



# WSHIU

AKADEMIA NAUK STOSOWANYCH

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AND PRACTICAL CONFERENCE**

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



**18 December, 2025. Poznan, Poland**



**WSHIU**  
**AKADEMIA NAUK STOSOWANYCH**

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«PLANNING AND ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-  
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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

Andrusiv Uliana, Zelinska Halyna. <b>SUSTAINABLE DEVELOPMENT: FINANCIAL PLANNING AND RESOURCE MANAGEMENT IN THE REGION</b>	10
Antoniukova Lilia, Nahirny Pavlo. <b>FEATURES OF THE FUNCTIONING OF THE BANK DEPOSIT MARKET IN UKRAINE UNDER CURRENT CONDITIONS</b>	11
Andrushkiiv Bohdan, Honcharuk Oleh, Yakymuk Pavlo, Dzhydzhora Liliiana. <b>PLANNED SUPPORT OF THE HEALTH CARE DEVELOPMENT BY MEANS OF SYSTEM INTEGRATION INTO THE EUROPEAN SPACE IN THE POST-WAR PERIOD</b>	13
Basarab Volodymyr. <b>THE ROLE OF GREEN FINANCE IN THE POST-WAR ECONOMIC RECOVERY OF UKRAINE BASED ON SUSTAINABLE DEVELOPMENT PRINCIPLES</b>	15
Bakay Vitaliy. <b>INNOVATIVE FINANCIAL INSTRUMENTS TO SUPPORT SUSTAINABLE DEVELOPMENT IN THE AGRICULTURAL SECTOR OF UKRAINE</b>	16
Borutska Yuliia, Guchevska Inna, Strogush Alina. <b>ESG AS A STRATEGY FOR ENVIRONMENTAL BALANCE AND SOCIO-ECONOMIC DEVELOPMENT OF TOURIST DESTINATIONS IN UKRAINE</b>	17
Bednarchyk Stanislav. <b>DIGITAL TWINS OF ENTERPRISES AS A TOOL FOR COST OPTIMIZATION AND ENVIRONMENTAL CONTROL</b>	18
Bilyk Taras. <b>THE INTERPLAY OF RESILIENCE AND SECURITY IN THE GREEN-DIGITAL BUSINESS TRANSITION</b>	21
Borovyk Petro. <b>TAX ON MARKET TRANSACTIONS INVOLVING FOREST LAND PLOTS: RELEVANCE FOR POST-WAR UKRAINE</b>	22
Bialkovska Oksana, Ravliuk Adriana. <b>PECULIARITIES OF ANTI-CRISIS MANAGEMENT OF ENTERPRISES AND ORGANIZATIONS DURING WARTIME</b>	23
Balaniuk Ivan, Boichuk Yaroslav, Zhekalo Illia. <b>ORGANIZATIONAL AND ECONOMIC MECHANISM FOR MONITORING THE FINANCIAL CONDITION OF AN ENTERPRISE: METHODOLOGY OF INTEGRATED ACCOUNTING AND ANALYTICS</b>	25
Bradul Oleksandr. <b>ESG FACTORS AS A DRIVER OF THE TRANSFORMATION OF ACCOUNTING AND CORPORATE FINANCIAL REPORTING</b>	27
Budiakova Olena. <b>BIOECONOMY FOR ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS</b>	28
Chernienko Oleksandr. <b>MOTIVATION AND ATTITUDE OF STUDENTS TO PHYSICAL CULTURE AND SPORTS IN CONDITIONS OF MODERN EDUCATION</b>	29
Cherniavska Iryna, Popova Liudmyla, Liubitov Dmytro. <b>PROFESSIONAL POTENTIAL OF MEDICAL STAFF: IMPACT ON THE SUSTAINABILITY AND COMPETITIVENESS OF THE INSTITUTION</b>	31
Dudchenko Andrii. <b>TRANSFORMATION OF CORPORATE CULTURE OF SERVICE ENTERPRISES IN UKRAINE UNDER CONDITIONS OF WAR-ECONOMIC TURBULENCE</b>	32
Didkivska Karyna. <b>THE ROLE OF THE INSURANCE MARKET IN ENSURING SUSTAINABLE DEVELOPMENT IN UKRAINE</b>	34
Dubiei Yuliia, Papizh Yuliia, Verchenko Dmytro. <b>APPROACHES TO FORMING A STRATEGY FOR AN ENTERPRISE'S EXPORT ACTIVITY</b>	35
Diadiuk Daryna, Hurman Olena. <b>BUSINESS PROCESS REENGINEERING AS A MECHANISM FOR IMPROVING ENTERPRISE FINANCIAL STABILITY</b>	36
Derenska Yana. <b>FINANCIAL AND ECONOMIC ASPECTS OF ENSURING SUSTAINABLE DEVELOPMENT OF HEALTHCARE INSTITUTIONS</b>	38
Dobrianska Nataliia. <b>DIGITALIZATION AND THE FINANCIAL SECURITY OF MARKET PARTICIPANTS IN UKRAINE: ADVANTAGES AND RISK REDUCTION</b>	39
Feduniak Ihor. <b>MECHANISM FOR ENSURING SUSTAINABLE DEVELOPMENT OF AGRICULTURAL ENTERPRISE</b>	41
Felenchak Yuliia. <b>CULTURAL HERITAGE AS AN INFORMATIONAL RESOURCE FOR THE SUSTAINABLE DEVELOPMENT OF TOURISM IN CROSS-BORDER TERRITORIES</b>	42
Gieldoń Tomasz. <b>SOCIAL ENTREPRENEURSHIP AS A FACTOR FOR THE SUSTAINABLE DEVELOPMENT OF REGIONAL ECONOMIES</b>	43
Grebenuk Nadiia. <b>INSURANCE AS A FINANCIAL INSTRUMENT IN THE FORMATION OF FINANCIAL LITERACY OF HOUSEHOLDS IN UKRAINE</b>	45
Gavrillo Tetiana, Hryb Anna. <b>ESG – PRINCIPLES: THE ROLE IN FUTURE RECONSTRUCTION OF UKRAINE</b>	46
Gudz Olena. <b>FINANCIAL RESILIENCE IN THE CONTEXT OF UKRAINE'S POST-WAR RECOVERY AND SUSTAINABLE DEVELOPMENT</b>	48
Hurskyi Andrii, Berezhnyska Uliana. <b>FINANCING INVESTMENT ACTIVITIES OF AGRICULTURAL ENTERPRISES IN UKRAINE IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT</b>	49
Honcharuk Oleh, Melnyk Liliya. <b>INTEGRATION OF SUSTAINABLE DEVELOPMENT PRINCIPLES INTO THE DEVELOPMENT STRATEGIES OF HEALTHCARE INSTITUTIONS</b>	50
Holod Andrii. <b>SUSTAINABLE REGIONAL TOURISM IN UNSTABLE ENVIRONMENTS: FROM INFRASTRUCTURE TO DESTINATION MANAGEMENT</b>	52
Hrynyuk Nataliya. <b>FINANCIAL AND ECONOMIC ENSURANCE OF SUSTAINABLE TOURISM DEVELOPMENT IN THE COOPERATIVE SECTOR OF THE ECONOMY</b>	53
Ivanyshyn Volodymyr, Dudziak Bohdana. <b>RURAL GREEN TOURISM AS A FACTOR OF SUSTAINABLE DEVELOPMENT OF RURAL AREAS</b>	54
Kindrat Olena, Cherniak Yurii. <b>DIGITAL TRANSFORMATION OF ENTERPRISE MANAGEMENT AS A TOOL FOR ENSURING SUSTAINABLE DEVELOPMENT</b>	56
Kucher Galina. <b>PUBLIC-PRIVATE PARTNERSHIP MECHANISM FOR FINANCING POST-WAR RECONSTRUCTION IN UKRAINE</b>	57
Khmeliar Inesa, Shustuk Roman, Kushnir Lesia. <b>MODERN MEDICINE AS A TOOL FOR SUSTAINABLE DEVELOPMENT: FROM TREATMENT TO POPULATION HEALTH MANAGEMENT</b>	59
Korablinova Iryna, Horobets Petro. <b>GLOBAL TRENDS IN THE DIGITAL AGE: BETWEEN ECONOMIC COMPLEXITY AND SUSTAINABLE DEVELOPMENT</b>	60
Kuzheliev Mykhailo. <b>FINANCING EDUCATION AS A FACTOR IN ENSURING THE SUSTAINABLE DEVELOPMENT OF THE COUNTRY</b>	61
Kasianova Nataliia, Popov Yuriy. <b>FARM DEVELOPMENT STRATEGY</b>	63
Karpenko Vitalii. <b>APPROACHES AND TOOLS OF SUSTAINABLE DEVELOPMENT MANAGEMENT IN THE FASHION INDUSTRY</b>	64
Kyrpa Vitalii, Boichenko Mykola, Kharin Serhii. <b>MANAGEMENT OF THE COMPETITIVENESS OF LLC "KATERYNSLAVKHLIB" THROUGH THE IMPROVEMENT OF ITS PRODUCT STRATEGY</b>	66
Kyselov Yurii. <b>THE IMPORTANCE OF GEODETIC AND NATURAL SCIENCE KNOWLEDGE FOR CONSTRUCTION</b>	67
Kovalenko Andrii. <b>SOCIAL COMPETENCE OF STUDENT YOUTH AS A PREREQUISITE FOR SUSTAINABLE SOCIETAL DEVELOPMENT</b>	68
Kovalska Tetiana, Ponochohva Olena. <b>METHODS OF ASSESSING THE PROFITABILITY OF AGRICULTURAL ENTERPRISES IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT</b>	70
Kozhukhivska Raisa. <b>THE ROLE OF DIGITALISATION IN ENSURING SUSTAINABLE DEVELOPMENT IN TOURISM</b>	71

Kozakevych Antonina. <b>FORMATION OF YOUTH FINANCIAL COMPETENCE AS A BASIS OF SUSTAINABLE DEVELOPMENT</b>	72
Korobeinykova Yaroslava, Pobihun Olena. <b>ANALYSIS OF SUSTAINABLE PRACTICES IN THE TOURISM AND HOSPITALITY INDUSTRY</b>	74
Kundeus Oleksandr. <b>THE NESSECITY FOR INTEGRATION OF MANAGEMENT AND FINANCIAL ACCOUNTING IN MODERN CIRCUMSTANCES</b>	75
Kovalska Karyna. <b>THE ROLE AND SIGNIFICANCE OF MODERN MEDICINE IN ENSURING SUSTAINABLE DEVELOPMENT</b>	76
Kukharska Liliia, Zhyvko Oleg, Zhyvko Yurii. <b>BUSINESS MANAGEMENT SECURITY IN WARTIME CONDITIONS: STRATEGIC ADAPTATION, RISK MITIGATION, AND ORGANIZATIONAL RESILIENCE</b>	78
Kharchuk Olena, Mykytenko Tetiana. <b>TOOLS OF FOREIGN ECONOMIC ACTIVITY IN THE CONTEXT OF THE GLOBAL GOALS OF SUSTAINABLE DEVELOPMENT</b>	80
Kravets Ivan. <b>FINANCIAL ASPECTS OF ENSURING SUSTAINABLE DEVELOPMENT OF SMALL ENTERPRISES</b>	81
Kravets Serhii. <b>INDUSTRIAL PARKS AS A FACTOR IN UKRAINE'S ECONOMIC RECOVERY IN THE CONTEXT OF STATE SUPPORT AND IMPLEMENTATION CHALLENGES</b>	82
Kirbai Tetiana. <b>THE IMPACT OF SOCIO-ECONOMIC FACTORS ON GLOBAL FOOD PRICE SECURITY</b>	83
Klochkova Anna, Tarasenko Kateryna, Choma Tetiana. <b>THE ROLE OF CUSTOMS AUTHORITIES IN ENHANCING THE ECONOMIC RESILIENCE OF THE STATE IN THE CONTEXT OF MILITARY CHALLENGES</b>	85
Lukianova Valentina, Malitsk Roman. <b>ECONOMIC SECURITY IN EU COUNTRIES: PROBLEMS AND PROSPECTS</b>	86
Lutsenko Tetyana, Remizova Olesia. <b>3D-PRINTING OF PERSONALIZED MAXILLOFACIAL IMPLANTS AS A COMPONENT OF SUSTAINABLE MODERN MEDICINE</b>	87
Lazarenko Yuliia. <b>AI-POWERED EMPLOYEE EXPERIENCE AS A STRATEGIC DRIVER OF SUSTAINABLE HUMAN CAPITAL MANAGEMENT</b>	89
Litvinov Vitaliy. <b>DIRECT AND INDIRECT METHODS OF LABOR MOTIVATION IN AGRICULTURAL ENTERPRISES</b>	90
Marynin Dmytro. <b>USING BIG DATA TO FORECAST AND REDUCE CUSTOMER CHURN IN E-COMMERCE BASED ON SUSTAINABLE DEVELOPMENT PRINCIPLES</b>	91
Melnychuk Oksana. <b>INFORMATION SYSTEMS AND DIGITAL TOOLS IN EDUCATION MANAGEMENT</b>	93
Maslovata Svitlana. <b>CADASTRAL VALUATION OF LANDS FOR BUSINESS ACTIVITIES: INNOVATIVE ECONOMIC MODEL</b>	94
Markovskiyi Nazar. <b>ROLE AND PLACE OF LOGISTICS IN INTERNATIONAL TRADE AND MANAGEMENT OF RELATED OPERATIONS</b>	95
Manuilov Yurii. <b>MULTILEVEL GOVERNANCE AND SUSTAINABLE DEVELOPMENT OF UKRAINIAN REGIONS IN THE CONTEXT OF THE EUROPEAN COHESION POLICY</b>	96
Maliuga Liudmyla. <b>COST AND SERVICE MANAGEMENT BASED ON STATISTICAL ANALYSIS</b>	98
Makohon Valentyna. <b>TAXATION OF BUSINESS ACTIVITIES IN UKRAINE IN CONDITIONS OF UNCERTAINTY</b>	99
Naherniuk Diana. <b>PROSPECTS AND CHALLENGES FOR THE DEVELOPMENT OF RURAL GREEN TOURISM IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT</b>	101
Hrosheleva Olena, Usatenko Oleksandr, Nazarenko Bohdan. <b>INTEGRATION OF LOGISTICS AND FOREIGN ECONOMIC STRATEGY AS A BASIS FOR COMPANY'S SUSTAINABLE OPERATIONS IN GLOBAL ENVIRONMENT</b>	102
Nepochatenko Valentyna. <b>INTERNET MARKETING FOR THE RESTAURANT BUSINESS</b>	103
Nadiuk Ihor. <b>DIGITAL PLATFORMS AND DATA-DRIVEN DECISION MAKING AS TOOLS FOR SUSTAINABLE LIVESTOCK MARKET DEVELOPMENT</b>	105
Nahirna Oksana. <b>THE IMPACT OF PR MANAGEMENT AND OFFICE MANAGEMENT ON THE FORMATION OF A POSITIVE IMAGE AND INFORMATIONAL STABILITY OF AN ORGANIZATION</b>	106
Nizhehorodtsev Vladyslav, Shevchuk Iryna. <b>SOME ASPECTS OF BUILDING AN INCLUSIVE INFORMATION SPACE BASED ON DIGITAL PLATFORMS</b>	107
Ovetska Olha, Maksymets Khrystyna. <b>STRESS RESEARCH IN THE COMPANY TO ACHIEVE SUSTAINABLE DEVELOPMENT GOALS</b>	108
Papizh Yuliia, Dubiei Yuliia, Vialko Yuliia. <b>STRATEGIC ASPECTS OF INCREASING THE COMPETITIVENESS OF INDUSTRIAL ENTERPRISES WITHIN THE FRAMEWORK OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT</b>	110
PanfILOva Halyna, Lykholat Olena. <b>MENTAL HEALTH AND PSYCHOLOGICAL WELL-BEING OF THE UKRAINIAN NATION IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT PROBLEMS</b>	111
Petrenko Tetiana, Ponochohna Olena. <b>RISK MANAGEMENT OF AGRARIAN ENTERPRISES AS A BASIS FOR ENSURING SUSTAINABLE DEVELOPMENT</b>	113
Ponochohna Anastasiia, Nazarenko Maryna. <b>HUMAN CAPITAL AND DEMOGRAPHIC ASPECTS IN ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS</b>	114
Pushenko Olena. <b>THE ROLE AND IMPORTANCE OF MODERN MEDICINE IN ENSURING SUSTAINABLE DEVELOPMENT</b>	115
Pushak Yaroslav. <b>FEATURES OF FINANCIAL AND ECONOMIC SUPPORT OF SUSTAINABLE DEVELOPMENT</b>	116
Petrenko Tetiana, Mokiienko Tetiana. <b>FORENSIC ECONOMIC EXAMINATION AS A TOOL FOR ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEM</b>	117
Polous Bohdan. <b>VISUALIZATION OF SUSTAINABLE DEVELOPMENT VALUES IN THE COMPANY'S MARKETING COMMUNICATIONS SYSTEM</b>	118
Polous Olha. <b>CONSUMER BEHAVIOUR MOTIVATION: BRANDS ON THE BRAIN</b>	119
Riabokin Taras, Khaustova Yevheniia. <b>ADJUSTMENT OF DEVELOPMENT STRATEGIES BASED ON THEIR IMPLEMENTATION RESULTS IN THE CORPORATE SECTOR OF UKRAINE'S ECONOMY</b>	121
Revutsk Alla. <b>SOCIAL AND INFORMATION CIRCULAR BASES FOR PLANNING SUSTAINABLE ECONOMIC DEVELOPMENT</b>	122
Reshmidilova Svitlana, Aleynyk Pavlo. <b>BUSINESS SOCIAL RESPONSIBILITY IN ENSURING SUSTAINABLE DEVELOPMENT</b>	123
Romaniuk Svitlana. <b>LEADERSHIP POTENTIAL OF A MODERN EDUCATOR IN THE CONDITIONS OF SUSTAINABLE DEVELOPMENT</b>	125
Skupeyko Andriy. <b>MAIN REASONS FOR ENSURING THE PROTECTION OF CONSTITUTIONAL HUMAN RIGHTS</b>	126
Shepeliuk Vira, Mazur Tetyana. <b>THE IMPORTANCE OF FAIR VALUE IN ASSET VALUATION: INTERNATIONAL EXPERIENCE AND PROSPECTS FOR SUSTAINABLE DEVELOPMENT</b>	127
Shelemetieva Tetiana. <b>PLANNING AND ENSURING SUSTAINABLE DEVELOPMENT OF TOURISM IN THE REGIONS OF UKRAINE</b>	128
Sydor Oksana. <b>COMPARISON OF NATIONAL AND GLOBAL INDICATORS USED TO DEFINE THE THIRD SUSTAINABLE DEVELOPMENT GOAL "GOOD HEALTH AND WELL-BEING"</b>	130
Scharko Vitalii. <b>OMNICHANNEL RETAILING: THEORETICAL APPROACHES AND SELECTED PRACTICAL IMPLEMENTATION ASPECT</b>	132
Shevchenko Olena. <b>FROM WAR ECONOMY TO SUSTAINABLE DEVELOPMENT: SYSTEMIC LESSONS FROM THE MARSHALL PLAN</b>	133

