions: Principles for Responsible Investment 2006 [5]; Principles for Sustainable Insurance 2012 [6]; Principles for Responsible Banking 2019 [7], Equator Principles (updated in 2020) [8].

Ukraine's financial services' institutions, when properly implementing the international principles on responsible finance into the policy, law and corporate practice, will gain a number of benefits: i) they will contribute in a more sustainable and just future of our country and the world; ii) their reputation as institutions that prioritise responsible management will increase, and trust in them among clients, investors and stakeholders will be strengthened, as well as the value of their corporate brands will grow; iii) the risks of their activities related to ESG factors will decrease, and their long-term sustainability and resilience to possible future challenges will rise. A larger number of Ukrainian financial institutions will become able to organically join the mentioned above global initiatives on responsible investment, insurance and banking; strengthen their competitiveness and integration into the European and global financial and economic space; grow up the inflow of foreign investment into the domestic economy; and contribute to implementation of national interests aimed at sustainable development, security and well-being of Ukrainian society.

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PROSPECTS FOR THE INTRODUCTION OF A MECHANISM FOR ISSUING ‘GREEN’ BONDS IN UKRAINE

Green bonds are an innovative financial instrument that mobilises capital for projects with environmental benefits, including energy efficiency, renewable energy, pollution reduction, sustainable supply chains, and rational resource use.

In the post-war era, the imperative of reconstruction will encompass both the restoration of the economy and the promotion of environmental sustainability. In this context, the issuance of green bonds by the state has the potential to serve as a highly efficacious instrument for the purpose of attracting funds to the budget and subsequently directing them towards the implementation of environmental restoration projects. Green bonds can be issued by financial institutions, enterprises, and public authorities, including local governments financing environmentally significant projects. The main barriers to market development include high issuance costs due to certification and reporting, insufficient regulation, and low investor awareness.

The first Ukrainian green bond was issued by DTEK Renewables in 2019 (€325 million, 5 years, 8.5 %), directed to renewable energy projects and recognised with the Green Bond Pioneer Award. The Ukrainian market remains in its early stage, with few issues and the need for stronger infrastructure and incentives [1].

Prior to the outbreak of the full-scale war, Ukraine demonstrated considerable promise in the domain of sustainable finance. It was projected that the issuance of green bonds would mobilise approximately \$36 billion in investments by the year 2030. Concurrently, the International Finance Corporation (IFC) has estimated that the potential of the Ukrainian energy efficiency and renewable energy market exceeds \$70 billion, thereby underscoring the importance of developing this area [2]. However, with the commencement of a full-scale invasion in 2022, because of the destruction of infrastructure, previous cost estimates have become obsolete and are now considerably higher. The development and expansion of the securities market have been demonstrated to contribute to greater diversification, which, in turn, ensures more active investment attraction. The transparency of project financing is increasing, as the introduction of green bonds at the international level will channel funds through specialised financial systems, ensuring their more efficient use.

In the context of post-war reconstruction in Ukraine, the mobilisation of substantial financial resources for infrastructure and energy projects is imperative. In this regard, green bonds have the potential to emerge as a pivotal instrument in attracting investment for this reconstruction process. Another prospect for the development of the green bond market is the improvement of the socio-economic well-being of the population. The implementation of projects financed by such instruments will contribute to improving the energy efficiency of housing and communal services, reducing household expenditure on energy and utilities, improving the quality of the environment and, accordingly, the standard of living of citizens. Thirdly, a promising area is the development of renewable energy, for which Ukraine has significant potential, which will reduce dependence on imported energy sources. Fourthly, the development of the green bond market will contribute to the creation of new jobs, particularly in the renewable energy sector. The fifth key point to consider is the enhancement of the quality of life of the population through the implementation of environmental projects. This will assist in the reduction of morbidity and mortality, as the improvement of the environment and air quality will have a beneficial effect on people's health and life expectancy.

The development of the green bond market is contingent upon post-war reconstruction of the country, as the introduction of modern, optimised and energy-efficient technologies in new construction is a significant investment. The attitude of the part of the population that supports environmental goals may contribute to the formation of demand for green bonds, as retail investors

with a conscious environmental position are willing to purchase such instruments to combine financial and sustainable goals. The state is set to embark on a strategic initiative aimed at fostering the growth of the defence-industrial complex. This endeavour will be underpinned by the implementation of environmentally oriented management and production methodologies. Recent years have seen the initiation of several state and international programmes in the field of ecology and sustainable development. Nevertheless, the primary impediment persists in the form of political risks and the deficiencies inherent in the regulatory framework governing the mechanisms of issuance and regulation of cash flows from green bonds.

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UKRAINE'S INTERNATIONAL IMAGE IN INCREASING INVESTMENT ATTRACTIVENESS

The international image of a state is a pivotal factor in its positioning in the global economic space, which determines the potential for the development of foreign economic cooperation and partnership relations between countries.

The image of Ukraine is being shaped within the context of an unstable geopolitical environment, precipitated by the ongoing state of war. This has resulted in a decline in international financial flows, due to the increased unpredictability and subsequent challenges in forecasting. Moreover, challenges to monetary policy, such as the instability of the national currency, fluctuations in interest rates and the risk of a loss of confidence in the financial system, have the potential to impede investment flows.

Additionally, the country's low living standards and shrinking population negatively impact its ability to attract international investment due to the instability of the economic environment. This instability is characterised by the state's inability to adequately support innovative projects or ensure an adequate level of social welfare for the population. The absence of comprehensive legislation, coupled with the paucity of investor protections within the legal framework, engenders a substantial degree of risk. This, in turn, has the effect of deterring foreign capital investment.

The enhancement of Ukraine's international image is a pivotal strategy for the nation to attract additional investment. This objective can be realised through the enhancement of the legal framework, with a particular emphasis on ensuring the effective protection of investors' rights and the guarantee of regulatory environment stability. It is imperative to ensure transparency in investment processes to foster investor confidence that their funds will be allocated precisely to the intended objectives. It is recommended that a digital platform be established, thereby enabling investors to monitor the amount of funds invested, how these funds are being used, and the interim results of project implementation in real time.

The introduction of such a tool will contribute to increasing the transparency of financial flows and preventing corruption risks in the investment sphere. This will engender a more open system of interaction between state structures and private investors, ensuring effective control over the use of funds and increasing trust in the state as a partner. The high level of digital maturity and

data openness evidenced by Ukraine's third place ranking in the Open Data Maturity Report 2024 (amongst 34 EU countries) demonstrates the country's readiness to implement such innovative solutions [1].