Sheludko Sergii. <b>THE INTERPLAY BETWEEN FINANCIAL INCLUSION AND SUSTAINABLE DEVELOPMENT IN MANAGING THE STATE'S FINANCIAL SECURITY</b>	135
Shepel Tetiana. <b>THEORY OF CONSUMER INFLUENCE IN NEUROMARKETING</b>	136
Shepel Tetiana. <b>UKRAINE'S ENERGY SYSTEM IN WAR CONDITIONS</b>	137
Shevchenko Anna, Al-Mayyahi Ali. <b>SUSTAINABLE DEVELOPMENT AND ESG ORIENTATION IN SHAPING THE COMPETITIVE PROFILES OF GLOBAL AIRLINES</b>	139
Shtangret Andriy. <b>HUMAN RESOURCE SUPPORT FOR THE IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT PRINCIPLES UNDER CONDITIONS OF A SIGNIFICANT WAR THREAT</b>	140
Shumilova Natalia. <b>DIGITAL TECHNOLOGIES AS A FACTOR IN IMPROVING THE DIGITAL COMPETENCE OF SPECIAL EDUCATION PROFESSIONALS</b>	141
Simkova Tetiana, Veselyi Dmytro. <b>IMPACT FACTORS AND EVALUATION INDICATORS FOR THE EFFECTIVENESS OF TRANSPORT COMPANIES</b>	143
Skrypnyk Halyna, Buriak Danylo. <b>FINANCIAL LEASING: ESSENCE AND ADVANTAGES</b>	144
Slyvinska Oksana. <b>FEATURES OF INTERNAL AUDIT ORGANIZATION IN BANKS</b>	145
Solyanyk Karina, Shepel Tetiana. <b>THE ILLUSION OF CHOICE IN INDUSTRIAL MARKETING: THE ROLE OF ARTIFICIAL INTELLIGENCE ALGORITHMS</b>	147
Saranchuk Halyna. <b>INNOVATIVE DEVELOPMENT OF AGRICULTURAL ENTERPRISES AS A BASIS FOR ENSURING SUSTAINABLE DEVELOPMENT OF RURAL AREAS</b>	148
Sudomyr Svitlana. <b>THE ROLE OF SOCIAL AND INFORMATION FACTORS IN THE STRATEGIC PLANNING OF SUSTAINABLE TERRITORIAL DEVELOPMENT</b>	149
Stemkovska Iryna. <b>DISCLOSURE OF NON-FINANCIAL INFORMATION IN FINANCIAL STATEMENTS AS A FACTOR OF SUSTAINABLE DEVELOPMENT</b>	150
Solop Anastasiia, Chorna Tetiana. <b>SOCIAL AND ECONOMIC CONSEQUENCES OF THE CIRCULATION OF COUNTERFEIT PRODUCTS FOR THE SUSTAINABILITY OF THE MARKET SYSTEM</b>	152
Smolii Liudmyla. <b>ENSURING SUSTAINABLE DEVELOPMENT THROUGH IMPROVING NATIONAL SECURITY</b>	153
Sobchyshyn Vitalii. <b>COST OPTIMIZATION IN THE PROCESS OF IMPLEMENTING THE ENTERPRISE'S MINERAL FERTILIZER PROCUREMENT STRATEGY IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT</b>	154
Sibruk Viktor. <b>THE ROLE OF BRANDING IN SUSTAINABLE DEVELOPMENT</b>	156
Sakovska Olena. <b>RECREATIONAL ACTIVITIES AS A FACTOR IN THE DEVELOPMENT OF TOURIST DESTINATIONS</b>	157
Sazonets Igor, Vivsyannyk Oleh. <b>BARRIER-FREE INFRASTRUCTURE OF THE RESORT AREA OF THE CITY OF SAMAR (UKRAINE)</b>	158
Sazonets Olga, Salenko Andriy. <b>FAO ACTIVITIES AND COOPERATION WITH UKRAINE</b>	160
Shkolenko Oksana, Kuran Oksana. <b>FINANCIAL AND ECONOMIC MECHANISMS TO SUPPORT THE SUSTAINABLE DEVELOPMENT OF THE EU AVIATION INDUSTRY DURING CRISES</b>	161
Sydorenko D.O.. <b>PRECONDITIONS FOR IMPROVING UKRAINE'S OPEN BUDGET INDEX SCORE IN 2025</b>	162
Stefinin Volodymyr, Mosechuk Denys. <b>MANAGEMENT OF THE STRATEGY OF MOTIVATION AND STIMULATION OF PERSONNEL IN TRADE AS A TOOL FOR ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS BASED ON OPEN RESEARCH DATA</b>	164
Spirina Iryna, Kovalenko Tetiana. <b>SUICIDAL BEHAVIOR IN THE CONDITIONS OF WAR IN UKRAINE: CLINICAL-PSYCHOLOGICAL AND FORENSIC-MEDICAL CHALLENGES FOR THE SUSTAINABLE DEVELOPMENT OF THE SOCIO-MEDICAL SYSTEM</b>	166
Shepeliuk Vira. <b>DIGITALIZATION OF FINANCIAL REPORTING TO ENSURE COMPLIANCE WITH IFRS AND SUPPORT SUSTAINABLE ENTERPRISE DEVELOPMENT</b>	167
Shulha Olha. <b>ADAPTIVE MANAGEMENT MODELS OF ECONOMIC SECURITY OF THE AGRICULTURAL SECTOR IN THE CONTEXT OF ENSURING SUSTAINABLE DEVELOPMENT</b>	168
Shevchuk Vladyslava, Andrushchenko Mark. <b>PROSPECTS FOR TRADE AND ECONOMIC COOPERATION BETWEEN UKRAINE AND MEXICO IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT GOALS</b>	170
Shablyi Artem. <b>TRANSFORMING CORPORATE PROCUREMENT: GLOBAL TRENDS IN THE CONTEXT OF DIGITALIZATION AND ESG</b>	172
Shemiakin Mykhailo. <b>CARTOGRAPHIC ASSURANCE OF TOURISM ACTIVITIES</b>	173
Shulezhko Andriy. <b>INNOVATIVE DIRECTIONS FOR THE DEVELOPMENT OF THE MARKETING MECHANISM FOR AGRICULTURAL BUSINESS MANAGEMENT</b>	174
Shamro Nataliia. <b>BIODIVERSITY AS A BASIS FOR SUSTAINABLE DEVELOPMENT OF PROTECTED AREAS: MONITORING EXPERIENCE FROM MOUNT MAKITRA</b>	175
Severchuk Anastasia. <b>REFORM OF THE PENSION SYSTEM OF UKRAINE IN THE CONTEXT OF FINANCIAL SUPPORT FOR SUSTAINABLE DEVELOPMENT</b>	177
Telnov Anatoly, Chorna Vitalina. <b>THE ROLE AND IMPORTANCE OF MODERN MEDICINE IN ENSURING SUSTAINABLE DEVELOPMENT</b>	178
Tymchuk Svitlana. <b>INFORMATION TRANSPARENCY OF COMMUNITIES AS A FACTOR OF TRUST AND REVIVAL OF RURAL GREEN TOURISM</b>	179
Tarasevych Inna. <b>GROUP PSYCHOTHERAPY AS A RESOURCE FOR PSYCHOLOGICAL RESILIENCE IN CONDITIONS OF WAR</b>	181
Tsizhma Y., Harhala A., Tsizhma V. <b>DIGITALIZATION AND INNOVATION AS DRIVERS OF ENTREPRENEURIAL ACTIVITY DEVELOPMENT AMIDST CONTEMPORARY ECONOMIC CHALLENGES</b>	182
Trokhymets Olena. <b>IMPLEMENTATION OF ESG STANDARDS IN CORPORATE GOVERNANCE AS A TOOL FOR SUSTAINABLE DEVELOPMENT</b>	184
Tarayevska Lesya, Lytvynets Roman. <b>THEORETICAL ASPECTS OF DEVELOPING AN ORGANIZATIONAL AND ECONOMIC MECHANISM FOR ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS</b>	185
Telnov Anatoly, Kulatsky Vadym. <b>INFORMATION TRANSPARENCY AS AN OPEN DATA MODEL IN PUBLIC PARTICIPATION IN SUSTAINABLE DEVELOPMENT PLANNING</b>	186
Telnov Anatoly, Oliynyk Karina. <b>GREEN MARKETING AS A FACTOR IN FORMING COMPETITIVE ADVANTAGES AND ENSURING SUSTAINABLE DEVELOPMENT</b>	187
Telnov Anatoly, Tretko Sergiy. <b>INFORMATION SUPPORT IN SUSTAINABLE DEVELOPMENT PLANNING</b>	189
Trushkina Nataliia. <b>AN ESG-BASED CONCEPTUAL MODEL OF SUSTAINABLE MARKETING WITHIN FINANCIAL AND ECONOMIC DEVELOPMENT SYSTEMS</b>	190
Tymonchak Nazar, Stefinin Volodymyr. <b>ARTIFICIAL INTELLIGENCE AS A TOOL FOR IMPROVING ACCOUNTING AND ANALYTICAL</b>	192

<b>PROCESSES OF AN ENTERPRISE</b>	
Tarasenko Olena. <b>BUDGET PLANNING AS A TOOL FOR ENSURING THE SUSTAINABLE DEVELOPMENT OF TERRITORIAL COMMUNITIES</b>	193
Turubarova Anastasiia, Smoliak Volodymyr. <b>THE ROLE OF PSYCHOLOGICAL WELL-BEING OF HELPING PROFESSIONALS IN ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS</b>	194
Udovichenko Viktoria, Bradul Oleksandr. <b>DISCLOSURE OF INFORMATION ABOUT LIABILITIES IN NON-FINANCIAL REPORTING: EU AND IFRS REQUIREMENTS</b>	196
Ushenko Natalia, Tonkoholos Anastasiia. <b>SUSTAINABLE DEVELOPMENT IN NIGERIA: IMPACTS AND OPPORTUNITIES OF FOREIGN INVESTMENT</b>	197
Udovenko Iryna. <b>THE ROLE OF THE CADASTRE OF POPULATED AREAS IN THE TRANSFORMATION OF MODERN LAND RELATIONS</b>	199
Varakuta Maryna. <b>PSYCHOLOGICAL REHABILITATION OF COMBATANTS AND THEIR FAMILIES AS A FACTOR OF NATIONAL RESILIENCE</b>	200
Verstiatk Oksana. <b>IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT PRINCIPLES IN STRATEGIC LOGISTICS MANAGEMENT: EU EXPERIENCE AND PERSPECTIVES FOR UKRAINE</b>	202
Viblyi Dmytro, Ivanova Maryna, Kharin Serhii. <b>ENSURING THE EFFECTIVE DEVELOPMENT OF ENTERPRISES SPECIALIZING IN RETAIL TRADE THROUGH BUSINESS PROCESS RE-ENGINEERING AND INTEGRATION OF AN INTERACTIVE AI AGENT</b>	203
Vinichuk Mariia. <b>FINANCIAL AND ECONOMIC MECHANISMS OF SUSTAINABLE DEVELOPMENT IN THE SYSTEM OF CONTROLLING, ANTI-CORRUPTION COMPLIANCE, AND PUBLIC ADMINISTRATION</b>	205
Voronko-Nevidnycha Tetiana, Pustovar Olha. <b>MANAGEMENT OF ESG-PRINCIPLES INTEGRATION IN AGRICULTURAL ENTERPRISES OF UKRAINE IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT AND EU INTEGRATION</b>	206
Vorobyova Oksana. <b>VECTORS OF TRANSFORMATION OF UKRAINE'S FISCAL POLICY TO STRENGTHEN REGIONAL ECONOMIC SUSTAINABILITY</b>	207
Yudicheva Olha. <b>FOOD SECURITY OF UKRAINE: CURRENT CHALLENGES</b>	209
Yakubenko Nataliia, Shepel Tetiana. <b>DIGITAL DRIVERS OF SUSTAINABLE DEVELOPMENT OF YOUTH: FROM ENVIRONMENTAL AWARENESS TO POST-WAR RECONSTRUCTION OF SOCIO-ECONOMIC SYSTEMS</b>	210
Yakymenko-Tereshchenko Nataliia, Nosyriev Oleksandr. <b>ENVIRONMENTAL AWARENESS, CYBERSECURITY, AND DIGITALIZATION IN TOURISM DESTINATION MANAGEMENT</b>	211
Yemets Olha, Khimenko Anna, Vyshnevskiy Oleh. <b>THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF SUSTAINABLE ENTREPRENEURIAL DEVELOPMENT AND MANAGERIAL INNOVATIONS</b>	212
Yeremenko Andriy. <b>INTERNATIONAL SCIENTIFIC AND TECHNOLOGICAL COOPERATION: GEOPOLITICS, EQUITY, GLOBAL THREATS</b>	214
Yukhnovska Yulia, Volyk Nataliia. <b>THE ROLE OF THE FINANCIAL STRATEGY OF HOSPITALITY ENTERPRISES IN ACHIEVING SUSTAINABLE DEVELOPMENT GOALS</b>	216
Yermishova Svitlana. <b>FINANCIAL RESOURCE MANAGEMENT IN THE STRUCTURE OF MODERN SPORTS MANAGEMENT OF UKRAINE</b>	217
Yakymenko Dmytro, Boichenko Mykola, Ivanova Maryna. <b>IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE SYSTEM AS A COMPONENT OF INNOVATIVE LOGISTICS MANAGEMENT SYSTEM OF ENTERPRISE</b>	218
Yaroshenko Yuliia, Shvets Vasil, Ivanova Maryna. <b>USE OF STRATEGIC MANAGEMENT TOOLS TO ENSURE SUSTAINABLE DEVELOPMENT OF AN ENTERPRISE</b>	220
Zozulia Oleksandr. <b>DIGITAL TOOLS IN MARKETING MANAGEMENT IN ENSURING SUSTAINABLE DEVELOPMENT</b>	221
Zinych Oksana. <b>FINANCIAL AND ECONOMIC ASPECTS OF ENSURING SUSTAINABLE DEVELOPMENT IN PUBLIC SECTOR INSTITUTIONS: SPECIFICS OF ACCOUNTING AND MANAGEMENT REPORTING</b>	223
Zhybak Myron. <b>INFORMATION SUPPORT FOR SOCIAL DIMENSIONS OF SUSTAINABLE DEVELOPMENT PLANNING IN THE AGRARIAN SECTOR</b>	224
Zghura Yaroslav. <b>MERGERS AND ACQUISITIONS AS A TOOL FOR ENSURING BUSINESS STABILITY IN CONDITIONS OF ECONOMIC UNCERTAINTY</b>	226
Zarudna Nataliia, Dushnitska Yuliia. <b>FINANCIAL AND ECONOMIC CHALLENGES OF SUSTAINABLE DEVELOPMENT IN A GLOBALIZED WORLD</b>	227
Zhytnyk Ruslan. <b>IMPLEMENTATION OF AFFORDABLE DIGITAL SOLUTIONS AS A FACTOR IN THE SUSTAINABLE DEVELOPMENT OF AMATEUR SPORTS INFRASTRUCTURE</b>	226
Zhyliakova Olena. <b>HOUSEHOLD FINANCE IN ENSURING THE SUSTAINABLE DEVELOPMENT GOALS</b>	229
Zhyvko Zinaida, Myroniuk Vasyl, Shehynska Anastasiia. <b>STRATEGIC CHOICE BETWEEN DIRECT AND INDIRECT EXPORT IN THE INTERNATIONAL ACTIVITIES OF AVIATION INDUSTRY ENTERPRISES</b>	231
Zinchenko Viktor. <b>TOURISM AS A MANIFESTATION OF SUSTAINABLE DEVELOPMENT OF A SOCIO-ECONOMIC SYSTEM</b>	233
Zakryzhevskia Iryna. <b>WAYS TO IMPLEMENT SUSTAINABLE MARKETING PRINCIPLES TO INCREASE COMPETITIVENESS</b>	234
Zhytar Maksym. <b>FINANCIAL SECURITY OF THE STATE AS A STRATEGIC PREREQUISITE FOR SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT OF UKRAINE</b>	236

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## **SUSTAINABLE DEVELOPMENT: FINANCIAL PLANNING AND RESOURCE MANAGEMENT IN THE REGION**

Regional sustainable development has emerged as a critical policy arena where financial planning intersects with resource management. The question of how regions can develop sustainably while managing limited resources has gained urgency in recent decades. Financial planning at the regional level must now account for environmental constraints and social needs alongside economic objectives. Unlike earlier development models that prioritized growth above all else, contemporary regional planning recognizes that economic prosperity depends on maintaining healthy ecosystems and cohesive communities. Climate change, resource scarcity, and shifting demographics have forced regions to reconsider their financial strategies. Traditional budgeting approaches often fail to capture the long-term costs of environmental degradation or the benefits of investing in natural capital. Regions that successfully navigate these challenges typically employ integrated planning systems that link financial decisions to measurable sustainability outcomes.

When the Brundtland Commission introduced its definition of sustainable development in 1987, it articulated a principle that has since shaped regional policy worldwide: development should meet present needs without compromising future generations. Yet translating this principle into regional practice proves more complex than the definition suggests. Regions must maintain their ecological foundations while generating employment, providing services, and improving quality of life. The triple bottom line concept offers one way to structure this challenge [1].

Regional development thinking has shifted considerably over the past several decades. Earlier models assumed that economic growth would eventually address environmental and social problems. Experience has shown otherwise. Regions that depleted their natural resources for short-term gain often faced long-term economic decline. Regional budgets typically operate on annual cycles, yet sustainability requires thinking in decades. This temporal mismatch creates real problems. Infrastructure decisions made today—about energy systems, transportation networks, or water treatment facilities—will shape regional development for 30 or 40 years. If these decisions prioritize only short-term costs, regions lock themselves into unsustainable patterns.