To attract foreign investment in Ukrainian projects in such conditions, it is necessary to focus on the most important areas, including energy, the military-industrial complex, and the IT sector. For the state, it is important to narrow the scope of its investment activities and focus on creating a favourable investment environment in these areas. This will allow Ukraine to finance the most critical and promising sectors of the economy effectively, without requiring large-scale changes to legislation covering the entire investment landscape. At the same time, this will enable international investors to invest capital safely, safe in the knowledge that their investments are stable and secure, and that their returns are predictable. This approach will also contribute to improving Ukraine's international image, demonstrating the state's ability to create a favourable investment climate even in wartime. This will stimulate further capital inflow into other sectors.

The need to improve Ukraine's international image is driven by the desire to attract investment, particularly for the country's post-war reconstruction. In the second half of 2023, the Ukraine Recovery Fund was initiated in partnership with leading investment corporations BlackRock and JPMorgan Chase, with the main purpose of attracting private capital to finance post-war reconstruction [2]. Therefore, forming a clear regulatory framework that guarantees investor protection, ensures transparent investment processes, and increases economic stability are key to strengthening Ukraine's positive international image and, consequently, its investment attractiveness.

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MANAGEMENT OF NON-CURRENT ASSETS IN THE CONTEXT OF DIGITALIZATION

Managing non-current assets in the context of digitalization means moving from fragmented accounting and manual control to systematic data-based asset lifecycle management. For an enterprise, these are primarily fixed assets, intangible assets, long-term investments and other resources that form production potential and require significant capital expenditures. Digitalization changes the logic of working with such assets, as the enterprise gets the opportunity to maintain unified asset registers, quickly update information about their condition, place of use and responsible person, as well as link this data with procurement planning, budgeting and financial accounting. The practical effect occurs when information about assets becomes standardized, contains technical specifications, commissioning documents, warranty conditions, maintenance schedules, repair history, data on modernization and cost changes [1]. As a result, management gets a transparent picture of the structure of non-current assets, sees which assets create the most value, which are underutilized, and which need to be replaced or updated, and can make decisions based on confirmed data, rather than on the basis of individual departmental reports. The second key aspect of digitalization in non-current asset management is supporting their full life cycle, from

investment justification and acquisition to retirement, write-off or sale. Modern digital enterprise asset management platforms, enterprise resource planning systems and computerized maintenance management systems allow you to link financial information on the original cost and depreciation with technical data on actual load, downtime and maintainability. Monitoring the condition of equipment through sensors and operation logs is becoming an important practice, which creates the basis for predictive maintenance, in particular with the use of technologies based on artificial intelligence. This reduces the risk of emergency shutdowns, helps to plan repairs at more convenient times, extends the useful life and makes asset maintenance costs more predictable. Against this background, the value of approaches that combine technical and financial data increases, as the enterprise can more accurately plan investments in updating the equipment fleet, compare the feasibility of repairs and replacements, and manage the portfolio of non-current assets as a long-term resource with specific performance and risk parameters.

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THE ROLE OF THE ACCOUNTING SYSTEM IN THE FINANCIAL AND ECONOMIC SUPPORT OF SUSTAINABLE DEVELOPMENT OF ENTERPRISES IN THE CONTEXT OF A TRANSFORMATIONAL ECONOMY

In the context of Ukraine's transformational and post-war economy, ensuring the sustainable development of enterprises is of paramount importance. This implies the simultaneous achievement of economic efficiency, environmental responsibility, and socially oriented business practices. Effective management of these processes is impossible without proper information support, the foundation of which is formed by the accounting system. In modern conditions, it transforms from a tool for recording business transactions into a comprehensive accounting and analytical support system aimed at balancing the short- and long-term interests of the business.

Accounting provides the formation of reliable, complete, and relevant information for making strategic, tactical, and operational management decisions, which contributes to cost optimization, rational resource use, and strengthening the enterprise's economic security. In the context of sustainable development, it is essential to expand the scope of accounting by integrating financial, social, and environmental indicators, which allows for the assessment of not only the economic effect of activities but also their impact on human capital and the environment. This approach aligns with international principles of non-financial reporting and ESG concepts, as reflected in IFRS requirements [1] and GRI standards [2].

One of the key mechanisms for improving accounting processes is digitalization. The use of ERP systems, cloud platforms, artificial intelligence, and blockchain technologies ensures the automation of routine operations, accelerates information processing and analysis, and reduces the risks of data distortion and fraud. Digital tools enhance audit, control, and analytical capabilities, contribute to the generation of predictive information necessary for risk management, assessing the resilience of business models, and planning the recovery and development of enterprises in the long term.

We consider that the formation of modern accounting policies should take into account the requirements of transparency, accountability, and focus on inclusive development. In this context, integrated reporting, which combines financial and non-financial indicators, plays a key role as a

tool for communication with stakeholders, enhancing the trust of investors, partners, and society. The use of integrated reporting strengthens the enterprise's reputational capital, provides a basis for expanding partnerships, and attracts long-term financing, which is critically important during the post-war recovery period.

Thus, the accounting system performs a strategic function in ensuring the sustainable development of enterprises by forming an information platform for effective managerial decision-making, ensuring economic resilience, and increasing business investment attractiveness. Further modernization of the accounting system requires harmonizing national standards with international requirements, actively implementing digital technologies, developing integrated non-financial reporting, and creating mechanisms for operational risk management. Promising directions for future research include developing methodological approaches for assessing the impact of accounting information on the sustainable development of enterprises, improving ESG indicator accounting tools, and creating models of digital accounting and analytical support for management in the context of economic transformations.

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FORMATION OF AN EFFECTIVE MECHANISM FOR THE DEVELOPMENT OF HUMAN CAPITAL IN UKRAINE BASED ON THE EXPERIENCE OF THE WESTERN EUROPEAN MODEL

At the present stage of socio-economic development, the need to develop and implement effective methods and models of human capital management that meet the challenges of a globalized economy, digitalization, changes in labor relations and the growth of the role of knowledge as the main production resource is becoming more and more relevant. Systematic interaction between the organization and its employees, an orientation towards long-term strategic partnerships, flexibility in managerial decisions, and continuous improvement of the professional and personal potential of personnel form the foundation of the latest approaches to human capital management.

The term "human capital" was proposed by G. Becker [1], and he defined it as "a set of skills, knowledge and abilities of employees, the costs of which over time can bring tangible profit to both the employee and his employer." Subsequently, over the years, various scholars have clarified and changed this definition in their writings, and today different organizations interpret in their own way what exactly the term "human capital" covers. At the same time, the key message remains the same: the need to invest in employee development to form a resource that will provide a competitive advantage in today's world, where technological expertise, knowledge and innovation, rather than natural resources, are the driving force of economic growth. According to the encyclopedic source Britannica, this term refers to the intangible collective resources that are at the disposal of individuals or groups within a particular population. Such resources include knowledge, talents, skills, abilities, experience, intellectual potential, education, judgment, and wisdom. Together, they form a specific type of wealth that is available to both individual organizations and national economies to achieve their goals [2].

Today, human capital management has a crucial role in the competitiveness of a country, its technological progress and economic development. Within the framework of modern managerial practice, a number of models of human capital management are distinguished, which represent different concepts, approaches and organizational cultures. One of the most well-known models is the Western European model. Western countries have achieved notable results in this area, actively introducing modern methods of human capital management to "solve strategic problems related to the high-tech growth of national economies" [3].

The Western European model of human capital management combines market rationality with social responsibility. It is based on the principles of social partnership, state regulation of labor relations, compliance with labor standards and ensuring a high quality of working life. The paternalistic approach to personnel management is implemented through collective agreements, broad representation of employees in management bodies, a strong trade union infrastructure and dialogue between the parties to social and labor relations. A special role is played by the system of continuous professional training, flexible forms of employment, and the development of human potential as part of a sustainable development strategy. Human capital management in European companies is inextricably linked with the implementation of a policy of equal opportunities, corporate ethics, environmental responsibility and inclusion [4].

At the same time, the new Ukrainian model of human capital management is in the process of formation, being formed under the influence of Western European and American standards, adapted to national characteristics, the level of economic development, the labor market and personnel culture. In practice, this is manifested in a combination of a centralized management style with elements of horizontal communication, a combination of motivation systems (material and non-material), a gradual transition to the digitalization of HR processes, finding a balance between individual goals of employees and strategic guidelines of the organization. The insufficient level of institutionalization of HR policy, weak development of internal corporate culture, inconsistency between personnel and business strategies, and a low level of investment in personnel development remain problematic issues.

In the context of Ukraine's recovery, the formation of an effective mechanism for the development of human capital as the basis for economic growth, stability and social cohesion will be especially relevant. This will require not only government support policies, but also active business participation in personnel development as the main driver of innovation and productivity.

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PROSPECTS FOR THE APPLICATION OF SMART TECHNOLOGIES IN FINANCIAL MANAGEMENT OF ENTERPRISES

Modern enterprises operate in an environment of digital transformation, growing competition, and increased demands for efficient use of financial resources. In such conditions, smart technologies become an important tool for improving financial management, as they enable process automation, rapid analysis of large data sets, and improved quality of management decisions. The

use of artificial intelligence, cloud services, analytical platforms, and financial information systems contributes to increased transparency of financial flows and reduced operational risks.

The prospects for the application of smart technologies in financial management of enterprises are related to the ability to forecast financial indicators, optimize costs, and strengthen financial security. The introduction of such technologies allows enterprises to adapt more quickly to changes in the market environment, increase the profitability of their activities, and ensure sustainable development in the long term. That is why research into the prospects for the use of smart technologies in financial management is relevant and practically significant for modern enterprises.

Smart technologies are a set of digital tools and solutions based on the use of artificial intelligence, big data, cloud services, automated information systems, and analytical platforms that enable the processing of large amounts of information in real time. Their use allows for faster, more accurate, and more informed management decisions, reduces the impact of human error, and optimizes business processes. In today's digital economy, smart technologies are becoming an essential part of how businesses operate, as they help increase their competitiveness and resilience to external and internal threats.

Smart technologies play a key role in financial resource management, as they ensure effective planning, control, and forecasting of an enterprise's financial flows. They allow for the automation of budgeting, income and expense analysis, liquidity management, investments, and financial risks. Thanks to the use of analytical systems and digital models, management is able to identify financial problems in a timely manner, assess the level of financial security, and make strategic decisions aimed at the rational use of resources and ensuring the stable development of the enterprise.

Thanks to smart technologies, managers can quickly respond to market changes and other external factors by using real-time data to make strategic decisions. For example, artificial intelligence programs can analyze financial reports and immediately identify discrepancies or fraudulent transactions, while machine learning tools can help build accurate financial forecasts. This helps reduce risks and increase the stability of the organization.

Smart financial resource management involves the use of modern digital technologies to optimize and automate financial processes. Smart methods not only allow for more efficient financial management, but also increase transparency, reduce risks, and ensure rapid adaptation to market changes. These methods include the use of artificial intelligence, machine learning, big data, cloud technologies, and blockchain tools.

1. Tools for managing financial resources using smart methods:

- artificial intelligence (AI) and machine learning (ML) - these technologies allow you to analyze huge amounts of financial data and find optimal solutions based on previous results and forecasts;
- Big Data and analytical platforms - processing and analyzing large amounts of data helps to make more accurate and faster financial decisions;
- cloud computing allows organizations to store, process, and analyze financial data in real time;
- blockchain ensures transparency, security, and data protection, which is particularly important in financial transactions.
- robotic process automation (RPA) allows you to automate routine financial operations such as preparing reports, conducting transactions, and processing invoices and bills.

2. Popular platforms for managing financial resources using smart methods:

- SAP S/4HANA is one of the most powerful ERP systems for large enterprises. SAP S/4HANA uses cloud technologies and AI to manage financial resources, allowing you to automate accounting, financial management, and cash flow management;
- Oracle Financial Cloud is a cloud-based financial platform for managing accounting, reporting, budgeting, and analysis. Oracle uses Big Data and AI to improve decision-making.

- QuickBooks is a platform for small and medium-sized enterprises that automates accounting, payroll, expense, and revenue management.
- Xero - a cloud-based platform for accounting management that provides tools for automating accounting and controlling financial flows;
- Mint - a free personal finance management tool that can be adapted for small businesses. It allows you to analyze expenses, create budgets, and track financial trends;
- Adaptive Insights is a cloud-based platform for financial planning, budgeting, and forecasting that enables analysts and financial managers to accurately predict financial results and manage costs.

The main advantages of using smart methods in financial and financial resource management are increased efficiency, accuracy, and speed of management decision-making. Intelligent technologies automate the accounting, analysis, and planning of financial flows, reducing the likelihood of errors and human factors. By using big data analytics and artificial intelligence, banks and businesses can predict market changes, determine optimal financial strategies, identify risks in a timely manner, and develop scenarios to minimize them.

Smart methods also contribute to increasing the transparency of financial activities, provide round-the-clock control over the movement of resources, and create a basis for building adaptive financial management models. They allow you to effectively integrate various business processes, optimize costs, respond more quickly to changes in the external environment, and strengthen the competitiveness of the enterprise. As a result, the introduction of smart technologies in the field of financial management is becoming an important condition for the stability, innovation, and security of the financial and economic system of modern organizations.

The advantages of using smart technologies for Ukrainian enterprises in conditions of war and economic crisis lie primarily in increasing the resilience and adaptability of businesses to an unstable environment. Smart technologies enable the rapid processing of large volumes of financial information, quick management decisions, and minimization of the human factor in critical processes. They provide remote access to financial systems, which is especially important in conditions of staff displacement, infrastructure damage, and security threats.