Green budgeting represents another innovation gaining traction. Rather than treating environmental spending as a separate category, green budgeting tracks how all government spending affects sustainability goals. Transportation budgets reveal how much goes to public transit versus highways. Energy spending shows the split between renewables and fossil fuels. This transparency helps identify misalignments between stated sustainability commitments and actual resource allocation [2].

Regional governments face a fundamental constraint: tax revenues rarely suffice for the scale of investment sustainable development requires. Green bonds have emerged as particularly promising. These bonds raise capital specifically for environmental projects, attracting investors interested in both financial returns and environmental impact. A region might issue green bonds to fund solar installations, energy efficiency retrofits, or wetland restoration. Public-private partnerships (PPPs) offer another route, though experience with them has been mixed. When structured well, PPPs can bring private expertise and capital to sustainability projects while maintaining public oversight. When structured poorly, they can lock regions into expensive long-term contracts that limit flexibility. Water systems provide examples of both outcomes. Circular economy financing models represent a newer development. Traditional financing assumes linear flows: extract resources, make products, dispose of waste. Circular models instead fund systems that keep materials in use—remanufacturing, repair, and recycling operations.

Sustainability isn't only about managing forests and water. People are both the drivers and beneficiaries of regional development. Investment in education and healthcare yields returns over

decades, much like investments in natural capital. A region that neglects schools will find itself short of skilled workers when industries need them. One that ignores public health may see productivity decline as preventable diseases spread. Sustainability governance must work across multiple levels simultaneously. National governments set framework legislation and provide funding. Regional authorities implement programs and manage resources. Local governments handle day-to-day service delivery. None can succeed without coordination with the others, yet each answers to different constituencies with different priorities.

Financial planning and resource management must evolve together. Budgets that ignore environmental costs will consistently produce suboptimal outcomes. Resource management without adequate financing will fail.

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## FEATURES OF THE FUNCTIONING OF THE BANK DEPOSIT MARKET IN UKRAINE UNDER CURRENT CONDITIONS

In the current conditions, Ukrainian banks are forced to look for the most effective ways to attract financial resources. To ensure the stability of the institution's functioning and maintain its resource base, it is crucial to form a significant part of the capital through term deposits.

In the current conditions, Ukrainian banks are forced to look for the most effective ways to attract financial resources. To ensure the stability of the institution's functioning and maintain its resource base, it is crucial to form a significant part of the capital through term deposits.

According to NBU statistics, the total amount of domestic commercial banks' liabilities is largely secured by term deposits from individuals. As of August 1, 2025, their amount was UAH 440.4 billion, which accounted for 14.24% of the total amount of bank liabilities. Business entities ranked second in terms of their role in the formation of bank financial resources. As of the same date, business entities had placed UAH 322.4 billion in term accounts with banks, which accounted for 10.43% of total bank liabilities. Non-bank financial institutions ranked third in terms of their participation in the formation of bank liabilities through term deposits, placing UAH 40.5 billion in bank deposit accounts, which accounted for 1.31% of bank liabilities. Other commercial banks played the smallest role in the formation of commercial bank liabilities. As of August 1, 2025, they had placed UAH 4.9 billion in investments, accounting for 0.16% of total bank liabilities [1].

An analysis of the balance sheet indicators of commercial banks operating in Ukraine has made it possible to identify the ten largest banks in terms of the balance of customer funds placed in term accounts with these banks. The leaders of the domestic banking market in terms of the volume of term deposits are the vast majority of state-owned banks and the largest commercial banks based on private capital. The leader in this indicator is Oschadbank JSC with term deposits of UAH 118.4 billion, which is 32.07% of the balance of funds in its customers' accounts. Of the total amount of customer funds, UAH 93.8 billion, or 79.25%, belonged to individuals and UAH 24.6 billion to business entities. This bank had total liabilities of UAH 389.8 billion, of which UAH 369.2 billion, or 94.69%, were secured by customer funds in both demand and term accounts. PrivatBank JSC

almost doubled Oschadbank JSC in terms of banking liabilities, but term deposits accounted for only 15.47% of total customer funds [1].

In addition, the structure of their term deposits varies considerably depending on the owners of the funds. While banks such as PrivatBank, Universal Bank, Oschadbank, and SENS Bank are dominated by deposits placed by individuals, Credit Agricole Bank, JSC UKRSIBBANK, AB UKRGASBANK, and JSC Ukreximbank, the financial resources attracted were mainly provided by term deposits from business entities [1].

The days when deposits yielded more than 20% per annum are long gone. A study of the main deposit products offered to their potential individual customers by five leading banks, namely JSC CB PrivatBank, JSC UNIVERSAL BANK, Oschadbank JSC, SENS BANK JSC, and FUIB JSC, showed that interest rates on deposits in the national currency for individuals range from 2.5% to 16% per annum, and in foreign currency from 0.01% to 1.5% per annum. In addition, commercial banks offer various loyalty programs that allow for an increase in base interest rates depending on the deposit amount, the existence of a current account with that bank, the category of the depositor, etc. [2-6].

Thus, banks are currently in a rather difficult position in terms of forming their resource base through deposit investments. At the beginning of 2025, only about 25% of their liabilities are secured by term deposits, while in 2021 this share exceeded 40%. The reason for this decline is the desire of fund owners to keep their funds in the most liquid form possible – in cash outside the banking system – due to the difficult political and economic situation in Ukraine as a result of the full-scale war with Russia.

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**PLANNED SUPPORT OF THE HEALTH CARE DEVELOPMENT BY MEANS OF  
SYSTEM INTEGRATION INTO THE EUROPEAN SPACE IN THE POST-WAR PERIOD  
(Based on the example of managing sanatorium-resort institutions)**

While planning the sustainable development of social-economic systems, the transformation of the healthcare sector to European standards is of great importance (for Ukraine) in post-war conditions. Ensuring the requirements for Ukraine's sustainable future has multifaceted significance and includes the need to improve the management of sanatorium and resort institutions themselves, which takes place under the difficult conditions of administrative and territorial reform. The situation is exacerbated by the requirement for (rehabilitation) and strengthening the restorative function of combatants and members of society who have been traumatized by war. According to the definition of the National Academy of Sciences of Ukraine, sustainable development is interpreted as a concept that predicts the balanced development of society, meeting the needs of the present generation without endangering the ability of future generations to meet their own needs. It is known that this model is based on the successful functioning of three interrelated directions: economic growth of healthy society, social and legal justice, and environmental protection - the implementation of regenerative production development. In general, it is well known that the implementation of innovative approaches to the development of both the national economy as a whole, and its sectors, particularly healthcare, requires system integration with the European economy and healthcare (medicine). This complex, comprehensive process involves the unification of numerous integrated, independent subsystems or components into a single, all-encompassing European system. In other words, system integration, as a management tool for influencing organizational processes, is especially important for Ukraine not only from the perspective of wartime requirements (for example, the production of ammunition, weapons, etc.), but even more so in the post-war period for transitioning the national economy to peaceful activities and at the stage of coordinated cooperation in the context of Ukraine's accession to the EU. Experience shows that most state management structures, including healthcare, that implemented system integration in order to increase not only manageability, but their productivity as well and, as a result, the quality of services, including medical care, as the final results of their activities. The goal is for Ukraine, in European conditions, to be able to utilize the capabilities of artificial intelligence (AI) and various IT systems that exchange necessary information with each other, in order to save time and energy transmitting data to different intermediate units or management levels. Analysis of the organizational advantages of system integration includes the rapid transfer of information at lower costs.

Healthcare institutions, enterprises, sanatorium-resort facilities, and other business entities involved in medical services and business relationships are naturally inclined to seek mutually beneficial solutions, setting up business processes as integrated ones in advance. The complex aspects of such setting, in the post-war period, are determined not only by technical, social, environmental needs, and other aspects of activity in general as components of sustainable development with the solution of service-related problems, and by psychological factors as well. It is known that the scientists have identified common (integrated) solutions, for example, in the above mentioned "dimensions" which have a value-based nature, driving medical institution or other sanatorium-resort business entity in rational and progressive development. By implementing such plans, the recreational business entity, as a system participant in the integration processes, enters the field of the so-called European system integration of the higher level, within which it formulates the strategy and tactics for achieving the desired results in purely health-oriented activities. The task of economic science is to provide the business entity (including medical

services) with relevant scientific information for the formation and development of system integration in the management of its activities, on which the management system of the particular entity will be built.

The implementation of such purposeful objective has been the focus of the scientific papers by Mnykh Ye. V., Khomiak R. L. [4], and in particular the book by Tsikalo, Ye., “*System Integration in Enterprise Management*” [2]. National scholars have made a significant contribution to the development of the conceptual foundations for the development of national economy in the context of system European integration in the management of business entities, including healthcare institutions. In this situation, it would be possible to outline the problems inherent in domestic healthcare management, which are known to be caused by wartime conditions. Meanwhile, the above mentioned issues in the context of the war and post-war periods, as well as their integration into EU management systems, remained beyond their field of vision and require urgent solution. By distinguishing the specified interpretation of the comprehensive assessment of the healthcare state as a combination of economic and integration conditions, it is reasonable in each case to develop methodological tools for identifying and evaluating these synthesized states, which will make it possible to manage them by achieving a certain balance [2]. The rational combination of integration and self-organization in the management of healthcare institutions has demonstrated the effectiveness of managerial functional content at the algorithmic level. Their implementation in the integration process of standardized managerial elements, referred to as basic elements, with regard to their alignment with management categories, deserve systemic integration, including at the process-procedural level.

In general investigating the conditions for the functioning of the information-economic model of management of healthcare institutions activities, presented with regard to the influence of exogenous, externally sourced factors, it would be reasonable to supplement it in ecological and politico-security aspects, reflecting the current living conditions. Such supplement can be interpreted as the introduction of ecological, politico-economic, and security-economic components of the healthcare services sector into the model. These components were formed under wartime conditions.

Thus, the planning of sustainable development and the organization of system integration of national healthcare into the European space in the post-war period should be carried out using international experience, as well as the achievements of artificial intelligence and IT systems.

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## **THE ROLE OF GREEN FINANCE IN THE POST-WAR ECONOMIC RECOVERY OF UKRAINE BASED ON SUSTAINABLE DEVELOPMENT PRINCIPLES**

Massive destruction of Ukraine's infrastructure resulting from the full-scale aggression requires the mobilization of significant financial resources. The reconstruction process presents a strategic opportunity for the transformation of the national economy, the transition to a sustainable development model, and the implementation of the "Build Back Better" principle. Green finance acts as a key instrument for mobilizing the capital necessary for this modernization.

To analyze the critical role of green finance mechanisms in ensuring Ukraine's sustainable post-war economic growth, identify effective tools for attracting investments, and outline the key challenges along this path.

Investments in ecological projects (renewable energy, sustainable resource management) not only contribute to environmental protection but also stimulate innovation, enhance competitiveness, and create new jobs. Recovery based on the principles of a "green" economy will allow Ukraine to avoid the reproduction of outdated industrial models and accelerate the technological transition [1].

The adaptation of Ukraine's financial system to the requirements of the European Green Deal is a necessary prerequisite for full integration into EU markets and access to the Ukraine Facility programs. Green and sustainable bonds: The issuance of these instruments at the state and municipal levels can become the main source of financing for targeted infrastructure projects

Utilization of PPP mechanisms for the implementation of capital-intensive projects, such as the modernization of water supply and heating systems, with the involvement of private capital and expertise [2].

The formation of targeted development funds, operating on the principles of transparency and accountability, to accumulate funds from international partners and private investors. A fundamental requirement for all investment projects is the minimization of negative impact on ecosystems. Implementation of international reporting standards (e.g., TCFD, CSRD) to ensure investor confidence and effective monitoring of fund usage [3].

Decentralization of the energy system through the development of distributed generation based on RES (Renewable Energy Sources: wind, solar energy) to enhance its resilience to external threats. Large-scale thermal modernization of buildings, which will significantly reduce energy consumption and utility costs. Creation of modern processing infrastructure that complies with European directives.

Thus, the effective application of green financing mechanisms is not just a desirable addition, but a critical necessity for ensuring Ukraine's sustainable recovery. This will allow us to attract the necessary capital, modernize the economy, and build a resilient, competitive state that meets global and European sustainable development standards. Green finance plays a key and transformative role in the reconstruction of Ukraine, turning the necessity of post-war recovery into a unique opportunity for modernizing the economy on the principles of sustainable development. It is not just a source of additional funds, but a strategic tool that ensures Ukraine's integration into European structures through the implementation of high environmental standards and ESG principles (Environmental, Social, and Governance).

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## **INNOVATIVE FINANCIAL INSTRUMENTS TO SUPPORT SUSTAINABLE DEVELOPMENT IN THE AGRICULTURAL SECTOR OF UKRAINE**

Innovative financial instruments to support sustainable development in the agricultural sector are an important element for ensuring the country's economic growth, environmental protection and social well-being of the population. Since the agricultural sector often faces high risks, such as adverse climatic conditions, falling raw material prices, and technological backwardness, it is important to provide the necessary support through innovative financial instruments.

Innovative financial instruments are new approaches and financing mechanisms that contribute to reducing risks and increasing the efficiency of the agricultural sector of the economy. They may include new financial products, structured solutions, mechanisms for attracting private and public investments, as well as the creation of financial instruments that support environmentally sustainable development and social initiatives [1, c. 113].

These financial instruments may vary depending on the needs of farms and the economic conditions in the country. It is known that financial instruments have the following advantages [2]:

1. Stability – loans, mortgages and other instruments are often based on agreements and regulations, which ensures their stability and predictability of conditions.

2. Accessibility – financial services are available to any farm, which allows them to stimulate their development.

3. Simplicity of the process – obtaining loans through traditional channels thanks to clearly defined procedures and documentation.

4. Attractive interest rates – loans usually have stable interest rates, which allows farmers to more accurately plan their debt service costs.

5. Long-term financing – loans for equipment, machinery, etc., offer long-term financing terms, which allows farms to more effectively plan financial obligations to creditors.

To support the development of the country's agricultural sector, it is necessary to attract a variety of innovative financial instruments, which will contribute to the creation of new opportunities for economic growth. Such financial instruments as venture financing, crowdfunding, blockchain technologies and digital currencies can provide farms with the necessary resources for their innovative development, which will contribute to the creation of new jobs. However, despite the existing potential, there are a number of serious barriers that complicate their active application:

1. Lack of an appropriate legislative framework regulating the use of innovative financial instruments. The lack of clear rules can lead to legal uncertainties and undesirable financial risks for market participants.

2. Insufficient awareness of the population about the possibilities of such instruments. This can become an obstacle to the widespread implementation of innovative finance, since many investors do not have the appropriate knowledge to effectively use these technologies.

3. High technological complexity of many innovative financial instruments, which requires high qualifications and knowledge for their proper implementation and use.

4. Lack of historical data to assess the effectiveness and long-term stability of these instruments. The lack of sufficient statistics can make it difficult for investors to make informed

decisions.

However, given the potential that innovative financial instruments open up, it is safe to say that over time these instruments will become important and effective tools for financing the development of farming. In the future, with proper improvement of legislation, increased awareness and technological adaptation, they can become one of the main sources of capital for small and medium-sized businesses, contributing to their economic development.

Thus, innovative financial instruments are a key tool and have significant potential to support the agricultural sector. They allow ensuring the sustainable development of agricultural regions, providing farms with tools to reduce risks, attract capital, increase the efficiency of their use and preserve resources for future generations. However, their effective implementation requires close cooperation between government agencies, financial institutions and agricultural companies. Supporting the sustainable development of agribusiness through financing innovations will contribute to increasing environmental safety, preserving natural resources and socio-economic development of regions. Thanks to such financial instruments, the agricultural sector can become more competitive and adaptive to market changes, while maintaining environmental balance and social justice.

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### **ESG AS A STRATEGY FOR ENVIRONMENTAL BALANCE AND SOCIO-ECONOMIC DEVELOPMENT OF TOURIST DESTINATIONS IN UKRAINE**

ESG as a strategy for tourist destinations in Ukraine should be understood not as a fashionable label, but as a practical management framework, where environmental, social and governance criteria become a single logic of decisions for local authorities, businesses, communities and partners. For territories that live from tourism or seek to develop it, such a framework allows to combine two goals that often conflict in short-term planning, nature conservation and growth of income and jobs. Ukrainian destinations have very different starting conditions, from the Carpathians and Polissya to the Black Sea coast, from cities with heritage to rural areas with natural parks, but what they have in common is the challenge of instability and the need for trust. ESG moves the conversation from the level of intentions to the level of evidence, because it requires clear goals, transparent rules of the game and constant assessment of consequences. In tourism, this means that every product, festival, hotel, route, infrastructure project or advertising campaign must comply with the logic of a long horizon, not deplete natural resources, not displace local residents from their living space, not destroy authenticity, and also generate a fair economic return for the community. For Ukraine, where tourism can be a tool for the restoration of territories and the return of economic activity, ESG adds another meaning, it is a safeguard against chaotic development, conflicts over resources and reputational risks. The strategy works when it is perceived as a destination management system in which natural capital, cultural heritage and people's well-being are assets that need protection just like the budget or infrastructure. The environmental component of ESG in tourism for Ukraine primarily concerns the balance between the flow of visitors and the ability of the territory to recover, and here it is important to move from intuition to data-based

planning, without excessive bureaucracy, but with real rules. A destination that does not manage water, waste, energy, transport and impacts on biodiversity effectively subsidises tourism at the expense of nature, with the bill coming later in the form of landscape degradation, trail erosion, river pollution, fire risk, loss of attractiveness and a drop in the average bill. ESG logic pushes for solutions that simultaneously reduce environmental pressure and improve service quality, such as energy-efficient buildings and heating upgrades, water reuse systems where possible, separate collection and waste minimisation in hotels and catering establishments, environmental standards for events, and a reorientation of mobility towards public transport, shared transfers and non-motorised routes. For natural areas, flow management, quiet zones, restrictions for the most vulnerable areas, seasonal rules, digital permits or quotas where congestion is evident, and ecosystem restoration as part of the tourism product rather than as a cost that is always deferred. Climate resilience is also important, as changing rainfall, heat and flood patterns affect route safety, seasonal stability and insurance costs, so destinations need to invest in adaptation, early warning, fire prevention, forest management and coastal protection where appropriate [1-2]. All this requires an assessment system that is understandable to local actors, such as regular monitoring of water quality, waste volumes, energy consumption, trail conditions, noise levels in sensitive areas, and, most importantly, public reporting that shows progress without embellishment. This creates an ecological balance that is not a slogan but a competitive advantage, as modern tourists increasingly choose places where comfort is combined with responsibility.