Key advantages also include cost optimization, increased transparency of financial flows, and enhanced financial control. Smart technologies facilitate effective liquidity management, cash flow forecasting, and timely identification of financial risks. In addition, their use increases the financial security of enterprises, improves investment attractiveness, ensures compliance with regulatory requirements, and creates conditions for stable operation and business recovery in the post-crisis period.

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CLINICAL DECISION-MAKING UNDER TIME PRESSURE IN PREHOSPITAL RESCUE MEDICINE

Clinical decision-making in prehospital emergency medicine occurs in conditions of acute time shortage, incomplete information and high responsibility for the consequences. Emergency medical professionals are often forced to simultaneously assess the safety of the scene, the patient's condition, the mechanism of injury or the course of an acute illness, as well as the available

resources, including the composition of the team, equipment and distance to the appropriate hospital. Time pressure is exacerbated by the fact that critical decisions are made before laboratory or instrumental confirmation is obtained, and the clinical picture can change every minute. In this logic, algorithms for initial examination, triage, selection of stabilization tactics and patient routing acquire particular importance, because an error at an early stage can trigger a chain of complications [1-2]. At the same time, it is important that decisions are not a mechanical reproduction of the protocol, since real situations often go beyond typical scenarios, and then the role of experience, clinical intuition, team interaction and the correct distribution of attention between several risks increases. The cognitive complexity of prehospital work is manifested in the fact that the specialist must quickly move from collecting signs to forming hypotheses, and then to choosing actions that are both therapeutic and diagnostic. In situations where there is a stoppage of blood circulation or a sharp deterioration in breathing, decisions may concern the start, continuation or cessation of resuscitation measures, as well as ethical aspects and communication with the environment. Research on modeling decisions in prehospital resuscitation shows that the choice is influenced not only by medical indicators, but also by the preparedness of personnel, organizational support, psychological state, experience of previous cases and the context of the event. It is important that the process includes stages before contact with the patient, during interventions and after the event, when reflection and restoration of the team's performance are required. Time pressure conditions increase the risk of cognitive distortions when attention is fixed on the most striking sign, and alternative explanations are underestimated. Therefore, training should include situational awareness training, error control, the ability to pause for a short reassessment of the condition and coordinate decisions with a partner. Digital tools are increasingly supporting clinical decision-making in the prehospital setting, but their effectiveness depends on how well they are embedded in the real workflow and do not create additional workload. Clinical decision support systems can provide tips on triage, dosing, sequence of actions, and help reduce errors and shorten the time to key interventions if recommendations are made at the right time and in the right place in the team's work. In the future, artificial intelligence-based technologies may also be used, but they should enhance professional judgment, not replace it, especially where decisions affect ethical issues and individual patient characteristics. Standardized electronic call cards, data transmission to the reception department during transport, digital checklists for rare critical conditions, and regular simulations with error analysis are practically important. All this forms the resilience of a system where speed is combined with safety, and decisions are made transparently, reproducibly, and based on evidence-based approaches.

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SUSTAINABLE DEVELOPMENT FOR RECONSTRUCTION OF UKRAINE

The armed conflict in Ukraine caused unprecedented destruction in all spheres of life, which led to significant economic, social and ecological consequences. Accordingly, the current situation

calls for the development and implementation of a systemic reconstruction plan based on the foundations of sustainable development.

Sustainable development is the cornerstone of Ukraine's post-conflict recovery, covering the economic, social and environmental dimensions. Its strategic importance lies in ensuring the long-term sustainability of results, minimizing environmental damage and conserving resources for future generations. Key aspects of sustainable development include [1]: conserving natural resources, balancing economic growth and social equity, innovating to reduce climate burden, increasing systemic resilience and adaptability, achieving global goals. For Ukraine, which seeks European integration, the EU's experience in the field of sustainable development is gaining special relevance. This experience catalyzes the need for comprehensive reforms (economy, rule of law, democracy, environmental sustainability). Focusing on the standards and practices of the European Union (EU) is an effective way to integrate and build a democratic, prosperous society.

Among the fundamental components of sustainable development [2], the following stand out: the European Green Deal (EGD), climate policy and emission reduction, energy transit, the circular economy model, social aspects, the transformation of urban spaces, as well as international cooperation and financial assistance. The analysis of the goals and challenges of sustainable development allows us to identify the key vectors of the EGD: the transition to clean energy, the fight against climate change, sustainable construction and renovation, the development of ecological industry and mobility, reducing the level of pollution, preserving biodiversity and reforming agricultural policy. A special role in the context of urbanized areas and integration into the EGD is played by last-mile logistics as the final stage of the supply chain. This segment is critical in terms of environmental impact (due to the high concentration of vehicles and the generation of emissions in cities) and requires the implementation of green logistics principles. Sustainable last-mile logistics require route optimization, conversion to electric or low-carbon transportation, the use of innovative solutions (in particular, intelligent AI-based load planning and traffic management systems) and the development of urban warehouse infrastructure (hubs) to minimize delivery time and associated emissions [3].

Ukraine's accession to the European Green Deal opens up new prospects for national producers, promoting their integration into strategic value chains and localization of production capacities. Potential opportunities include: attracting financial resources, strengthening integration into global chains, increasing energy sustainability, reducing energy dependence of production and forming new niches for small and medium-sized businesses. At the same time, there are also threats: the complication of access of Ukrainian products to the European market, increased competitive pressure, increased production costs, potential inhibition of industrial greening processes, and a shortage of environmental competencies among personnel [4]. Specific policies and measures provided for by the EGD [5] include: development of a number of strategies (intelligent sectoral integration, industrial strategy, circular economy action plan, construction industry reform, offshore wind energy development, chemicals and biodiversity strategies); adoption of the «Climate Law» and updating of regulatory acts in the areas of energy taxation, transport, agriculture and waste management; involvement of financial mechanisms.

Thus, the European experience of sustainable development is recognized as one of the most successful examples of global integration of economic, environmental and social dimensions. The European Union is a leader in the formation of policies that harmonize economic growth with the preservation of natural resources and countering climate change. This experience, which includes ambitious climate goals, a circular economy and social responsibility, is a valuable tool for the balanced development of other countries, in particular Ukraine, especially in terms of implementing sustainable models of urban logistics. At the end of the active phase of the conflict, Ukraine will be able to focus on reconstruction and the formation of conditions for long-term prosperity, which will include economic growth, modernization of infrastructure, deepening of integration with the EU and strengthening of national security.