The social component of ESG in Ukrainian tourist destinations addresses the question of who exactly benefits from tourism, how it affects the quality of life of local residents, and whether development turns into a conflict of interest. If the community does not feel fair, it does not support the rules, does not cooperate with business, and the destination loses its atmosphere of hospitality and security, so social criteria must be built into the model from the very beginning. This means prioritizing local employment, developing small businesses, supporting artisans, farmers, guides, family estates, as well as fair labor practices in the hotel and restaurant sector, where seasonality and income inequality are particularly noticeable. It is also important to preserve cultural heritage without commercial simplification, when traditions do not become a decoration, but remain a living practice that the community controls and benefits from, in the form of income, restoration funds, educational programs for youth.

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#### **DIGITAL TWINS OF ENTERPRISES AS A TOOL FOR COST OPTIMIZATION AND ENVIRONMENTAL CONTROL**

Enterprises operate under increasing pressure from rising energy and raw material costs, tighter environmental regulation, and intensified competition, which heightens the need for timely, data-driven managerial decision-making. Digital twins address these challenges by acting as

dynamic, continuously updated digital replicas of assets, processes, or entire enterprises, synchronized with real-world data almost in real time [1, 2]. Unlike static models, they enable operational monitoring, scenario simulation, deviation forecasting, and assessment of managerial and environmental outcomes, thereby supporting both cost optimization and risk management [3, 4]. The integration of financial performance indicators with environmental metrics makes digital twins particularly relevant for sustainable development strategies, as they allow firms to identify inefficiencies, evaluate the economic impact of operational adjustments, forecast compliance risks, and prevent regulatory violations before they materialize [5–7]. Accordingly, this study examines the economic potential of digital twin implementation for reducing operational expenditures and strengthening environmental control, supported by a practical case demonstrating their applied value in enterprise management [8, 9].

Digital twins represent an advanced evolution of computer-based modeling, distinguished by continuous data inflows from equipment and management systems and parallel operation with physical assets across their entire life cycle [1, 2]. This real-time synchronization enables managers to assess current performance, simulate alternative operating conditions, anticipate deviations, and estimate resource consumption, thereby supporting informed economic decision-making. Depending on the analytical scope, digital twins may focus on products, processes, or the enterprise as a whole, with integrated configurations increasingly used as comprehensive planning and control instruments [4, 10]. Although implementation may be constrained by high initial investment costs, system integration complexity, and stringent data quality requirements, empirical evidence suggests that medium-term efficiency gains and cost reductions generally outweigh these barriers [2, 3]. Technologically, digital twins rely on IoT-enabled data collection, cloud or local computing infrastructure, and advanced analytical tools, including machine learning, to generate forecasts and actionable operational recommendations [1, 8].

Specialized platforms such as Siemens, Dassault Systèmes, PTC, and Microsoft Azure Digital Twins support the development of digital twin systems by enabling integration with existing ERP, MES, CRM, and environmental monitoring solutions, with integration quality directly affecting the economic realism and analytical reliability of the model [5, 8]. Data quality is a critical determinant of value creation, since inaccurate or delayed inputs reduce a digital twin to a static model, whereas continuous synchronization maximizes decision-support effectiveness [1, 2]. From an economic perspective, digital twins contribute to cost optimization by increasing process transparency and allowing enterprises to simulate operational scenarios, such as workforce scheduling, equipment configuration, or supplier selection, without incurring real-world risks or experimental costs [5, 10]. They also enhance maintenance planning through predictive analytics, reducing unplanned downtime and associated financial losses, and support energy efficiency management by identifying peak loads and inefficient consumption patterns relative to output levels [2, 4, 6, 9].

Overall cost savings from digital twin implementation are driven by reduced downtime, lower defect rates, optimized logistics flows, decreased material consumption, and more efficient workforce allocation, collectively improving operational efficiency and cost structure [5, 3]. Beyond direct economic effects, digital twins play a critical role in environmental management by enabling real-time monitoring of emissions and resource use, with automated alerts that allow managers to intervene proactively rather than react to post-factum regulatory violations [4, 7]. Their forecasting capabilities support the assessment of environmental risks associated with equipment upgrades or changes in operating modes, making it possible to select environmentally optimal scenarios without disrupting production continuity [6, 9]. In addition, automated data collection significantly improves the speed and accuracy of environmental reporting, reducing administrative costs and audit-related burdens [7, 8]. The effectiveness of digital twin adoption is typically evaluated using performance indicators such as cost savings, reductions in accidents and downtime, higher forecasting accuracy, and measurable decreases in emissions [1, 3].

Performance evaluation of digital twin implementation typically relies on metrics such as Return on Investment, Total Cost of Ownership, and “before-and-after” comparisons, using data sourced from production systems, energy meters, and environmental sensors [1, 8]. Analysts must

account for potential measurement errors due to incomplete datasets, short observation periods, and external factors like seasonality or supply chain fluctuations [2, 4]. A practical case of a mid-sized enterprise with high energy costs and strict environmental requirements demonstrated the economic and operational benefits of digital twins: modeling key production processes revealed periods of excessive energy consumption despite stable output, and schedule adjustments reduced energy use, while identifying overloaded, outdated equipment enabled timely replacements that lowered repair costs and minimized downtime [5, 10]. Environmentally, the system flagged instances when emissions approached critical thresholds, allowing early intervention to prevent regulatory violations, illustrating how digital twins integrate operational efficiency with sustainable compliance.

**Conclusion.** Digital twins represent a promising tool that combines economic and environmental objectives. They allow enterprises to observe processes dynamically, make better-informed decisions, reduce costs, and strengthen environmental control. The results of this study confirm that even partial implementation can significantly improve operational efficiency. As the technology continues to evolve, enterprises that adopt digital twins early will gain a strong competitive advantage.

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## **THE INTERPLAY OF RESILIENCE AND SECURITY IN THE GREEN–DIGITAL BUSINESS TRANSITION**

The contemporary economy is developing amid a growing convergence of economic, environmental, technological, and security challenges. According to the World Economic Forum, armed conflicts, extreme climate events, and geoeconomic tensions are becoming persistent systemic risks, pushing the global economy into a state of polycentric uncertainty [1].

In this context, the green–digital transition emerges as a key adaptive response. OECD evidence indicates that economies integrating environmentally oriented growth with digital transformation demonstrate higher resilience, productivity, and an enhanced capacity to generate new employment and market niches [2]. Consequently, the green–digital transition is reshaping the structure of economic activity and redefining the strategic conditions of the business environment [3].

Against this background, resilience emerges as a central analytical concept, reflecting the ability of business systems to absorb shocks, recover, and sustain innovation dynamics. However, resilience cannot be ensured in isolation from economic and institutional security, nor without the formation of long-term competitiveness. In this regard, security acts not only as a protective condition but also as an enabling factor for adaptive and sustainable business development. The concept of resilience has acquired a multidimensional meaning, as it integrates engineering, ecological, and evolutionary approaches to understanding the adaptive capacity of economic systems. Such integration allows resilience to be interpreted not as a narrow parameter of “physical robustness,” but as a comprehensive characteristic encompassing risk anticipation, shock absorption, and the formation of new development trajectories [4].

Moreover, the synergy between green and digital transitions strengthens both resilience and security by reducing resource and regulatory vulnerabilities, enhancing data-driven risk management, and supporting strategic flexibility. Businesses that integrate green–digital strategies with security considerations are therefore better positioned to navigate systemic uncertainty and achieve sustainable competitive advantages in an increasingly volatile global economy.

Economic and social crises confirm that resilience and security constitute the foundation of the survival and development of economic systems. Military conflicts, energy shocks, inflationary pressures, and the destruction of productive infrastructure, as observed in Ukraine, demonstrate that economic security is a core component of resilience, determining the potential for recovery and integration into global value chains.

In this context, it is appropriate to distinguish the following key business-oriented dimensions linking resilience and security in the green–digital transition:

1. Digital resilience and business security. Digitalization strengthens business resilience through real-time risk monitoring, predictive analytics, and rapid crisis response, while simultaneously enhancing security via cybersecurity, data protection, and the continuity of digitally dependent operations.

2. Green transformation and corporate resource security. The adoption of low-carbon and resource-efficient technologies reduces firms’ exposure to energy price volatility, regulatory pressures, and environmental disruptions, thereby reinforcing long-term business security and adaptive capacity.

3. Organizational and institutional adaptability. The integration of green and digital strategies requires flexible organizational structures, advanced competencies, and transparent governance, which together support resilient decision-making, secure value chains, and sustained competitiveness under uncertainty.

The synthesis of the presented findings indicates that resilience and security form an interconnected nexus of contemporary economic development. However, building resilience

requires the advancement of systemic risk management, strengthened analytical capacities, process digitalisation, improvement of the institutional ecosystem, and the reinforcement of social trust. These factors collectively define the ability of economic systems not only to withstand external shocks but also to generate new opportunities for long-term growth. Within the green–digital transition paradigm, this approach becomes particularly significant, as the transformation of energy, production, and governance models demands a high level of adaptability.

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### **TAX ON MARKET TRANSACTIONS INVOLVING FOREST LAND PLOTS: RELEVANCE FOR POST-WAR UKRAINE**

Development of market mechanisms in Ukraine has led to the emergence of a socially and economically active group of the population that not only accumulates significant capital but also channels investments into natural resources and other long-term assets. At the same time, hostilities that have affected extensive areas of Ukraine have made the cultivation of large tracts of agricultural land impossible for an extended period. When former arable land remains uncultivated for a long time, or when other categories of agricultural land resources, particularly those adjacent to forested areas, are not used over prolonged periods, self-sown woody vegetation increases, effectively transforming abandoned plots into young forest ecosystems. These newly formed forest tracts are, naturally on a temporary basis, excluded from official records and do not fall under the responsible management of specialised state institutions.

Under such conditions, demand has intensified among certain groups of individuals for forest land plots, which these “forest shareholders” regard as a reliable instrument for safeguarding invested funds in the long term. Forest lands, including those that have emerged as a result of natural overgrowth on abandoned agricultural territories, combine significant economic, recreational and industrial potential with inherent ecological resilience, offering both economic returns and opportunities for recreation, wellness activities or hunting [1].

The emergence of a social group interested in acquiring forest-covered land, in the author’s view, necessitates improvements in tax instruments and the regulation of transactions involving forest assets.

A well-designed tax system can provide an adequate regulatory environment for both market and non-market operations involving forests, and serve as an institutional basis for their effective governance. Tax instruments play a key role in balancing economic interests and environmental requirements, creating incentives for responsible resource use and ensuring the collection of a portion of rent income to finance the reproduction and enhancement of forest resources.

Income derived from the sale of forest materials or from the transfer of rights to use or own forest land is known to be rent-based in nature. If the state does not ensure mechanisms for the partial appropriation of this income for the benefit of society, the result is a de facto free

redistribution of natural-resource rent in favour of private forest owners, whereas the ecological and administrative costs associated with the existence of these forests, albeit over time, are borne by state forestry institutions.

For this reason, once control over temporarily occupied territories is restored, a pressing task will be the prompt implementation of comprehensive land-cadastral and forest-cadastral works, particularly in relation to land plots that have not been used for a long period. This will make it possible to obtain reliable data on the current state of land and forest resources, ensure legal certainty, and create a basis for infrastructure reconstruction, environmental rehabilitation of territories, and further effective resource and land management. Updated cadastral information will serve as the foundation for state registration, accounting and taxation of resources (including newly formed forest areas) in accordance with current regulations, and will also reduce the risks of territorial disputes.

Regarding purchase-and-sale transactions involving newly formed or other forest land plots, it appears reasonable to introduce a tax on market transactions involving forest resources as part of Ukraine's rent payment for special forest use [2]. This would ensure appropriate alignment of private interests in obtaining rent income with the financing of measures aimed at addressing the ecological needs of the state and society. An additional tax component focused on the transfer of rights to forest assets would permit the extraction of a portion of natural-resource rent to finance resource regeneration.

In conclusion, the results of the analysis indicate the need to supplement the rent payment mechanism for forest use with a tax on market transactions involving forest land plots, which would ensure a balanced integration of private economic motivations and public environmental interests.

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### **PECULIARITIES OF ANTI-CRISIS MANAGEMENT OF ENTERPRISES AND ORGANIZATIONS DURING WARTIME**

Many Ukrainian enterprises and organisations were not prepared for the fact that their operations could change radically during the full-scale invasion. To survive under critical conditions, managers were compelled to revise the development strategies of their enterprises and organisations. A significant number of enterprises had to suspend their activities and relocate to safer regions; some were compelled to move their production facilities to shelters. Many enterprises allowed their partners or other organisations in need of relocation to use their premises.

Very often, when developing strategies for enterprises, organisations, territorial communities, or regions, aspects of anti-crisis management were ignored and not given due importance. Today, after the state has faced numerous urgent challenges that required immediate solutions, there was a lack of experience, which resulted in numerous management errors due to the failure to consider the possibilities offered by anti-crisis management principles.

The system of domestic economic security under current conditions is facing numerous challenges and fluctuations, which are accompanied by a significant deterioration in its normal and sustainable development. Since the economy is characterised by cyclical processes, the financial and economic performance of an individual enterprise is influenced by both macroeconomic and microeconomic (internal) factors. In this regard, it is advisable to consider the system of anti-crisis management in more detail as an element of stabilising the economic security of an economic entity [1].

Anti-crisis management is a system of developed and recommended measures, methods, and procedures aimed at stabilising financial and economic activities in the context of increasing economic security [2].

Quite often, even a country's food or energy security depends on balanced anti-crisis management, as clearly observed in the case of Ukraine.

Anti-crisis management has become an integral component of doing business in Ukraine. This factor is caused by an unstable economic situation, low investment attractiveness, widespread losses of domestic enterprises, and, in particular, the closure of small businesses. A significant crisis among agricultural producers should also be noted due to the danger of working in fields and the inability to access and cultivate large areas of land. We believe that the development and implementation of a high-quality anti-crisis management mechanism (in terms of coordinating the activities of various structural units) will improve the functioning level of economic security [3].

Therefore, it should be emphasised that anti-crisis management is an extremely important factor for enterprises and organisations and must be taken into account when developing development strategies for enterprises, organisations, territorial communities, or regions as a whole. Anti-crisis management is important not only for eliminating emerging problems but also for their prevention and early warning. It not only contributes to overcoming crises but also creates conditions for the further development of an organisation. Analysing the causes of crisis phenomena helps to identify weaknesses in management and improve strategic activities. As a result, an enterprise becomes more flexible, competitive, and better prepared for future challenges, which is a key factor in long-term success.

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## **ORGANIZATIONAL AND ECONOMIC MECHANISM FOR MONITORING THE FINANCIAL CONDITION OF AN ENTERPRISE: METHODOLOGY OF INTEGRATED ACCOUNTING AND ANALYTICS**

The financial condition of an enterprise is one of the key indicators of its performance and stability in the market, characterizing the ability of a business entity to ensure the continuity of operational processes, fulfill its obligations to the budget, banks, suppliers, employees, and generate profits for further development. For well-grounded management of financial resources, it is necessary to conduct a systematic analysis of the financial condition based on reliable accounting data [1, pp. 229-232]. Accounting plays a central role in forming the information base for financial analysis, since it is through the accounting system that data on the assets, capital, liabilities, income, and expenses of the enterprise are summarized. Based on data monitoring, financial statements are formed that reflect the real state of affairs at the enterprise [2]. [3, p. 186]. Its main forms are the balance sheet (statement of financial position), income statement, cash flow statement, and notes to the financial statements. The consistency and accuracy of financial documents make it possible to determine the liquidity, solvency, and profitability of an enterprise.

For example, let us consider the activities of “PricewaterhouseCoopers” LLC, one of the leading players in the audit and consulting market in Ukraine (founded by “PricewaterhouseCoopers” Eastern Europe B.V.” from the Netherlands) [4]. Its main areas of activity are financial statement auditing, tax and management consulting, and the development of financial stability strategies for clients. An analysis of the company's financial indicators shows that during the reporting period, the structure of assets remained balanced: approximately 70% are current assets, mainly cash and accounts receivable, while non-current assets account for 25-30% of the balance sheet. This structure reflects the peculiarities of the service sector, in which the main resources are concentrated in current assets, ensuring high liquidity and flexibility in financial management. Liquidity analysis showed that the current liquidity ratio is 1.9, which exceeds the normative value of 1.0 and indicates that the company has sufficient current assets to repay its current liabilities in a timely manner [1, pp. 229-232]. The current liquidity ratio characterizes “PricewaterhouseCoopers” LLC as a financially stable enterprise in the short term, capable of maintaining a stable level of solvency and ensuring the fulfillment of contractual obligations to customers and partners.

A detailed analysis of the structure of current assets showed that a significant portion of them is accounts receivable, which accounts for about 40% of the total current assets, due to deferred payments for services rendered. “PricewaterhouseCoopers” LLC needs to improve its customer payment policy, optimize its accounts receivable control system, and implement analytical tools to monitor payment discipline. Excessive concentration of accounts receivable can reduce capital turnover, so it is advisable to use modern cash flow management methods, in particular cash flow forecasting and automated financial dashboards.

The profitability indicators of “PricewaterhouseCoopers” LLC show positive dynamics: the return on sales in the reporting year was 15%, due to effective management of operating expenses, optimization of financial flows, and an increase in the cost of services provided. The company successfully combines revenue growth with cost control, which allows it to ensure profitability even in conditions of macroeconomic instability [5, pp. 92-100]. The growth in profitability, combined with an adequate level of liquidity, indicates a strengthening of financial stability, an increase in creditworthiness, and the investment attractiveness of the enterprise. These circumstances create opportunities for expanding the range of services, introducing innovative technologies in the field of audit and analytics, and attracting new international clients [6, pp. 234-239].