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SUSTAINABLE DEVELOPMENT AS A STRATEGIC MANAGEMENT IMPERATIVE

Sustainable development has emerged as one of the most significant challenges for contemporary management. Accelerating climate change, resource scarcity, social inequalities, and heightened stakeholder expectations are fundamentally reshaping the economic environment in which organizations operate. In this context, firms are increasingly confronted with the limits of traditional, short-term profit-maximization models. Rather than representing an external constraint on business activity, sustainable development is progressively becoming a strategic condition for long-term organizational survival and value creation [1]. From a management perspective, the key question is no longer whether firms should engage with sustainability, but how sustainable development can be effectively integrated into strategic management processes. It contends that meaningful progress depends on three interrelated elements: the integration of sustainability into corporate strategy; the alignment of corporate mission, key performance indicators (KPIs), and incentive systems; and the active role of top management and boards in steering and governing this transformation. The integration of sustainability into corporate strategy requires a shift from viewing environmental and social issues as peripheral concerns toward recognizing them as core strategic variables. Traditional strategy frameworks have primarily focused on competitive positioning, cost leadership, and differentiation within relatively stable market environments [2]. However, sustainability challenges introduce long-term uncertainties, systemic risks, and interdependencies that cannot be adequately addressed through conventional strategic planning alone. Conceptually, integrating sustainability into strategy entails redefining the firm's value-creation logic. Rather than concentrating exclusively on shareholder value, firms must adopt a broader, stakeholder-oriented perspective that considers environmental and social impacts as integral to economic performance. This aligns with the growing recognition that environmental degradation and social instability generate material risks for firms, affecting supply chains, regulatory exposure, reputation, and access to capital. From a strategic management standpoint, sustainability integration implies embedding long-term environmental and social considerations into strategic analysis, resource allocation, and competitive decision-making. This includes incorporating sustainability-related risks and opportunities into strategic foresight, investment appraisal, and innovation strategies. Importantly, sustainability-oriented strategies are not uniform; they depend on industry context, firm capabilities, and institutional environments. Nevertheless, the strategic imperative is to ensure that sustainability considerations shape, rather than follow, core strategic choices. While strategic intent is necessary, it is insufficient without appropriate managerial systems that translate sustainability objectives into day-to-day decision-making. A critical conceptual challenge lies in aligning corporate mission statements, performance

measurement systems, and incentive structures with the Sustainable Development Goals. Corporate mission statements play a symbolic and directional role by articulating the firm's purpose and long-term aspirations. When sustainability is embedded in the corporate mission, it signals a commitment to value creation beyond short-term financial returns. However, mission statements alone risk remaining rhetorical unless concrete management control mechanisms support them. Key performance indicators (KPIs) serve as a crucial link between strategy and operations. Conceptually, sustainability-oriented KPIs enable firms to internalize environmental and social externalities that are otherwise excluded from traditional financial metrics. These indicators may encompass environmental efficiency, emissions reduction, resource use, employee well-being, or social impact across the value chain. From a management perspective, the challenge lies not only in selecting appropriate KPIs but also in integrating them into existing performance management systems without creating excessive complexity or ambiguity. Prior research indicates that corporate governance (CG) plays a critical role in shaping firms' environmental, social, and governance (ESG) outcomes. The systematic content analysis of 91 peer-reviewed articles published in 41 academic journals between 2010 and 2023 shows that the influence of corporate governance on ESG outcomes, categorized by key governance attributes, ESG dimensions, theoretical frameworks, country contexts, and empirical methodologies, has recently grown [3]. The multiple governance mechanisms jointly contribute to enhanced ESG performance. In particular, board gender diversity, institutional ownership, board independence, CEO-related characteristics, executive compensation structures, and the presence of sustainability committees are consistently associated with positive ESG outcomes. Conversely, the findings indicate that family ownership may be associated with weaker ESG performance, potentially reflecting divergent strategic priorities or governance dynamics.

To sum up, sustainable development should be understood as a strategic management imperative rather than a peripheral responsibility. Ensuring sustainable development requires integrating sustainability into corporate strategy, aligning mission, KPIs, and incentive systems, and actively engaging top management and boards. Together, these elements form a coherent management framework that enables firms to reconcile economic performance with long-term societal and environmental value creation.

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ECONOMIC MECHANISMS FOR THE FORMATION OF SUSTAINABLE DEVELOPMENT IN THE TOURISM SECTOR

Modern tourism plays an important role in the development of national economies, creating conditions for employment growth, infrastructure development, strengthening interregional ties, and increasing the investment attractiveness of territories. At the same time, the industry faces a growing need not only for economic growth, but also for sustainable development that combines

economic benefits with environmental responsibility and social balance. The effective functioning of the tourism sector largely depends on a system of economic mechanisms that ensure stable development even in the face of external challenges, such as economic crises, global competition, or military action.

The concept of sustainable development in tourism is based on the idea of a balanced combination of economic, social, and environmental components. Tourism activities should generate stable profits without depleting natural resources or compromising the quality of life of the local population. This approach requires the implementation of special economic mechanisms that regulate the distribution of financial resources, stimulate innovation, and improve the efficiency of tourism flow management. Sustainable tourism focuses on the long term. While traditional development models often relied solely on expanding infrastructure and increasing tourist numbers, the modern approach involves optimizing costs, improving service quality, introducing resource-saving technologies, and diversifying tourism products. It is worth noting that sustainable development in tourism can ultimately contribute to the development of the entire territory, while ensuring the protection of nature, the preservation of cultural values, and socio-economic progress [1].

One of the key conditions for sustainable development is the effective allocation of financial resources. This includes both public funding and private investment and public-private partnership mechanisms. Budget financing plays an important role in supporting infrastructure projects, modernizing the transport system, and developing tourist-attractive areas. Under favorable conditions, it is government programs that can activate investment processes and stimulate the development of small and medium-sized tourism businesses.

Investment incentives also play an important role. These include tax breaks, preferential loans, investment grants, and support programs for environmentally friendly projects. Such tools contribute to the modernization of the material and technical base, the introduction of digital services, and the improvement of the quality of tourist services.

Economic efficiency determines the competitiveness of the tourism industry. It is ensured through the introduction of innovations, rational use of resources, and optimization of the structure of tourism products. Without borrowing tourism innovations and transitioning to progressive European standards of guest and recreational services, it is impossible to develop a recreation and tourism sector in the region that is competitive on the international market [2, p. 29].

The digitization of tourism services is of particular importance. The use of online sales, electronic route planning services, virtual tours, and mobile applications makes it possible to attract a wider audience, reduce marketing costs, and improve the quality of communication with tourists. Innovative approaches to creating tourism products are important economic mechanisms. These may include the development of gastronomic, ecological, rural, military-historical, and other types of tourism that do not require significant capital investment but ensure stable demand. Government agencies play a decisive role in creating the legal and economic conditions for the sustainable development of the tourism sector. In the context of military challenges for Ukraine, it is particularly important to apply flexible regulatory mechanisms, supporting both domestic tourism and the potential for post-war recovery of the tourism sector.

The application of economic mechanisms makes it possible to: create new jobs in tourism and related industries; increase the income of local communities; stimulate the development of small businesses; preserve natural and cultural resources; and shape a positive international image of the country.