Financial analysis at “PricewaterhouseCoopers” LLC is carried out using horizontal, vertical, and ratio methods. Horizontal analysis allows tracking the dynamics of income and

expenses, vertical analysis allows assessing the structure of assets and sources of financing, and ratio analysis allows quickly identifying the strengths and weaknesses of financial activities. The increase in the autonomy ratio to 0.68 indicates an increase in financial independence, which is especially important for a consulting business focused on long-term contracts. The company makes extensive use of information technology in the process of accounting and financial analysis. Automated accounting and reporting systems based on BAS ERP and Power BI provide quick access to analytical data, allowing for a rapid response to changes in financial indicators [7, pp. 233-235], [8, pp. 93]. The use of digital tools contributes to increased accounting accuracy, reduced information processing time, enhanced cost control, and transparency of financial activities.

Thus, the organizational and economic mechanism for monitoring the financial condition of an enterprise consists of interrelated processes that form the information basis for making effective management decisions at "PricewaterhouseCoopers" LLC. Systematic study of financial indicators allows for the timely identification of problems in the capital structure, increased efficiency in the use of resources, prevention of insolvency risks, and ensuring stable development. Improving financial analysis methods using modern digital technologies, analytical dashboards, and automated management systems creates the conditions for strengthening the company's position in the audit and consulting services market, as well as for increasing its competitiveness in the global economy.

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## **ESG FACTORS AS A DRIVER OF THE TRANSFORMATION OF ACCOUNTING AND CORPORATE FINANCIAL REPORTING**

In the contemporary global economic environment, the importance of non-financial determinants of business performance has significantly increased. Environmental, Social and Governance (ESG) indicators now play a decisive role in shaping investment decisions, influencing corporate behaviour and determining the long-term resilience of enterprises. Academic and professional discourse confirms that traditional accounting frameworks can no longer fully capture the complex risks, impacts and value-creating mechanisms associated with modern business models [1]. Consequently, the integration of ESG factors has emerged as a key vector for transforming accounting systems and corporate reporting, laying the foundation for sustainable development and responsible governance.

ESG factors are reshaping the conceptual foundations of accounting by extending its scope far beyond the classical reflection of financial transactions. These factors generate demand for holistic information on environmental performance, social impact and the quality of corporate governance. As a result, accounting systems must adopt new approaches to measuring, recording and disclosing sustainability-related data, ensuring their relevance, comparability and integrity [2].

In the European Union, the adoption of the Corporate Sustainability Reporting Directive (CSRD) has become a major catalyst for embedding ESG metrics into financial and managerial reporting. The new European Sustainability Reporting Standards (ESRS) provide a unified framework for disclosures related to environmental risks, social policies, corporate governance structures and climate-related impacts [3]. This regulatory shift enables the harmonization of reporting across industries and jurisdictions, enhances transparency and strengthens the information base available to investors and other stakeholders.

From an accounting perspective, the emergence of ESG-related information fundamentally changes the methodological and organizational foundations of the profession. Enterprises must adapt their accounting policies, incorporate methods for calculating environmental and social costs, assess climate-related risks and evaluate how non-financial factors influence financial results and long-term enterprise value. Important elements of ESG disclosures include environmental provisions, emission-reduction obligations, supply-chain due diligence, social welfare programmes, diversity metrics and governance-related controls.

The integration of ESG factors also transforms the architecture of corporate reporting. The boundaries between financial and non-financial information are gradually dissolving, giving rise to a new model of integrated reporting. In this model, financial, environmental and social indicators collectively reflect the enterprise's ability to create sustainable value. International practice increasingly relies on independent assurance of ESG data, recognizing its critical importance for building trust among investors, regulators and society at large [4].

The role of accountants is therefore undergoing a profound transformation. Modern accounting professionals are required not only to record economic transactions but to act as analysts of sustainable development, responsible for producing strategically relevant, forward-looking, integrated information. Digital technologies—such as XBRL, cloud-based platforms, Big Data analytics and automated sustainability reporting tools—have become essential for ensuring the accuracy, consistency and efficiency of ESG-related disclosures.

ESG factors function as a powerful catalyst for the transformation of accounting and financial reporting, setting new standards of transparency, accountability and strategic orientation. Their integration expands the informational capacity of reporting systems, strengthens corporate governance and supports long-term financial stability. International trends clearly demonstrate that the future of accounting lies in the convergence of financial and sustainability reporting, while professional competence increasingly depends on the ability to measure, interpret and communicate

ESG-related data. For Ukraine, adopting global ESG practices and integrating them into national accounting systems is a strategically important step toward enhancing enterprise competitiveness and aligning with European standards of sustainable development.

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### **BIOECONOMY FOR ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS**

Environmental pollution is one of the most pressing global issues of our time, seriously affecting human health, ecosystems, and the planet's climate. The problem of pollution covers various aspects, including air, water, and soil pollution, which has catastrophic consequences for natural resources, quality of life, and the future functioning of socio-economic systems. Every year, pollution causes chronic and new diseases in humans and threatens biodiversity and the health of ecosystems. At the same time, water and soil pollution affects agriculture, causing the degradation of fertile land and the contamination of food and feed, which threatens food security.

The problem of environmental pollution is global in nature, as pollutants do not stop at national borders but spread through atmospheric, water, and land flows. Therefore, effectively addressing this problem requires international cooperation, the exchange of technologies and experience, and the development of common standards for combating pollution. Global initiatives aimed at reducing greenhouse gas emissions, protecting biodiversity and ecosystems, and promoting sustainable development are particularly important.

However, to address these challenges, governments and international organizations are developing policies and action plans aimed at achieving the ambitious goal of zero pollution. These policies include measures to reduce toxic emissions, improve waste recycling systems, enhance environmental standards in industry and energy, and implement the principles of the circular economy and bioeconomy. Raising public awareness and promoting environmental responsibility among consumers and businesses is also an important aspect.

Achieving zero pollution is an important component of sustainable development and can lay the foundation for future generations to live in a healthy, clean, and safe environment. This requires concrete action by governments, international organizations, businesses, and the public, guided by long-term economic, environmental, and social goals in a sustainable and inclusive manner.

On May 15, 2022, the EU adopted an ambitious Action Plan “Towards Zero Pollution of Air, Water and Soil.” It sets out comprehensive measures to achieve the EU's ambition of zero environmental pollution. This plan is part of the European Union's overall strategy to improve the environment and public health by 2050. The goal of this plan is to achieve a level of pollution that is not harmful to human health and the environment.

The EU's vision for zero pollution by 2050 is “A healthy planet for all.” It is expected that air, water, and soil pollution will be reduced to levels that are no longer harmful to health and ecosystems. This will be made possible by respecting the limits that the planet can cope with, thus creating an environment free of toxic substances. This initiative covers not only the fight against

traditional types of air, water, and soil pollution, but also includes new requirements for aspects such as consumer goods, marine pollution, and noise pollution.

The policy of zero pollution of air, water, and soil is an important step towards sustainable development and environmental protection. The EU's efforts in this area are aimed at achieving a healthy planet for all its inhabitants. However, in order to implement this policy, it is necessary to ensure effective cooperation at the international level and to invest in new technologies and strategies to minimize pollution, in particular the bioeconomy.

The circular bioeconomy is a tool and mechanism for achieving the Sustainable Development Goals. Successful integration of the bioeconomy provides solutions to the food crisis, promotes agricultural development [1], combats climate change by reducing greenhouse gas emissions [2], ensures economic progress in a sustainable and inclusive manner [3], which is consistent with poverty eradication, minimizes waste from the chemical industry [4], replaces non-renewable resources with renewable ones (biomass), and creates new bio-innovations: bioplastics, bioenergy, biofuels, which allows for environmental protection, preservation of biodiversity, natural ecosystems, etc., support for human health through the development of pharmaceuticals [5], in particular the cosmetics industry, which are necessary for the long-term achievement of the Sustainable Development Goals.

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### MOTIVATION AND ATTITUDE OF STUDENTS TO PHYSICAL CULTURE AND SPORTS IN CONDITIONS OF MODERN EDUCATION

In the system of universal values, a high level [4]. Motivation and attitude of students to physical culture and sports in conditions of modern education. In article the problem is considered students of the institute health care to physical education and sports and identified factors which influence the motor activity of students. Time dictates the ever – higher requirements to social opportunities of a person. New opportunities can be created with the help of a well-balanced, scientifically-based system of education of youth, protection and development of their health. History shows that it is physical culture and sports, and more precisely, a holistic system of physical education can give people the most important health.

According to scientists, physical culture and sports are a special kind of activity that promotes the education of the best physical, moral, intellectual, mental, qualities and is associated with the formation of harmonious person and its health

In the system of universal human values, a high level of health is the foundation which predetermines the possibility of full-scale realization of an individual's potential abilities [2]. However, unfortunately, the state of the population of Ukraine is deteriorating today. The problem of preservation and strengthening of the physical condition of 17-18 year old students becomes more relevant [1].

Taking into account individual preparation of students on employments after physical education in higher educational establishments of education, efficiency of exact dosage of physical exercises is confirmed [3].

The decline of motive activity influences on a bodily condition, in particular on a build [3]. The problem of relation of students of the Rivne medical academy to engaged in a physical culture and found out factors which influence on motive activity of students is considered in the article.

Time dictates ever higher demands on human social capabilities. New opportunities can be created through a sound, science-based system of educating young people, protecting and promoting their health [1].

History shows that it is physical culture and sport, or more precisely, a holistic system of physical education that can give people the most important thing-health [2]. An important basis for our study was the study, which revealed that phusigye is one of the characteristics of physical development [3].

It gives an idea of the spatial organization of the morphological components of the human body, and the deviation of the constituent components from optimal values negatively affects the physical and emotional state, at the same time, the presence of excess body weight exacerbates comorbidities [4].

Studies have shown that girls 17-18 years of age have decreased indicators of the functional state of the respiratory system of the body, physical fitness and psycho-emotional state [3].

Scientists claim that one of the most popular types of health classes due to their accessibility, emotionality and efficiency is physical culture and sports in the open air, sports grounds, stadiums [2].

Researches of scientists have proved the positive influence of physical training on the development of all muscle groups, which allows to use all kinds of physical activity for students of 17-18 years [4].

During the years of independence, the contents the education system and its structure, methodological foundations underwent a radical change, and there was a departure from the concepts and approaches that were in soviet pedagogy and in fact made it impossible to take a creative approach to solving problems of the educational process [1]. Modern society demands the broad general culture and education of the future specialist, which are important indicators of his/her, readiness for professional activity [4].

Higher education reform aimed at bringing the content of higher education in Ukraine to world standards, has significantly changed the organization in higher education. In addition, there is a general deterioration in the health of the population of Ukraine due to the negative impact of socio-economic factors, annexation of Crimea and aggression by Putins propaganda against independent Ukraine. The fulfillment of educational tasks is carried out under the influence of certain stimuli, motives, which act as the driving forces of students educational activity. They form the motivational sphere of youth educational activity [2].

**Key words:** female students of 17-18 years, physical condition, posture, motivation, physical education, physical activity.

The purpose of the study is to find out the level of physical condition, attitude of students of 17-18 years to physical culture and sports to increase the efficiency of physical training and sports.

**Material and methods.** The studies were conducted in Rivne city at the Rivne Medical Academy. 60 female 17-18 year old students participated in the study. During the study following methods were used: theoretical analysis of scientific and methodological literature, anthropometry, method of indices, functional research methods, methods of mathematical statistics.

**Hypothesis.** It is assumed that the assessment of indicators of physical condition students 17-18 years will allow to create an idea of the features of the physique of girls 17-18 years, who are engaged in physical culture and sports.

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### PROFESSIONAL POTENTIAL OF MEDICAL STAFF: IMPACT ON THE SUSTAINABILITY AND COMPETITIVENESS OF THE INSTITUTION

In modern society, the healthcare sector occupies a special place, since it is responsible for the preservation and reproduction of the most valuable resource - human life and health. High-quality selection of personnel in the medical field means not only checking formal criteria (education, certificates, experience), but also conducting in-depth diagnostics of the professional, moral and psychological characteristics of candidates. The use of sociometric methods, competency interviews, emotional intelligence tests and practical tasks allows us to objectively assess the ability of employees to work effectively in a team, cope with stress and make decisions under conditions of uncertainty.

However, selection is only the first step. The modern healthcare system requires constant updating of knowledge, skills and management approaches. Therefore, the formation of a human resource base, continuous training and the creation of conditions for professional development are becoming increasingly important. In practice, many hospitals are already implementing mentoring programs, internal rotations and leadership schools for young doctors. Individual career paths are being developed that take into account not only vertical promotion, but also horizontal specialization, participation in scientific and research activities, as well as management and educational initiatives.

In addition to developing human resources, it is also important to support them. Given the increasing burnout among healthcare professionals, it is necessary to implement motivational systems that go beyond material incentives. These include flexible work schedules, the opportunity to study abroad, participation in prestigious conferences, and communication of important issues through participation in decision-making processes. It is especially important to build trust and a psychologically safe environment in the team, based on respect, support, and professionalism.

The management of healthcare facilities is subject to the specific conditions of its development and functioning. They arise from the clinical and technological complexity of medical services, a multi-channel financing system, the high social significance of results and the need for constant coordination between the stages of prevention, diagnostics, treatment and rehabilitation. High requirements for quality, continuity of medical care and a relatively long investment payback

cycle reduce the liquidity of investments and complicate the acquisition of private capital, especially in regional and primary health care [1].

The specifics of the reform and development of the national healthcare system are determined by several factors. The most important of them are:

- demographic and epidemiological factors that shape the demand for various types of medical services and affect the allocation of resources;
- uneven revenue flows in the budget and insurance cycles, which require the creation of trust funds, pre-financing mechanisms and contractually agreed payment deferrals;
- high capital intensity and dependence on technology, which limits the possibilities of diversification of medical organizations compared to other sectors of the economy;
- extensive regulation (licensing, accreditation, clinical protocols), which increases the administrative burden and requires specialized quality control and assurance systems;
- imbalance in employment: lack of specialized experts and uneven territorial availability of medical personnel;
- gaps in the technological and logistical chain (prevention - primary health care - specialized care - rehabilitation), which require complex management decisions and the use of e-health platforms;
- growing social expectations regarding the fairness and quality of services, which additionally burdens the financial and organizational capabilities of the system [2, 3].

Thus, high-quality selection, continuous development and support of medical staff are the determining conditions for the sustainable development of a modern medical organization, ensuring high quality of services, patient trust and adaptability of the healthcare system to challenges.

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## TRANSFORMATION OF CORPORATE CULTURE OF SERVICE ENTERPRISES IN UKRAINE UNDER CONDITIONS OF WAR-ECONOMIC TURBULENCE

The full-scale military aggression has become a determinant of radical transformation of the operating environment for service enterprises in Ukraine. Logistics operators have found themselves at the epicenter of structural changes manifested in multi-level disruptions of supply chains, increased security risks, demand volatility, and relocation of personnel and assets. Under such conditions, corporate culture ceases to perform the role of a declarative normative document and acquires the significance of a strategic tool for ensuring organizational resilience and adaptability. The case of Nova Poshta LLC is illustrative in the context of forming a culture capable of simultaneously fulfilling a social role, guaranteeing service continuity, and enabling business scaling abroad. From the onset of the full-scale invasion, the company positioned itself as a pillar for society, which was implemented through large-scale humanitarian projects, support for defense structures, uninterrupted delivery, and rapid restoration of infrastructure in frontline regions [1].

The crisis became a catalyst for strategic reorientation, in particular, the activation of European expansion, which contributed to risk diversification and strengthening of the business model's resilience.

The formation of Lean DNA within the company occurred through systematic integration of lean practices at all management levels. Lean methodology became a common language of process improvements, ensuring the implementation of hundreds of projects with significant economic effects. In wartime conditions, the Lean code allows resolving the paradox of fast, safe, and economical operations by optimizing processes and scaling automation without compromising service quality [1]. The company's culture goes beyond business functions, forming corporate citizenship manifested in free humanitarian logistics, targeted programs to support military units, and volunteer initiatives that strengthen social capital and increase trust both within the organization and among external stakeholders. The wartime context has prioritized labor safety, psychological support, and integration of mobilized and demobilized employees. The introduction of specialized training programs, partnerships with psychological communities, and the development of volunteer movements contribute to building psychological resilience within the team, which is a critical factor in a highly turbulent environment.

The synergy of a people-first approach, Lean discipline, technological investments, and responsible leadership has ensured network growth, modernization of terminals, development of IT solutions, increased delivery volumes, and improved financial performance despite unprecedented risks. Regular non-financial reporting, aligned goals, and transparent performance indicators serve as anchors of culture, legitimizing complex changes for employees, partners, and society. The internationalization of Nova Post Europe with a network in more than a dozen countries has become a mechanism for risk diversification and competence development [1]. Preserving a unified value core and consistent tone of communication ensures cultural integrity in the process of multicultural integration. The company's corporate culture profile is outlined through five key dimensions: sustainability, humanity, innovation, value creation, and alignment. This is reflected in systematic reporting, compliance with sustainable development goals, implementation of humanitarian programs, scaling of robotics and digitalization, achievement of financial results, and maintenance of a unified cultural framework across countries [2].

The analysis of the case allows formulating several generalizations. First, a codified ethical framework and regular reporting form the basis of trust and legitimize transformation processes. Second, Lean as a cultural paradigm reduces system fragility and increases responsiveness [3]. Third, corporate citizenship acts as a strategic resource for the social license to operate. Fourth, multilocal expansion ensures risk diversification while preserving the value core. Fifth, a focus on human capital and psychological support is a key factor of productivity in prolonged crises.

In summary, the corporate culture of a service company in wartime is a dynamic system integrating mission, ethical principles, humanitarian responsibility, lean efficiency, people-first practices, and multicultural integration. Its ensemble nature ensures resilience, scalability, and the formation of social trust, turning culture into a strategic asset in the VUCA and BANI world.

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## **THE ROLE OF THE INSURANCE MARKET IN ENSURING SUSTAINABLE DEVELOPMENT IN UKRAINE**

The insurance market in Ukraine is an important element of the financial system, as it contributes to improving the protection of the economic interests of the population and businesses. However, its development is hampered by a number of structural and regulatory challenges, which are particularly acute in the context of European integration processes. The potential of the insurance industry has not yet been fully realised, and its economic role lags significantly behind that of developed countries.

The Ukrainian insurance market is characterised by high concentration and a clear division into two main segments: life insurance and non-life insurance. The share of life insurance remains relatively small, at around 10% of the market, while the non-life insurance segment, including motor, property and liability insurance, accounts for the majority of the market, at around 90%. One of the main problems facing the industry is economic instability, largely caused by war and crisis phenomena [1].