Sustainable tourism development contributes to improving the well-being of the population, increasing the level of regional integration, and expanding opportunities for long-term economic growth. The development of tourism based on the principles of sustainability is an important factor in Ukraine's economic modernization and international integration. The formation of a balanced financial and economic policy in the field of tourism should become one of the key areas of the state strategy for the country's recovery and growth.

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INTEGRATION OF THE SUSTAINABLE DEVELOPMENT CONCEPT INTO THE ACCOUNTING AND ANALYTICAL SYSTEM FOR MANAGING THE ECONOMIC POTENTIAL OF AGRICULTURAL ENTERPRISES

Under the concept of a country's sustainable development, one understands a trajectory of development in which economic growth, consumption, production, and other types of human impact occur within the limits of the ecosystem's ability to regenerate, thereby enabling future generations to meet their own needs as well [1, pp. 9–10].

The activities of agricultural enterprises within the framework of the sustainable development concept consist in ensuring a balanced development of the three key components of their operations: economic, social, and environmental [1, p. 12].

All the agricultural holdings under study use computerized accounting systems implemented through specialized software whose architecture meets the requirements of a multi-level structure of production and sales inherent to agricultural holdings, as well as national legislation in the fields of accounting, analysis, and auditing.

A characteristic feature of the accounting organization in the studied agroholdings is comprehensive digitalization and automation of business process recording, which significantly strengthens all components of the accounting and analytical support of management and, in particular, its economic potential. To this end, the following systems are used: GIS-based «Land Resources Accounting», the «Smartfarming System» and the «Digital Agribusiness» complex.

The conceptual architecture of data collection for the accounting and analytical support of managing an agricultural holding and its economic potential is presented in Figure 1.

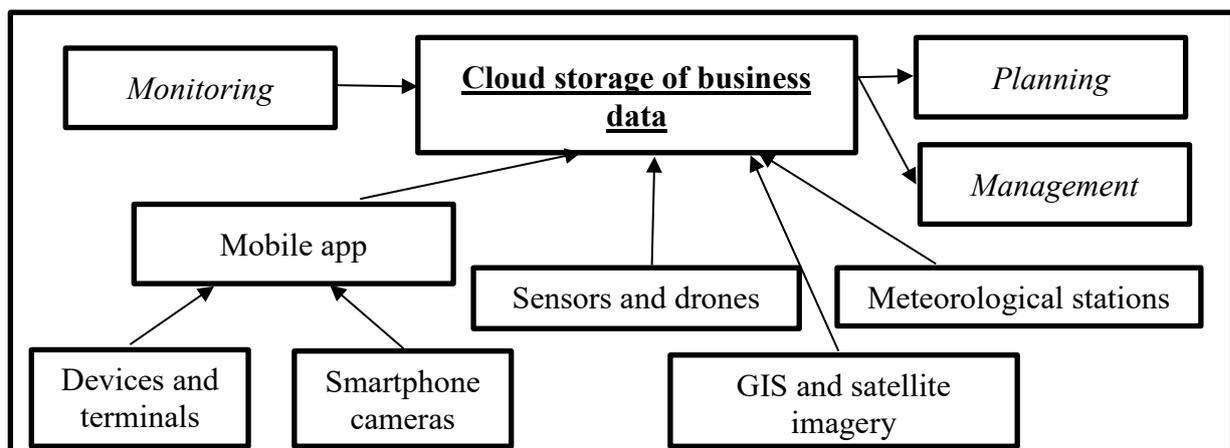


Figure 1. Conceptual architecture of data collection for the accounting and analytical support of management of an agricultural holding and its economic potential

Source: compiled by the author, based on [3].

The integration of technological tools such as satellites, weather stations, sensors and drones, as well as specialized mobile applications, significantly reduces the risk of data loss or

distortion in recording business operations. As a result, the reliability and quality of the accounting and analytical information used for managing an agricultural holding and its economic potential is exceptionally high compared to previous generations of accounting software [3].

The concept of sustainable development is gradually being adopted by modern agricultural enterprises in Ukraine, with its social and environmental components becoming considerably strengthened: companies increasingly implement innovative technologies that reduce negative environmental impacts and expand opportunities for supporting local communities.

The level of organization of accounting and analytical support for managing the economic potential of modern Ukrainian agricultural enterprises depends on the scale of the enterprise and the intensity of its operations. Ukrainian agrohholdings use advanced information and digital technologies in accounting, which significantly improve the quality of accounting and analytical support across both parent and subsidiary companies. Small and medium-sized agricultural enterprises apply elements of analytical tools for assessing economic potential only partially and require further adaptation of these tools to enhance managerial processes. The broader adoption of innovative solutions by small and medium-sized enterprises would contribute to strengthening and expanding their economic potential.

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LEGAL REGULATION OF ELECTRONIC COMMERCE IN JORDAN

The legal regulation of e-commerce in Jordan is formed as a set of norms that originate from several laws, rather than from one special codified act. The central place is occupied by the Law on Electronic Transactions No. 15 of 2015, which establishes the legal force of electronic records, electronic messages, electronic signatures and electronic contracts, and creates the basis for concluding transactions via electronic means of communication. At the same time, general issues of contractual relations, liability, validity of will and methods of protecting the rights of the parties continue to rely on the norms of civil law, which determines a mixed model of regulation. Scientific reviews emphasize that Jordan actually does not have a separate law that would comprehensively describe e-commerce as a market, therefore regulatory norms are placed fragmentarily in different acts and are applied depending on the specific situation and type of dispute [1].

Practical aspects of e-commerce in Jordan are most noticeable in the field of consumer protection and proving electronic transactions. The Consumer Protection Act No. 7 of 2017 also applies to distance selling, which means that it applies requirements regarding basic consumer rights, proper information about the product or service, safety, and mechanisms for responding to violations. Studies have highlighted that issues of returns, refunds, and replacements remain problematic, as in the case of electronic sales there is an asymmetry of information between the

seller and the buyer, and it is more difficult to prove the adequacy of communication and the consistency of the terms. That is why the Electronic Transactions Act No. 15 of 2015 is key to confirming the fact of concluding a contract, identifying the parties, and recognizing an electronic signature, but in practice procedural standards, technical evidence, and clear rules for storing electronic data are also needed. A separate area of regulation has become privacy and data security, as e-commerce is based on the intensive collection of personal information, including contact details, delivery addresses, payment details and purchase history. The Personal Data Protection Law No. 24 of 2023 entered into force on March 17, 2024, with government clarifications and analytical materials indicating a transition period for bringing activities into compliance, which ended in March 2025. The regulatory logic of this reform strengthens the requirements for the lawfulness of data processing, consent management, information notifications, storage security, as well as organizational procedures in companies operating on the Internet.

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THE ROLE OF SOCIAL POLICY IN PENSION PROVISION

In the contemporary socio-economic context, the planning and implementation of sustainable development are closely linked to the effectiveness of social policy. Social policy constitutes one of the state's most important instruments for ensuring social security, economic stability, and long-term development. This issue is particularly relevant in the context of pension provision, as pension systems simultaneously address challenges related to social justice and fiscal sustainability [1]. The aim of this paper is to analyze the role of social policy in pension provision and to assess its significance within the framework of sustainable socio-economic development. Social policy is examined not merely as a mechanism of social assistance or income redistribution, but as a strategic policy that influences labor markets, demographic dynamics, economic growth, and overall social stability [2].

Special attention is devoted to demographic challenges currently faced worldwide and, in particular, by Georgia. Rising life expectancy combined with declining fertility rates has led to population ageing, an increasing number of pensioners, and growing financial pressure on the working-age population. These trends significantly increase public pension expenditures and raise serious concerns regarding the long-term sustainability of existing pension models [3]. The study is based on the analysis of Georgian statistical data, state budget indicators, and reports by international organizations such as the OECD, the World Bank, UNDESA, and the European Commission, as well as relevant academic literature. The findings indicate that social expenditures—especially pensions and healthcare—constitute a substantial share of Georgia's state budget [4]. While this reflects the state's social responsibility, it simultaneously constrains resources available for other critical areas, including education, infrastructure, and innovation-driven development [5].

The paper examines both the positive and negative effects of a high share of social expenditures on the sustainability of socio-economic systems. On the one hand, comprehensive social protection systems contribute to poverty reduction, social cohesion, and political stability [6]. On the other hand, poorly designed or inefficient social policies increase fiscal risks, limit investment capacity, and may hinder long-term economic growth [7].

Pension provision is presented as a central pillar of social policy with a particularly strong impact on sustainable development. The analysis demonstrates that the existing public pension system in Georgia, despite its social importance, does not ensure a decent standard of living for older persons and fails to sufficiently reduce poverty risks among pensioners [8].

Particular emphasis is placed on the role of tax incentives in encouraging pension savings. International experience from countries such as the United States, the United Kingdom, Canada, Australia, Germany, Sweden, and the Netherlands shows that tax incentives and the EET (Exempt–Exempt–Taxed) model significantly promote long-term savings, capital accumulation, and individual financial responsibility [9].

The paper also analyzes the impact of gender and regional inequalities on the effectiveness of social policy. In Georgia, women and residents of rural and mountainous regions are more exposed to social vulnerability, which directly affects their future pension outcomes [10]. These disparities weaken the overall effectiveness of social policy and pose risks to social cohesion and sustainable development.

The concluding section emphasizes that sustainable socio-economic development cannot be achieved without an effective and forward-looking pension policy. An efficient pension system must be financially sustainable, socially equitable, and aligned with demographic realities. The role of the state should extend beyond pension payments to the creation of an institutional and legislative framework that promotes savings accumulation, labor market stability, and human capital development.

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CRITICAL THINKING AND HISTORICAL ANALYSIS AS KEY METHODS OF MODERN SCIENCE

Critical thinking in modern science is a method of intellectual discipline that provides conscious verification of statements, logical consistency of reasoning and resistance to cognitive biases. It involves the ability to formulate correct questions, separate facts from interpretations,

detect hidden assumptions, evaluate the quality of evidence and the reliability of sources, and also reproduce the chain of argumentation from data to conclusion. In research practice, critical thinking is manifested in the choice of adequate design, control of alternative explanations, attention to errors and limitations of data, verification of statistical conclusions, as well as in the readiness to change the position under the pressure of convincing results. In the modern information environment, this method acquires additional importance, since the scientist works with large arrays of publications, preprints and digital content, where the risk of errors, manipulations and incorrect generalizations increases. That is why critical thinking supports the quality of scientific communication through peer review, transparency of data and methods, and research ethics that require honesty, reproducibility, and accountability for the consequences of conclusions [1].

Historical analysis as a method of modern science consists in the systematic study of the development of phenomena over time, the reconstruction of cause-and-effect sequences, and the explanation of how context shapes results. Its content includes working with sources, assessing their reliability, comparing different testimonies, establishing chronologies, analyzing institutional changes, and interpreting events in terms of social, political, economic, and cultural conditions. In many fields, including the social sciences, policy studies, and the history of science and technology, historical analysis allows us to see not only the final state of the system, but also the trajectory that led to it. This helps to avoid simplistic explanations, recognize repetitive mechanisms, understand the cumulative effect of decisions and the dependence on previous choices, and correctly transfer conclusions from one period or case to another. Historical analysis is also useful for assessing the effectiveness of decisions, when it is necessary to compare intentions, implementation conditions, existing constraints, results, and long-term consequences, without replacing causality with random coincidences.

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METHODOLOGICAL ASPECTS OF EVALUATING THE EFFECTIVENESS OF MARKETING MANAGEMENT IN AGRICULTURAL ENTERPRISES IN THE CONTEXT OF ENSURING THEIR SUSTAINABLE DEVELOPMENT

The innovative and digital transformation that characterizes the current conditions of society's development has a significant impact on the management of the operational and marketing activities of agricultural enterprises, fundamentally changing the requirements for the tools used to evaluate them and rendering traditional approaches, focused exclusively on the analysis of sales costs, incomplete and requires the formation of a qualitatively new system of marketing support for the sustainable development of agricultural enterprises.

Today, the digitalization of agricultural product promotion channels is actively underway, so enterprises are forced to master digital marketing tools, including content marketing, digital advertising (contextual, targeted), and web analytics. This transformation generates demand for new, specific metrics (KPI, conversion rates, customer acquisition cost, return on investment in digital channels) that are not taken into account by traditional methods [1].

It should be noted that evaluating the effectiveness of marketing for any enterprise is a comprehensive, process-oriented approach to management decision-making aimed at improving the enterprise's ability to enhance its position in target segments and manage the effectiveness of its

activities by realizing the interests of owners, managers, employees, and external stakeholders.

Foreign researchers consider marketing performance management in terms of covering all processes, information, and systems used by managers to determine strategy, make plans, ensure monitoring, forecast performance, prepare reports, and make decisions [2]. The objectives of marketing performance management include: forecasting marketing activities; developing a marketing strategy; financial planning and budgeting for marketing activities; tactical and operational marketing planning; monitoring marketing activities at the operational and tactical levels; and making management decisions in the field of marketing.

At the same time, managing marketing performance using this approach has certain disadvantages, in particular, the lack of connection between the results obtained and other types of marketing activities; it does not allow establishing the relevance, timeliness, and degree of importance of the marketing result obtained; it does not reflect the relationship between the marketing result obtained and the costs incurred. Thus, the lack of consistency and formality of the marketing performance evaluation system does not allow the company's management to justify optimal marketing activities, but only to confirm their implementation. With this approach, marketing activities will be evaluated as effective, even if the results obtained are not relevant, optimal, or efficient.