The main functions and indicators of the insurance market reflect its role in ensuring financial stability, business development and social protection of the population. The following table summarises the key functions and economic and statistical indicators for assessing the state and efficiency of the market.

**Table 1.** Key functions of the insurance sector

<b>Function</b>	<b>Description</b>
Protective function	Compensation for damages, minimisation of financial losses for households and businesses.
Stimulating function	Reducing business risks, supporting entrepreneurship and innovation.
Investment function	Accumulation and placement of financial resources on the market, increasing the liquidity of the economy.
Social function	Social protection of the population through personal, pension and medical insurance.
Gross insurance premiums	Characterises market activity and resource allocation.

Source: compiled by the author based on [2].

European integration processes open up access to modern technologies and advanced tools actively used in EU countries for the Ukrainian insurance market. One of the key areas of digital transformation is the use of Big Data, which provides in-depth analysis of customer behaviour and risk characteristics, allowing insurers to develop more accurate risk assessment models and create personalised insurance products [3].

European companies are also actively implementing IoT-based solutions — sensors and connected devices make it possible to monitor the technical condition of property or transport and warn of potential losses in a timely manner, which motivates customers to behave more safely and helps reduce insurance costs. The development of cyber insurance, which helps companies compensate for financial losses in the event of cyber attacks and other digital incidents, is also becoming increasingly important [3].

The Ukrainian insurance market has significant but as yet unrealised potential, and its effectiveness is hampered by structural imbalances and the impact of military and economic risks. European integration and digital innovations: Big Data, IoT, cyber insurance, open up opportunities to increase transparency, improve risk assessment accuracy and strengthen the financial stability of the industry. With the active implementation of these technologies, the insurance sector can significantly strengthen its role in economic development and social protection of the population.

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## APPROACHES TO FORMING A STRATEGY FOR AN ENTERPRISE'S EXPORT ACTIVITY

The success of an enterprise's export activity depends on many internal and external factors, among which one of the key ones is the formation and implementation of an effective strategy for foreign economic activity, which is a plan for the development of the enterprise in relation to activities related to entering the foreign market, gaining the desired market share, expanding and maintaining its positions. In addition, it is a set of management decisions that narrow the entire set of possible foreign economic actions of the enterprise to the set of the most effective from the point of view of long-term goals formulated in the general strategy.

The formation of an export strategy is influenced by both internal and external factors, which in turn form the export potential of the enterprise, which is the basis for the formation of a strategy. Internal factors include: the organization of enterprise management; information support for foreign economic activity; planning of export production; accounting and analysis of export supplies; personnel management [1]. Among the external factors in the formation of an export strategy, the following can be distinguished: economic (level and rate of inflation, growth and decline in production, fluctuations in the exchange rate of national and foreign currencies, taxation, conditions for obtaining a loan and bank interest rate, level of price dynamics, buyer demand, solvency of counterparties, etc.); demographic (number of population, its age, gender, marital status, etc.); political and legal (favorability of the existing legislative framework, its stability, political system, relations that have developed in the country on the world stage, etc.); socio-cultural (differences in people's attitudes towards themselves and others, attitude towards social institutions, nature, basic cultural values, differences in perception and needs, etc.); scientific and technical (level of development of science and technology in the country, level of implementation of scientific and technological achievements in production, availability of the latest technologies, etc.); etc.

The formation of an export strategy, as a rule, consists of the following stages:

- initial - carrying out an analysis of the external environment, forecasting the future development of the enterprise, identifying opportunities and threats, strengths and weaknesses, assessing competitiveness and forecasting its changes;
- at the second stage or in parallel (at a newly created enterprise - at the first) the mission, goal and objectives of the enterprise's foreign economic activity are determined;

- at the third stage, a strategic analysis is carried out, which consists in comparing the goal and objectives of foreign economic activity with the results of the analysis of the foreign economic activity environment, identifying and eliminating gaps between them and, most importantly, in developing alternative strategies - options for strategic development;

- at the fourth stage, variant scenarios of the development of events (optimistic, pessimistic and most likely) are modeled and the impact of each on the formulated alternative strategies of foreign economic activity is studied. The competitiveness of the enterprise is determined in the case of implementing a particular strategy of export activity according to a certain scenario;

- at the fifth stage, the most acceptable strategy of foreign economic activity is selected from the alternative ones;

- at the sixth stage, the final version of the strategic plan of the enterprise's foreign economic activity is prepared;

- at the seventh stage, tactical medium-term plans of foreign economic activity are developed on the basis of the strategic plan;

- at the eighth stage, operational plans and projects are developed, and this completes the process of strategic planning of foreign economic activity [2].

The process of implementing the strategic plan (strategic management process) involves not only organizing the implementation of the export activity strategy (stage 9) but also its practical assessment, monitoring of implementation (stage 10) and feedback if errors or shortcomings are identified in the formation of the strategic plan at any of the stages.

Thus, in modern conditions of globalization of economic relations, domestic enterprises have faced the issue of consolidation in the international economic space. To achieve this goal, first of all, an effective strategy for conducting export activities is necessary, which should be developed only in conjunction with the general strategic plan for the functioning of the enterprise. Only the development of a specific action plan will allow domestic enterprises to determine the main types of actions for entering foreign markets and consolidate their positions as competitive

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### **BUSINESS PROCESS REENGINEERING AS A MECHANISM FOR IMPROVING ENTERPRISE FINANCIAL STABILITY**

In modern economic conditions characterized by market volatility, digital transformation and increasing competitive pressure, ensuring enterprise financial stability has become one of the key objectives of management. Enterprises are required not only to maintain solvency and liquidity, but also to develop adaptive mechanisms capable of responding to rapid environmental changes. In this context, business process reengineering (BPR) emerges as an effective managerial tool aimed at enhancing financial stability and long-term competitiveness.

Business process reengineering is understood as a radical redesign of core business processes based on the introduction of innovative technologies, modern management approaches

and digital solutions. Recent studies emphasize that contemporary BPR significantly differs from its classical interpretation, as it increasingly integrates smart systems, automation and artificial intelligence to improve operational and financial performance [1]. Such transformations enable enterprises to optimize internal processes and achieve higher efficiency in resource utilization.

Financial stability reflects the enterprise's ability to maintain a balanced financial structure, ensure continuous cash flows and withstand internal and external risks. Inefficient business processes often lead to excessive costs, delays, duplication of functions and ineffective decision-making, which negatively affect financial indicators. According to recent empirical research, reengineering allows enterprises to eliminate non-value-adding activities and significantly improve cost efficiency, thereby strengthening financial sustainability [2].

One of the most important impacts of BPR on financial stability is cost optimization. By redesigning production, logistics and administrative processes, enterprises can reduce operational expenses and improve productivity. Studies show that the integration of BPR with modern cost management approaches contributes to more rational allocation of resources and improved financial outcomes [4]. As a result, enterprises enhance profitability and liquidity, which are core indicators of financial stability.

In addition to cost reduction, business process reengineering positively influences revenue generation. Improved workflow organization, reduced processing time and higher service quality increase customer satisfaction and market responsiveness. Empirical evidence confirms that enterprises implementing BPR achieve higher operational efficiency, which ultimately leads to improved financial results and competitive advantages [5].

Furthermore, BPR plays a crucial role in risk management and organizational resilience. Simplified and standardized processes reduce operational risks and enhance transparency, enabling managers to make more informed financial decisions. A systematic review of recent studies indicates that enterprises implementing BPR are better prepared to operate under conditions of economic uncertainty and crisis situations [3].

However, despite its advantages, the implementation of business process reengineering remains a complex managerial challenge. Successful reengineering requires strategic alignment, strong leadership and employee involvement. Researchers emphasize that ignoring organizational and human factors may reduce the effectiveness of BPR initiatives [1; 3]. Therefore, a comprehensive and integrated approach to reengineering is essential for achieving sustainable financial stability.

In conclusion, business process reengineering is an effective mechanism for improving enterprise financial stability in contemporary economic conditions. Through radical transformation of business processes, enterprises can optimize costs, enhance operational efficiency, mitigate risks and strengthen their financial position. In the long term, BPR should be considered not only as an operational improvement tool, but also as a strategic instrument for ensuring sustainable enterprise development.

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## **FINANCIAL AND ECONOMIC ASPECTS OF ENSURING SUSTAINABLE DEVELOPMENT OF HEALTHCARE INSTITUTIONS**

The long-term financial stability of healthcare institutions is dependent on modernizing their physical infrastructure and supply chains. Financing this transformation requires specialized models, such as those utilizing dedicated green capital instruments. Green financing frameworks, exemplified by models like the P3 Green Financing Framework, provide a structure for matching the net proceeds from instruments like green bonds directly to eligible green projects throughout the life of the bonds. These instruments ensure transparency and provide targeted capital essential for large-scale infrastructure upgrades [1].

In parallel with green capital deployment, healthcare institutions must strategically move supply chains away from the resource-intensive, linear economic model. The linear model, which depletes resources, generates pollution, incurs habitat loss, and increases risks to both human health and economic welfare, is fiscally unsustainable in the long run. The alternative is the Circular Economy (CE) model, which focuses on enhancing resource efficiency through the reuse, remanufacture, and recycling of materials. Adopting CE principles lowers long-term procurement and waste disposal costs while mitigating environmental and supply chain risks [2].

Investment in sustainable infrastructure projects often yields a measurable synergistic dividend — both financial and environmental. Converting hospital transportation programs to electric vehicles or installing growing spaces in open areas, such as rooftops, are examples of highly visible projects that drive immediate sustainability efforts. Crucially, these projects are not solely mission-driven expenditures; they lead directly to some of the "greatest savings opportunities," particularly through energy conservation and utility cost reduction. This dynamic ensures that environmentally-conscious investment is not treated as a cost center but rather as a dedicated source of operational cost reduction, making such projects highly attractive to financial officers seeking both mission fulfillment and fiscal efficiency. Healthcare institutions should actively quantify the expected utility savings and avoided community health costs in green bond prospectuses to attract investment capital focused on measurable ESG (Environmental, Social, Governance) returns [3].

The experience of implementing sustainable development projects by Ukrainian healthcare institutions includes digitalization, energy management, and environmental (greening) projects. Global experience also indicates an increase in investments in information security implementation projects. [4].

Our research was related to the second direction. The project "Implementation of modern energy saving technologies" was studied. Reasons for initiating the project: the need to reduce utility costs, improve the conditions for providing medical services to patients, improve the working conditions of the institution's employees. Project content: socially oriented project. Contains the following areas — conducting educational and educational activities with personnel on the economical consumption of electricity, heat, water and other resources; replacing and insulating doors and windows, other technological structures, equipping windows with sun protection systems; modernizing the heating system. Project goal: implementing modern energy-saving technologies. Criteria for achieving project goals: reducing utility costs for heating, energy, water, etc. by 10%. Project objectives and results: conduct educational and educational activities with staff on economical consumption of electricity, heat, water and other resources; replace and insulate doors and windows, other technological structures, equip windows with sun protection systems — insulated doors in the reception area, delivery rooms; windows in the newborn wards replaced; modernize the heating system of the premises — radiator batteries replaced. The key social results of the project are: increased level of social responsibility of staff; improved working conditions of

clinical center staff; improved conditions for patients and newborns in the facility; improved quality of medical services.

Project boundaries: educational and educational activities cover the institution's staff. Project limitations: the limitations on project implementation are the planned funds and time for project implementation. Project assumptions: effective cooperation with external firms that implement individual project works. (replacement and insulation of doors, windows, radiators).

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## DIGITALIZATION AND THE FINANCIAL SECURITY OF MARKET PARTICIPANTS IN UKRAINE: ADVANTAGES AND RISK REDUCTION

Digitalization has fundamentally transformed the financial landscape by reshaping the interactions between financial institutions, businesses, and individual consumers. This process, often associated with the development of financial technologies (FinTech), is driven by the integration of cloud computing, artificial intelligence, big data analytics, and block chain technologies. In modern conditions, the digitalization of financial relations is understood as the systematic integration of information and communication technologies into financial behavior in order to improve the efficiency of resource management, expand access to financial services, and optimize transaction costs.

Digitalization encompasses mobile and online banking, electronic payments, digital lending, investment and insurance platforms, income and expenditure management tools, as well as access to public services through electronic platforms [1]. It significantly alters traditional models of financial behavior, generating both new opportunities and new risks for participants in financial relations. The key advantages of digitalization in the context of ensuring financial security include increased accessibility of financial services, enhanced transparency of financial transactions, improved budget management, expanded opportunities for savings and investment, reduced administrative barriers, and the development of financial literacy through digital educational platforms. Digital financial services are particularly important for households with limited access to traditional banking infrastructure, as they contribute to financial inclusion and resilience.

Financial security of participants in financial relations can be defined as the ability to maintain financial stability, protect financial interests, and effectively respond to economic shocks. It includes budgetary, investment, social, and digital security, particularly protection against cyber threats, fraud, and personal data breaches. In Ukraine, ensuring financial security is complicated by inflation, income instability, low levels of savings, and limited access to modern financial instruments in certain regions [2]. Although digitalization improves access to and transparency of financial services, it also creates new challenges related to cyber security, digital inequality, and

insufficient levels of financial and digital literacy. The risks associated with digitalization of financial relations can be divided into individual and systemic ones. Individual risks include low levels of digital competencies, unequal access to digital technologies, and limited financial capacity to use modern digital tools [3]. Systemic risks involve cybercrime, the spread of fraudulent schemes, information manipulation, cyber attacks on financial institutions, and psychological influence on financial decision-making. Risk mitigation requires a comprehensive approach that includes the development of digital financial literacy, enhancement of cyber security standards, effective government regulation of digital financial products, expansion of digital infrastructure, and strengthening of financial inclusion. Increasing trust in financial institutions and openness to digital innovations is also crucial [4].

Thus, digitalization is a powerful tool for strengthening the financial security of participants in financial relations in Ukraine. Its effectiveness depends on the level of digital financial literacy, cybersecurity protection, and regulatory support. The rational use of digital technologies combined with effective risk minimization will enhance household financial resilience and contribute to overall economic stability. Summarizing the above, it should be noted that the digitalization of financial relations acts not only as a tool for modernizing the financial system but also as an important factor in shaping the financial security of participants in financial relations. It has the potential to significantly strengthen household financial resilience, increase financial inclusion, and enhance the transparency of financial processes, while simultaneously requiring an adequate level of digital and financial literacy, effective government regulation, and reliable cybersecurity protection.

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## **MECHANISM FOR ENSURING SUSTAINABLE DEVELOPMENT OF AGRICULTURAL ENTERPRISE**

Sustainable development of the agro-industrial sector is determined by the effective implementation of its multifunctional mission, which covers economic, social and environmental dimensions. The development and implementation of strategies for sustainable development of the industry contributes to minimizing the negative impact on the environment, improving the standard of living of the population, creating social and economic well-being, as well as strengthening the competitiveness of agricultural enterprises.

The agrarian sector of Ukraine is a system-forming sector in the national economy, forms the principles of preserving the sovereignty of the state - food, as well as economic, environmental and energy security, and ensures the development of technologically related sectors of the national economy and forms the socio-economic foundations of the development of rural areas [1]. The development of sustainable agricultural production involves the formation of conditions for improving the quality of life of the rural population, increasing the level of income per capita and overcoming key socio-economic challenges, including poverty and unemployment. Thus, the agricultural sector is an important factor in social stability and economic development of territories.

A key element of sustainable development of the agricultural sector is economic sustainability, which must provide sufficient economic returns to support the functioning of agribusiness and adequate remuneration of producers. At the same time, social sustainability focuses on the principles of justice and equal distribution of resources between all participants in agricultural relations, including farmers and rural communities. This creates the prerequisites for a harmonious combination of economic, social and environmental aspects within the framework of the state's agricultural policy.

One of the main goals of sustainable development of the agricultural sector is to minimize the impact on the environment while increasing production productivity. This involves the implementation of practices that contribute to the responsible management of natural resources, including the conservation of soil, energy and water and the minimization of waste, biodiversity, ensure the minimization of environmental degradation and mitigation of the consequences of climate change [2].

Sustainable development of agriculture involves the implementation of innovative solutions in production processes, which ensures the rational use of resources and reduces the negative impact on the environment. The state plays an important role in stimulating the innovation process, because it is its support that can help overcome the lag of the agricultural sector of Ukraine from the leading economies of the world, form competitive products and expand the opportunities for exporting finished products to international markets.

The transition to rational models of agricultural production contributes to the optimization of resource use, reduction of emissions and increase of the sustainability of agricultural systems. Sustainable development of the agricultural sector involves the effective management of agricultural resources taking into account long-term sustainability. In this aspect, innovative tools make it possible to conduct operational monitoring of their condition, identify and systematize existing risks, optimize the use of agricultural resources, ensuring balanced production with lower costs and overall efficiency increase. At the same time, without the integration of such solutions, agricultural production becomes less predictable, and costs become unstable, which negatively affects food security and export potential [3].

The development of mechanisms for sustainable development of agricultural enterprises should be based on two basic principles:

First, it is necessary to ensure a balanced interaction of economic, environmental and social components, which means the rational use of resources in the interests of man and nature. Secondly, production processes should be based on the implementation of responsible innovations focused on taking into account the interests of future generations.

Thus, sustainable development of the agricultural sector involves the integration of economic efficiency, environmental safety, and social justice, which creates the basis for the long-term competitiveness and sustainability of the industry.

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### CULTURAL HERITAGE AS AN INFORMATIONAL RESOURCE FOR THE SUSTAINABLE DEVELOPMENT OF TOURISM IN CROSS-BORDER TERRITORIES

In the context of contemporary sociocultural transformations, cross-border territories are increasingly perceived not as peripheral spaces but as zones of active interaction, cultural exchange, and sustainable development. Cultural heritage, formed as a result of centuries-long interethnic contacts and the shared history of neighboring regions, acts as a key informational resource for the development of cross-border tourism, as it accumulates historical memory, identity, and the symbolic capital of territories.

Cultural heritage is understood as a set of tangible and intangible assets that a society or people consider valuable, which transmit and reinforce their history, identity, and collective memory. It is manifested through material artifacts and intangible elements. The essence of cultural heritage lies in the accumulation and intergenerational transmission of valuable material and immaterial components that reflect the history, traditions, values, and identity of a particular group or society.

The preservation of cultural heritage is fundamental to the formation of identity and a sense of belonging for individuals and communities and represents a legacy that must be protected for future generations. It should be noted that cultural heritage is not identical to history: history narrates the past, whereas heritage encompasses preserved materials of the past and testimonies of the present [2].

Cultural heritage and tourism are closely interconnected. On the one hand, heritage serves as a primary resource and factor of territorial attractiveness, as historical monuments, architecture, traditions, and cuisine shape the uniqueness of the tourist experience, particularly in border regions. On the other hand, tourism acts as a driver for the preservation and promotion of heritage by assigning it economic value and motivating communities to restore monuments and support crafts and traditions. At the same time, this interaction is dual in nature: while the development of cultural tourism contributes to the revival of authentic practices, excessive commercialization may lead to the loss of their authenticity. In this context, ensuring a sustainable balance between preservation and use of heritage is essential.

In border regions, the relationship between tourism development and cultural heritage acquires a specific character. Within these territories, heritage emerges as the result of centuries-long cultural exchange and mutual influences among different peoples, creating a unique multicultural space that is attractive to tourists.

Cross-border tourism, as a specific form of international tourism, functions within a unified cross-border space where the state border acts not only as a barrier but also as a resource for shaping tourism demand and supply. Its development is based on the joint use of natural and cultural resources, short-term but regular tourist trips, interstate policy coordination, and the development of border infrastructure. In this context, cultural heritage performs a dual function: on the one hand, it constitutes the core of the tourism product and a key attractiveness factor of cross-border regions; on the other hand, it serves as a means of intercultural communication and integration of border communities.

Unlike other forms of tourism, cross-border tourism does not focus on long-distance or long-term travel; instead, it develops within limited territories and is oriented toward functioning exclusively within adjacent regions. This constitutes a highly favorable factor for the tourism promotion of borderland cultural heritage. As a result of cross-border tourism development, specific regions emerge where tourism becomes an element of integration. Such regions share common natural resources (mountains, rivers, national parks) that extend beyond the borders of a single state. Examples include the Upper Prut, Carpathians, Dniester, and Bug Euroregions [1].

The use of cultural heritage as an informational resource contributes to the formation of a positive image of cross-border territories, the activation of local economies, the development of small businesses, hospitality and restaurant sectors, and gastronomic practices, while also stimulating the preservation of tangible and intangible cultural values. At the same time, the development of cross-border tourism requires adherence to sustainability principles, as excessive commercialization of heritage may lead to its simplification or loss of authenticity. Thus, within the system of cross-border tourism, cultural heritage emerges not merely as an object of consumption but as a strategic informational resource for sustainable development, ensuring a balance between economic benefits, the preservation of cultural identity, and intercultural dialogue in cross-border regions.

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### **SOCIAL ENTREPRENEURSHIP AS A FACTOR FOR THE SUSTAINABLE DEVELOPMENT OF REGIONAL ECONOMIES**

Social entrepreneurship is a modern tool for integrating economic, social, and environmental goals in the functioning of regional economies. It combines the pursuit of profit with the goals of solving social problems, creating jobs, developing local communities, and strengthening the local economy. In European Union countries, social enterprises are recognized as an important element of sustainable development because they foster the integration of vulnerable social groups, stimulate innovation, and support regional economic systems. In Poland, social entrepreneurship is developing dynamically under the influence of state policy, European Union programs, and international initiatives in the social economy. Thanks to the support of the government and various institutions, social enterprises are shaping new business models that simultaneously address the

social and economic challenges of regions. An important aspect of their activities is the use of innovative approaches and digital tools to increase the efficiency and transparency of management processes [1; 2]. Social enterprises perform a number of functions that contribute to the sustainable development of regional economies:

1. Job creation and the integration of vulnerable social groups. Social enterprises provide employment opportunities for low-income individuals, people with disabilities, and youth, helping to reduce social inequalities and contributing to the development of human capital.

2. Support for local economic development. Profits from social enterprises are largely reinvested in the community, supporting local infrastructure projects, social initiatives, and the development of small businesses.

3. Innovation and sustainability. Social enterprises often employ innovative production approaches, environmentally friendly technologies, and circular economy models, contributing to the sustainable use of regional resources.

4. Partnerships and access to international resources. Polish social enterprises actively utilize EU grant programs, establish partnerships with international organizations, and exchange experiences with social entrepreneurs from other countries.

In Poland, social enterprises are regulated by the Social Economy Act, which establishes a legal framework for the activities of cooperatives, charities, and non-profit enterprises. The main characteristics of Polish social enterprises include: a focus on a social mission that does not conflict with economic activity; reinvestment of profits in social programs and community development; and the active use of innovative technologies and information platforms to manage business processes, collect data, and evaluate the effectiveness of social initiatives. Examples of successful social enterprises in Poland include the production of ecological goods, the management of municipal services, the provision of educational and advisory services for small businesses, and work integration programs for vulnerable social groups. International experience shows that Polish social enterprises effectively integrate into global social economy networks, employ advanced management models and reporting standards, which increase their resilience and enable the scaling of proven practices [3].

Despite their dynamic development, social enterprises in Poland face a number of challenges: limited access to financing and dependence on grant programs; low public awareness of the role of social enterprises; a shortage of qualified staff to manage social economy enterprises; and a lack of uniform standards for social impact assessment, which hinders scaling and integration into international markets [2]. Overcoming these challenges requires a comprehensive approach that includes state support, the development of professional competencies, and the use of digital platforms for managing and monitoring operations. Social entrepreneurship in Poland is an effective mechanism for stimulating the sustainable development of regional economies. It combines economic, social, and environmental goals, creates jobs, supports the development of local communities, and integrates innovation into business processes. Polish experience shows that government support, international partnerships, and the use of digital technologies are key factors in the success of social enterprises. Social entrepreneurship has the potential not only to improve regional economic performance but also to strengthen social integration and promote environmental awareness among the population.

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## **INSURANCE AS A FINANCIAL INSTRUMENT IN THE FORMATION OF FINANCIAL LITERACY OF HOUSEHOLDS IN UKRAINE**

In the context of increasing economic uncertainty and elevated risk exposure of households, insurance functions not only as a mechanism for loss compensation but also as an essential financial instrument within the broader framework of financial literacy. According to contemporary research and international policy frameworks, insurance facilitates risk pooling, reduces household financial vulnerability, and improves budget planning and financial resilience [1,2].

The Ukrainian insurance market has demonstrated a gradual recovery following the full-scale invasion, although the penetration of insurance products among households remains relatively low. This indicates structural weaknesses in financial culture and highlights the need to strengthen insurance awareness as part of household financial planning.

Insurance enables households to establish protective financial buffers by replacing large, unpredictable one-off expenditures with regular and predictable insurance premiums. Such a mechanism contributes to budget stabilization, as substantial expenses related to medical treatment, property damage, or liability risks are transformed into manageable and planned payments. As a result, households are better positioned to smooth consumption, plan expenditures, and mitigate financial shocks - an aspect that is particularly important during periods of macroeconomic instability.

Over the past five years, demand for insurance products in Ukraine has shown a gradual increase in gross written premiums, particularly in the non-life insurance segment. According to the National Association of Insurers of Ukraine, non-life insurance premiums reached approximately UAH 47,3 billion in 2024, representing a 13,2% increase compared to 2023, while insurance claims amounted to nearly UAH 19 billion, reflecting a sustained upward trend in payouts [3]. The market structure is dominated by motor insurance and health insurance, which together account for a significant share of total premiums. Life insurance premiums also increased in 2024; however, their relative share remains substantially lower than that of non-life insurance [3,4].

At the same time, the number of insurance companies has continued to decline, indicating ongoing market consolidation and the exit of less resilient insurers following crisis periods. As of early 2025, the Ukrainian insurance market comprised approximately 55 non-life insurers and 10 life insurers, reflecting increased concentration within the sector [5].

A critical structural constraint remains the low level of life insurance penetration in the national economy. According to estimates by the financial regulator, life insurance premiums account for approximately 0,07% of gross domestic product, a figure that underscores the limited diffusion of long-term insurance instruments among households [4]. From the perspective of OECD and World Bank frameworks, such low penetration weakens household financial resilience and limits the capacity for long-term risk management.

Life insurance and non-life insurance products affect household budgets in distinct ways. Life insurance provides long-term financial protection by partially replacing lost income or covering substantial household liabilities in the event of death, disability, or other long-term risks. In contrast, non-life insurance addresses a broad range of short- and medium-term risks - property, motor, health, and liability - and reduces the likelihood of large unforeseen expenditures, thereby supporting short-term budget stability and liquidity management.

Empirical evidence suggests that growth in non-life insurance premiums reflects a recovery in demand for mass insurance products, including motor, property, and health insurance, which enhances household participation in formal risk management mechanisms and supports financial inclusion [3].

Despite these positive trends, several barriers continue to constrain the widespread use of insurance instruments among households in Ukraine. These include a persistently low level of

financial literacy, limited trust in insurers and claims settlement procedures, and high-income sensitivity, whereby voluntary insurance products are often deprioritized during periods of constrained household resources. Additional challenges arise from product complexity and insufficient transparency of insurance contracts, particularly regarding deductibles, exclusions, and benefit limits. International research further emphasizes that structural and regulatory constraints can slow the development of insurance markets in emerging and post-crisis economies [2].

To foster a stronger insurance culture in Ukraine, policy efforts should focus on expanding financial literacy programs that integrate risk assessment and household budgeting, adapting insurance products to mass-market needs through simplified contracts and digital delivery channels, enhancing transparency in policy terms and claims settlement, and promoting employer-based insurance schemes - particularly health insurance - as an effective entry point for habitual insurance use.

Overall, insurance plays a key role in strengthening household financial resilience by stabilizing budgets, transforming risks, and supporting the formation of long-term financial strategies. While recent analytical data indicate market recovery and growth in non-life insurance premiums and claims, insurance penetration among households remains moderate. Removing structural barriers and improving financial literacy are therefore essential conditions for reinforcing the role of insurance in household financial planning in Ukraine.

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## ESG – PRINCIPLES: THE ROLE IN FUTURE RECONSTRUCTION OF UKRAINE

ESG standards are gaining particular importance for an objective assessment of the activities of enterprises and the effectiveness of projects, based on a combination of environmental, social and management requirements. Modern financial markets are increasingly oriented towards sustainability priorities; and this is manifested not as a short-term trend, but as a long-term condition for the development of not only national business, but also for the transformation of global markets in the transition from classical functioning to responsible investing.

ESG principles act as a kind of driver of movement towards the economy of the future, which will be characterized by high financial performance, environmental safety and social stability [1]. A high ESG rating of enterprises becomes an important factor of competitive advantages, which provides the opportunity to attract investor capital on more favorable terms, increase the client base, strengthen positions in partnership relations both within the country and in international markets [2]. ESG rating is one of the decisive conditions for increasing the market value of companies, however, the degree of positive effect should be enhanced by its high image [3].

The post-war reconstruction processes of Ukraine are associated with the need for financing, in particular from international organizations, access to which will be problematic without the use of

ESG standards, and this applies not only to our country, but also to all those countries that use such financing. According to representatives of top management of key companies, the activities of enterprises in accordance with ESG standards will form a financially transparent and ethical business, which will ensure economic stability in Ukraine thanks to international and donor support for the processes of economic and infrastructure reconstruction.

The implementation of ESG standards is a requirement of cooperation with the World Bank, The US International Development Finance Corporation (DFC), The European Bank for Reconstruction and Development (EBRD) and other international institutions. Following the ESG principles is the basis for decision-making by other commercial organizations, which may show greater interest in interaction and offer more favorable terms for this interaction.

According to experts, there are a number of important factors that enterprises that aim to use ESG standards should consider: assessment of the degree of their impact on business efficiency in both the near and long term; compliance with the overall development strategy of the enterprise; inclusion in the enterprise's risk management system; availability of a monitoring system for the implementation processes and effectiveness of the use of ESG principles.

Currently, there is no universal approach to implementing ESG practices for all companies. There are frequent cases of unsuccessful strategy choices ESG without alignment with overall business strategy, leading to undesirable outcomes. Greenwashing is becoming more prevalent: according to a survey conducted by EY, 85% of investors express concern that “green” camouflage is becoming a much more significant issue than it was five years ago [4].

In Ukraine, a legislative initiative to introduce ESG reporting as mandatory; different implementation dates are envisaged: from 2027 – for companies with more than 500 employees; from 2028 – for all other large enterprises; from 2029 – for small and medium-sized companies that own shares listed on the stock exchange. Reporting by small non-public and non-state enterprises (the majority of them) will be voluntary [5].

Although Ukrainian enterprises are not yet fully ready to form high-quality non-financial reporting, they are already beginning to understand the critical relevance ESG principles from the perspective of integration into the European economic space and obtaining a "pass" to the global market in order to obtain financing for post-war reconstruction.

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## **FINANCIAL RESILIENCE IN THE CONTEXT OF UKRAINE'S POST-WAR RECOVERY AND SUSTAINABLE DEVELOPMENT**

Financial resilience is a key prerequisite for the successful post-war recovery and integration of Ukraine into the trajectory of sustainable development. Resilience is the antithesis of fragility; it reflects the ability of any system that manages to survive to recover after shocks and adapt to a changing environment [1].

Thus, the level of resilience allows us to understand how the financial system can withstand shocks, adapt to new conditions, recover, and ensure long-term stability in the face of military and post-crisis challenges, as well as dependence on substantial international assistance. Today, Ukraine is experiencing unprecedented financial pressures: GDP decline, inflationary risks, reduced purchasing power, and destruction of infrastructure. The war, lasting nearly four years, “continues to exert a destructive impact not only on infrastructure and the business environment, but has also reduced the level of financial stability of the state as a whole and of each citizen individually” [2].

Sustainable development must become the programmatic goal of Ukraine's post-war recovery. “In conditions of global instability, the study of dynamic socio-economic systems is becoming increasingly relevant, particularly with regard to the analysis of behavioral factors in complex systems characterized by nonlinear dynamics and unpredictable development trajectories, the assessment of interconnections, synergetic and multiplier effects of interaction and mutual influence, adaptive and evolutionary behavior of economic actors, and resilience to external challenges and threats” [3].

It should be emphasized that post-war recovery cannot be limited to restoring the status quo. It must incorporate the principles of sustainable development: ecological balance, social inclusion, and economic efficiency. Financial resilience is expected to ensure a balance between economic efficiency, social inclusion, and ecological responsibility. This implies: support for social programs and guarantees; financing of “green” and innovative projects; and the development of financial literacy among the population.

### **Priority Tasks for Strengthening Financial Resilience:**

- ensuring macro-financial stabilization, strict control of inflation and exchange rates, and managing public debt with a priority on long-term sustainability.
- building reserves for unforeseen crises.
- enhancing transparency and trust through effective financial monitoring mechanisms, greater openness in the use of international aid, and strengthening confidence in the banking system and public finances.
- institutional modernization, including reforming financial markets to expand business access to capital, developing risk insurance and investor guarantee instruments, and supporting financial inclusion (access to credit and services for households).
- introducing innovative financial instruments such as green bonds and sustainable development funds, establishing special funds for infrastructure recovery, and advancing digital financial technologies (fintech, blockchain for transparency).
- social and ecological orientation: ensuring stable social payments and support for vulnerable groups, integrating ecological standards into recovery financing, and raising financial literacy as a foundation of resilience.

The outlined priority tasks are not merely technical steps but strategic guidelines that combine economic stability with social and ecological responsibility. Their implementation will result in: economic stability, reduced inflationary fluctuations, debt control, and predictable financial policy; attraction of substantial investments; transparency and trust in the financial system, opening access to international capital; social protection through stable social payments and support for vulnerable groups; innovative development and intellectualization of economic activity, use of

green financial instruments and digital technologies, and stimulation of production modernization; integration into the global economy, increased competitiveness, and attractiveness for partners; balance between economic efficiency, ecological responsibility, and social inclusion.

Conclusion. Financial resilience is a bridge between survival and development, between recovery and modernization, and sustainable development. It requires strong pillars: transparency, institutional trust, and balanced policy. Through financial resilience, Ukraine will be able to recover rapidly after the war and secure a sustainable trajectory of development.

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### FINANCING INVESTMENT ACTIVITIES OF AGRICULTURAL ENTERPRISES IN UKRAINE IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

Agricultural enterprises play an important role in shaping food security, regional development, and the national economy. In the context of military operations in Ukraine, infrastructure destruction, climate change, and unstable markets, there is a growing need to intensify their investment activities. Therefore, investment financing is becoming particularly relevant, especially in the context of the need to ensure sustainable development.

The following scholars have addressed the issue of financing investment activities of agricultural enterprises: T. Palienko, V. Diachenko [1], Y. Nehoda, D. Koniukhov [2], S.P. Bilous, S.V. Novotnyi [3], D. Titov, V. Oleksienko [4], A. Chupis, Y. Kucherenko [5]. At the same time, increasing uncertainty and growing risks require additional research into these processes.

In today's world, agricultural enterprises are not only food producers but also agents of sustainable development, combining economic performance, environmental responsibility, and social orientation. The integration of environmental, social, and governance criteria into financial and economic decisions is becoming an important factor in enterprises' access to capital. Therefore, sustainable development of enterprises is a strategic asset that contributes to the growth of investment attraction, and ESG factors are becoming an important component in assessing the long-term value of agricultural companies and an integral part of investment activities [1].

In recent years, there has been significant volatility in the total volume of investments in agriculture in Ukraine. According to data from the State Statistics Service [6], in 2020, the total volume of capital investments in agriculture amounted to UAH 36.4 billion, increasing by 34.81% in 2021. However, the full-scale war has led to significant structural and dynamic negative changes. In 2022, capital investments decreased by 33.63% compared to the previous year, and in 2023, by 2.95%. In 2024, investment activity recovers, and the indicator grows to UAH 42.9 billion [6]. At the same time, agricultural enterprises are gradually transitioning to ESG approaches, environmental certification, the introduction of resource-saving and “green” technologies (solar power plants, farms, energy dryers), precision farming, etc.

Investment activities are financed from internal and external investment sources [2], which are formed within the country (funds from the state, regional, and local budgets and relevant extrabudgetary funds, enterprises' own financial resources and investors' internal reserves,

borrowed (attracted) financial resources of investors), as well as from abroad (foreign private direct and portfolio credits and loans) [3]. At the same time, the main problems in wartime are the reduced financial accessibility of traditional financial resources, the destruction of infrastructure, a decline in investment attractiveness, migration and labor shortages, and the lack of effective mechanisms for insuring investment risks [4].