Based on the generalization of existing requirements for performance parameters and taking into account methodological requirements for performance measurement, we have identified the following requirements: relevance – the indicator must correspond to the objectives of performance assessment; objectivity – the influence of subjectivity and prejudice at all stages of measurement, processing, and analysis of the indicator should be minimized; validity – the measured indicator should correspond to a specific property of marketing performance; reliability – repeated measurements of the indicator under similar conditions should give comparable results; accuracy – the measured results should be sensitive to the characteristics of the external and internal marketing environment; optimality – the amount of primary data for assessing the performance indicator should be necessary and sufficient.

According to the cost approach in management and marketing, the economic efficiency of marketing activities should be assessed in cost terms as the ratio of the value of the effects of marketing activities to the cost of expenses incurred in carrying out these activities. Thus, the effectiveness of marketing activities is the ratio, in value terms, of the actual or projected effects of specific types of marketing activities to the total costs of their implementation.

We believe that the implementation of these methodological approaches in agricultural enterprises will allow for more effective planning, budgeting, organization, and control of marketing activities, the implementation of an efficiency-oriented approach to marketing management, and that marketing itself will no longer be perceived by top managers of agricultural enterprises as an activity with unpredictable profitability and risks that cannot be determined.

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PROJECT MANAGEMENT AS THE BASIS FOR INNOVATIVE DEVELOPMENT OF HIGHER EDUCATION INSTITUTIONS

Modern higher education institutions operate in a complex, dynamic environment, which is determined both by internal transformations of the education system and external global challenges, such as digitalization, increased competition, demographic changes, employer demands, and requirements for the quality of educational services. In these conditions, there is an urgent need to develop and implement innovative strategies capable of ensuring the sustainable development of higher education institutions, increasing their competitiveness, and effectively responding to the challenges of the times.

Innovative development of higher education institutions is seen as a systematic, dynamic, and purposeful transformation of educational institutions aimed at improving their ability to generate new knowledge, implement modern educational practices, and ensure adaptability to changes in the socio-economic environment. In the context of implementing strategies for the innovative development of higher education institutions, the use of project management as a tool for implementing changes, achieving goals, and forming a results-oriented management environment is of particular importance. The project approach allows transforming the strategic guidelines of higher education institutions into specific operational plans that take into account time frames, budget constraints, risks, and performance indicators [1, p. 184].

Ensuring the success of an educational organization as a project-oriented entity is only possible by using project management technology. The uniqueness of management activities using project management technology lies in the fact that these activities are organized as projects. Such activities can be called innovative [2, p. 13].

Project management is the foundation of innovative development in higher education, as it provides a structured approach to managing innovative projects covering educational programs, scientific research, and administrative processes. This allows higher education institutions to adapt to a changing environment, improve the quality of education, and introduce new methods for training modern specialists.

In domestic and foreign scientific discourse, the project approach in education is considered a method of organizing activities that contributes to the achievement of specific goals through planning, implementation, and evaluation of results within clearly defined resources and deadlines. However, in the context of institutional development of higher education institutions, project management takes on greater depth: it shapes a new management culture, enhances strategic thinking, and focuses the university on performance, transparency, and competitiveness [3].

Project management is not only a means of implementing innovative initiatives in higher education institutions, but also a factor that transforms the educational process, promotes the introduction of new pedagogical practices, the development of academic autonomy, and increases the competitiveness of universities at both the national and international levels. It ensures effective interaction between teachers, students, administration, and external partners, which becomes the basis for creating an innovative educational environment.

Thus, the innovative development of a higher education institution is a certain process of changes taking place in it and characterized by the use of fundamentally new innovative technologies in both educational and managerial activities, ensuring the success of its vital functions. Managing the innovative development of an educational organization is a specific process of purposeful, fundamentally new forms of influence of the managing entity on the object with the aim of ensuring sustainable positive changes in the activities of this organization, which will lead to the success of its activities and contribute to the competitiveness of the educational organization both in the labor market and in the market of educational services. The success of an educational organization's activities is ensured by transforming its activities into a project-oriented

organization, the essence of which is that the organization is dynamically developing and transforming socially.

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SECURITY ASPECT WHEN HOLDING OPEN MASS EVENTS

An open venue presents specific challenges, as it is more difficult to “lock” people into controlled corridors, and the external environment changes due to weather, lighting, noise, and traffic. Therefore, security planning should include clear zoning of the area, determining capacity, controlling entrances and exits, calculating the throughput of passages, and coordinating evacuation routes taking into account real obstacles in the area, such as fences, temporary structures, retail outlets, and stage equipment. Scenarios are defined separately for typical threats, including crushes at narrow places, panic due to a local incident, fire in the food area, aggressive group behavior, terrorist threats, and sudden changes in weather when shelter or a rapid partial termination of the program is required [1]. Crowd management practice emphasizes that the bulk of the effort falls on the preparation phase, when roles, communication channels, decision-making procedures, and rules of interaction between organizers, security, police, medical units, and rescue services are prescribed.

At outdoor mass events, crowds are dynamic, their density changing in waves due to the start of performances, intermissions, the popularity of individual zones, the operation of food courts, toilets, points of sale, and transport stops. An effective security model involves constant monitoring of key areas, especially approaches to the stage, transitions between zones, intersections, and exits, as well as the presence of trained stewards who can correct the movement of people through clear instructions and gentle guidance. Communication with the audience is extremely important, as clear announcements, visual cues, and clear rules of conduct reduce the likelihood of chaotic reactions. Crowd management research shows that even with sophisticated plans, organizers often have limited support from technology, so there is a growing need for solutions that enhance surveillance, information sharing and decision coordination between all participants in event management. In parallel, physical security tools are used, including entrance screening, control of prohibited items, inspection of temporary structures, protection of cable lines and generators, and preventing overcrowding of certain sectors through temporary access restrictions. Critical here are an incident command system, agreed response protocols, training of personnel and prior joint

briefings with emergency services. Medical support should be integrated into the overall plan, including aid points, ambulance access routes and triage algorithms in the event of mass appeals. For outdoor spaces, weather-related decisions are also important, such as criteria for suspending the program in case of strong winds or thunderstorms, rules for disconnecting electrical equipment, organizing shelters and controlling crowds during forced movements. After the event, safe exit and dispersal of people is an essential element, since risks often arise precisely during the egress phase, when the audience simultaneously heads to transport or parking. Practice-oriented research on the safety management of mass gathering places emphasizes the value of risk assessment tools that combine design, information and flow management at the entrance, circulation and exit, and this is what allows for systematic risk reduction for outdoor events.

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