The main source of financing throughout the period remains the enterprises' own funds, which consistently exceed 90% of the total investment volume. In 2021, their volume reached UAH 44.6 billion, which indicates the dominance of self-financing in agriculture and a low level of external investment resources. In 2022, this figure decreased by 32%, and in 2023, it fell to UAH 30.2 billion due to military risks and a decline in enterprise revenues, but in 2024, it increased to UAH 40.2 billion. High dependence on self-financing indicates, on the one hand, a certain level of internal stability of enterprises and, on the other hand, insufficient development of market mechanisms for long-term investment, which is exacerbated in times of crisis. Due to inter-sectoral imbalances in economic relations, the use of own resources does not allow for full-fledged expanded reproduction [5], in particular for small and medium-sized businesses, which hinders the modernization of the technical and technological base and reduces the potential for sustainable development of enterprises.

Therefore, it can be argued that Ukraine needs to diversify the sources of financing for the investment activities of agricultural producers, develop long-term investment instruments, stimulate green investments, and strengthen state and international support. Effective financing of investment activities of agricultural enterprises determines their ability to maintain production stability, increase efficiency, and implement sustainable development strategies.

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## INTEGRATION OF SUSTAINABLE DEVELOPMENT PRINCIPLES INTO THE DEVELOPMENT STRATEGIES OF HEALTHCARE INSTITUTIONS

In the current context of socio-economic system transformation, the issue of ensuring the sustainable development of healthcare institutions has become particularly relevant. The increasing burden on the healthcare system, limited financial and material resources, demographic changes, and growing requirements for the quality of medical services necessitate the implementation of new

management approaches focused on the long-term sustainability and efficiency of healthcare institutions.

Sustainable development in the healthcare sector is understood as the ability of healthcare institutions to ensure continuous, high-quality, and accessible provision of medical services in the long term, while rationally using resources and minimizing negative impacts on society and the environment. In the current context, the sustainable development of healthcare institutions goes beyond purely economic efficiency and implies a comprehensive approach that integrates economic, social, and environmental dimensions of activity:

- economic sustainability of healthcare institutions lies in their ability to ensure financial balance, effective management of budgetary and extra-budgetary resources, cost optimization, and improved performance. Achieving economic sustainability creates the prerequisites for the stable functioning of healthcare institutions, modernization of their material and technical base, and the implementation of innovative managerial and medical solutions;

- social responsibility as a principle of sustainable development of healthcare institutions is manifested in ensuring the accessibility and quality of medical services, adherence to ethical standards, development of human capital, and increased trust on the part of patients and society as a whole. An important aspect of the social dimension is the creation of safe and decent working conditions for medical personnel, which directly affects operational efficiency and the sustainability of healthcare institutions' development;

- environmental sustainability involves minimizing the negative impact of healthcare institutions on the environment through the rational use of energy and water resources, the implementation of medical waste management systems, reduction of pollution levels, and the application of environmentally friendly technologies. Taking the environmental dimension into account is a necessary condition for the responsible functioning of healthcare institutions in the context of achieving sustainable development goals.

The integration of sustainable development principles into the strategic management of healthcare institutions involves their systematic incorporation into the mission, strategic objectives, and development programs of medical facilities. Sustainable development principles should form the basis of strategic decisions aimed not only at achieving short-term results but also at ensuring the long-term stability, adaptability, and competitiveness of healthcare institutions in the context of dynamic changes in the external environment.

An important aspect of integrating sustainable development principles is strategic planning of healthcare institutions' activities, during which priority areas of development are identified, and goals and objectives are formulated, taking into account the aforementioned economic, social, and environmental dimensions of activity. This approach allows the alignment of the resources and capabilities of healthcare institutions with the needs of the population, ensuring a balance between operational efficiency and the social significance of the medical services provided.

Effective resource management is a key component in implementing sustainable development strategies. It involves the optimization of financial, material-technical, and informational resources, the adoption of modern management tools, as well as enhancing transparency and accountability in decision-making processes. Rational resource management contributes to cost reduction, improved operational efficiency, and strengthened economic sustainability of healthcare institutions.

Equally important is the development of human capital, which is considered a strategic resource for the sustainable development of medical facilities. Integrating sustainable development principles into human resource policies involves investing in the professional development of medical personnel, creating conditions for continuous learning, enhancing motivation, and fostering a supportive organizational environment. This approach ensures improved quality of medical services and contributes to the preservation of the workforce potential.

Overall, management decisions play a decisive role in achieving the long-term sustainability of healthcare institutions, as the effectiveness of integrating sustainable development principles into strategic management depends on the soundness and coherence of these decisions.

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## SUSTAINABLE REGIONAL TOURISM IN UNSTABLE ENVIRONMENTS: FROM INFRASTRUCTURE TO DESTINATION MANAGEMENT

Tourism development at the regional level should be interpreted as a system of interdependent elements rather than a set of isolated attractions. A regional tourism system (RTS) integrates transport, accommodation, and food services, local communities, natural and cultural resources, and tourists; its effectiveness depends on stakeholder partnership and balancing economic, social, and environmental priorities in line with sustainable development [1]. Under growing external turbulence (pandemic shocks and, for Ukraine, wartime conditions), the vulnerability of RTS increases, making modernization a priority for both policy and destination management practice.

The purpose of this study is to provide practical guidance for the sustainable modernization of regional tourism in the face of instability, with a focus on two key leverage points: infrastructure development and destination management. Methodologically, the approach relies on a systems understanding of RTS components and their linkages, as well as on the synthesis of sustainable tourism principles and governance instruments applicable to crisis contexts [2, 3, 4].

An RTS can be operationalised through mutually reinforcing components – demand and tourist flows; attractions; infrastructure and tourism services; destination management and marketing; local communities; tourism education and research [1]. Under instability, the “infrastructure–management” nexus becomes especially important: infrastructure provides minimum viability and safety of access and services, while destination management ensures coordination, market communication, and adaptive product design under risk.

Infrastructure priorities in unstable environments should move beyond “capacity expansion” and concentrate on enabling functions for sustainable mobility and continuity: safe connectivity, barrier-free access, energy- and resource-efficient facilities, and environmentally compatible recreational infrastructure. Such investment logic supports sustainability goals and reduces pressure on local ecosystems while maintaining acceptable service quality for visitors.

A critical governance innovation is strengthening the role of local communities. Communities have direct interest and influence in tourism development; therefore, modernization should be built around participatory planning, community-centred implementation and benefit-sharing mechanisms (employment, local business income, support for community projects). Community involvement also supports cultural heritage preservation and improves the social legitimacy of tourism decisions, which is particularly important when destinations face external threats and fiscal constraints.

Marketing and destination management instruments are the second core lever of modernization, particularly under information-society conditions where competitiveness depends on digital communication and market intelligence [1]. Key instruments include destination branding based on unique regional resources, promotion of responsible tourism, green certification/eco-

labelling, stakeholder engagement (operators, media), and evidence-based market research to tailor sustainable products to target segments. Digital channels (websites, information portals, social media) should be used not only for promotion, but also for two-way communication and timely updates during crises.

In conclusion, sustainable modernization of regional tourism in unstable environments requires an integrated approach that synchronises eco-safe infrastructure investment with community-centred governance and professional destination management. Long-term planning, local capacity building, stakeholder partnerships, and monitoring systems allow destinations to reduce vulnerability, preserve cultural and natural assets, and maintain socio-economic benefits despite external shocks.

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### **FINANCIAL AND ECONOMIC ENSURANCE OF SUSTAINABLE TOURISM DEVELOPMENT IN THE COOPERATIVE SECTOR OF THE ECONOMY**

Ensuring sustainable development requires transformational changes in all sectors of the economy and significant amounts of financing. The financial and economic aspects of ensuring sustainable development include a set of financial mechanisms, instruments and policies aimed at balanced economic growth, social equality and environmental protection:

- state financial policy: effective tax and customs policies to mobilize the necessary funds; effective financial planning and management of state and regional budgets in the context of decentralization to ensure sustainable development of regions;
- financing and investment mechanisms: attracting foreign direct investment and private capital to finance sustainable infrastructure and technology development projects; use of innovative financial instruments (“green” investments and bonds, impact investing); expanding access to financial services through digital technologies;
- economic instruments and regulation: application of financial incentives to promote environmentally and socially responsible activities (tax breaks for “green” technologies); consideration of environmental and social aspects in market prices.

A powerful direction of socio-economic transformation of the economy is cooperative activity. Without diminishing the achievements of the development of cooperative branches of the tertiary sector, it should be noted the great potential of cooperative interaction in the field of tourism, which is currently developing more successfully and dynamically than other branches of the economy. [1]

In the context of globalization processes in the economy, growing interpenetration in most industries and spheres of operation, financing the sustainable development of tourism activities in the cooperative sector of the economy is becoming increasingly relevant. The features of financial

and economic support for the sustainable development of tourism in the cooperative sector of the economy are the need for a balance between profit generation, preservation of natural and cultural resources and support for local communities. This requires the use of targeted financial mechanisms and innovative instruments:

- state support and regulation: the use by governments of effective instruments (tax breaks, subsidies, grant programs) to stimulate cooperatives to implement sustainable practices; improvement of the legal framework; development of public-private partnerships (combining public funding with private investment and management by cooperatives to develop sustainable tourism infrastructure); financial support for local communities and cooperatives through local taxes or development funds;

- expanding financing and investment in the sphere of cooperative tourism: creating mechanisms to ensure fair distribution of tourism revenues; prioritizing private and public investments in the development of ecotourism, preservation of cultural heritage and modernization of infrastructure in accordance with the principles of sustainability; using preferential lending and venture financing to stimulate innovative projects in the tourism industry;

- ensuring economic efficiency: balancing the profitability of tourism projects with ensuring decent working conditions, supporting local communities and fair distribution of income; using digital technologies for effective monitoring, reporting and ensuring transparency of financial flows in the field of sustainable tourism;

- integration of ESG criteria [2]: integrating environmental, social and governance criteria into the assessment of tourism projects and ensuring transparent reporting to increase the investment attractiveness of the industry; mandatory assessment of investment projects according to environmental, social and governance criteria to ensure the long-term sustainability of cooperative activities; the use of reliable metrics and standards (including ESG criteria) to assess the progress and effectiveness of sustainable finance.

In general, the effectiveness of sustainable development is achieved through an integrated approach that combines financial, economic, social and environmental aspects. In general, the financial and economic aspects of ensuring sustainable development in the field of cooperative tourism focus on capital mobilization, efficient allocation of resources and integration of ESG criteria to achieve long-term viability of the industry.

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## RURAL GREEN TOURISM AS A FACTOR OF SUSTAINABLE DEVELOPMENT OF RURAL AREAS

Today, rural green tourism in Ukraine is receiving considerable attention due to the full-scale invasion, as such population groups as military personnel, combat veterans, and internally displaced persons require rehabilitation and medical treatment in regions remote from active hostilities.

In areas where rural green tourism is actively developing, all the prerequisites are currently in place for the formation of zones that will stimulate the development of tourism infrastructure focused on rehabilitation and health-improvement activities for the aforementioned categories of the population affected by Russian aggression.

Currently, there is no universally accepted definition of rural green tourism, nor is there a clearly established terminology for defining its essence. Different countries apply various approaches to their organisation. Rural tourism is often equated with green tourism and agritourism; these concepts are closely related and frequently combined. Rural tourism is a type of tourism that involves recreation and travel in rural areas, where tourists can enjoy nature, become acquainted with local culture and traditions, participate in rural activities, and stay in rural houses or guest homesteads [1].

The concept of rural tourism is broader and partially encompasses both green tourism and agritourism. Rural green tourism implies a wider range of infrastructure and greater involvement of personnel in providing tourism services.

From the perspective of sustainable development, it can be argued that rural green tourism may contribute to achieving nearly all of the 17 Sustainable Development Goals outlined by the United Nations in 2015 [2].

The concept of sustainable development is based on three approaches: economic, social, and environmental, which reflect their particular importance, interconnection, and interdependence. Failing to consider any of these components may compromise the overall sustainability of the system. When these principles are applied to the development of rural green tourism, it becomes clear that this sector aligns fully with them.

However, it should be noted that, unlike economic and social systems, ecological systems have stricter limits in terms of load capacity and are often less resilient. Excessive exploitation of natural resources, environmental pollution, and the reduction of biodiversity lead to irreversible losses in the ability of ecological systems to self-recover, resulting in their degradation or undesirable transformation [3].

Rural green tourism, particularly in its development model, directly incorporates an environmental component not only because the owners of homesteads care for the territories where tourism products are created, but also because their activities carry an important educational mission and promote environmental awareness.

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## **DIGITAL TRANSFORMATION OF ENTERPRISE MANAGEMENT AS A TOOL FOR ENSURING SUSTAINABLE DEVELOPMENT**

Digital transformation has become one of the key drivers of enterprise efficiency, resilience, and long-term development. Recent empirical studies show that digital transformation (DT) activities are statistically significantly associated with improved firm performance. [1] In many cases, companies that invest in DT also invest in IT innovation, which further amplifies positive effects on competitiveness and efficiency. Therefore, the implementation of modern digital technologies in enterprise management should be viewed as an integrated tool that supports economic, social, and environmental dimensions of sustainable development.

First, digital transformation fundamentally changes the logic of managerial decision-making. The introduction of digital platforms, enterprise information systems, big data analytics, artificial intelligence, and cloud-based services enables companies to collect, process, and interpret large datasets in real time. This enhances forecasting accuracy, improves operational control, and helps develop adaptive management models. In the context of sustainable development, such capabilities are critical because efficient resource planning, early detection of risks, process optimization, and waste minimization all contribute directly to economic stability and ecological performance.

Empirical evidence suggests that digital transformation's positive effects are not automatic – they depend on the company's "digital maturity". For example, in a sample of firms, the productivity gains (total-factor productivity, TFP) were positive in the "medium-digital" group, but firms with either very low or very high levels of digitalization showed no improvement or even decline in performance. [2] Thus, for DT to become a sustainable development instrument, enterprises need balanced, well-managed, and context-aware digital strategies.

Digital technologies also transform internal and external communication models. Increased transparency, faster information flow, and seamless interaction between departments foster a culture of innovation and cooperation. This supports the social component of sustainability: employees gain better access to information, become more involved in decision-making, and acquire new digital skills essential for modern workplaces. Thus, digitalization not only optimizes management but also contributes to social progress within the organization.

From an economic perspective, digital transformation significantly increases operational efficiency. The empirical study mentioned above demonstrates that firms that combined DT with IT innovation achieved higher performance metrics compared to those that did not. [1] Intelligent systems for inventory, production, and logistics management enable enterprises to respond quickly to fluctuations in demand, optimize expenditures, and maintain stable economic development. Moreover, digital financial tools – such as electronic document management and automated financial control – ensure more accurate accounting and transparency, contributing to better resource allocation and cost control.

Digital transformation has become a key factor in strengthening enterprise management systems across the European Union. According to the European Commission's Digital Economy and Society Index (DESI) reports (2022–2024), companies with a high level of digital maturity demonstrate 20-25% higher operational efficiency, mainly due to automation, data-driven decision-making, and integration of digital platforms into core business processes. Similarly, Eurostat data indicate that enterprises using cloud technologies and big-data analytics report up to 30% faster decision-making cycles and a significant reduction in administrative and coordination costs. [4]

Furthermore, digital transformation strengthens enterprise competitiveness by enabling rapid adaptation to market changes. Digital tools allow businesses to diversify sales channels, introduce new customer-oriented services, personalize offerings, and evaluate their effectiveness quickly.

Such flexibility is essential in an environment where resilience and innovation capacity determine long-term success.

Importantly, digital transformation involves not only technological changes but also organizational ones. Enterprises need to modernize management structures, develop new staff competencies, ensure cybersecurity, and embed digital strategies into their overall development plan. As shown in research, companies that implement DT without appropriate organizational readiness often fail to achieve the expected benefits. [2] Only a holistic, well-managed approach can enable full realization of DT's potential while mitigating associated risks.

In conclusion, digital transformation—when strategically implemented and supported by organizational innovation—serves as a powerful mechanism for strengthening long-term enterprise sustainability. Empirical evidence from 2020–2025 confirms that DT improves firm performance, operational efficiency, resource allocation, decision-making quality, and organizational resilience. To realize these benefits fully, enterprises must develop adequate digital capabilities, invest in employee skills, and align digital initiatives with broader development strategies.

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## **PUBLIC-PRIVATE PARTNERSHIP MECHANISM FOR FINANCING POST-WAR RECONSTRUCTION IN UKRAINE**

The international community has long been directing its activities in the context of the agreed Sustainable Development Goals. This common policy on global development prospects allows for the formation of coordinated approaches to the financial and legal foundations and mechanisms for ensuring sustainable development. After 2022, when the Russian aggressor launched a full-scale war against Ukraine and other security threats emerged in the world, the international community and global financial and credit institutions made every effort to strengthen the security component of global development. At the same time, the need for funding for the 17 Sustainable Development Goals and the requirements for improving the effectiveness of programmes and measures are growing rapidly. According to the UN, the priorities include supporting peace and security, protecting human rights, providing humanitarian aid, promoting sustainable development, combating climate change, and others [1]. Coordinating the activities of the global community, the UN, particularly the United Nations Sustainable Development Group

(UNSDG), has created various online resources that disseminate information about the best tools for achieving these goals [2]. The proposed tools include:

1. Institutional (political) coherence and coordination, which involves both horizontal and vertical coherence and accountability between different levels of government and civil society to shape and improve existing institutional systems for sustainable development.

2. Financing of SDGs, with emphasis on UNCTAD's Debt Management and Financial Analysis System (DMFAS), financial analysis and forward financing, as well as public investment in children (Public Finance for Children (PF4C) Framework).

Given the relevance of the above for national development and the significant increase in Ukraine's debt burden caused by Russian aggression and the need to counter the aggressor, strengthen the Ukrainian state's defence capabilities, finance growing social expenditures, and other challenges, it is necessary to intensify activities aimed at expanding the mechanisms for financing Ukraine's national recovery, considering the advantages of combined financing of development projects.

The use of such combined financing mechanisms enables, on the one hand, securing investment resources from national and international markets and utilising the mechanisms and instruments of global and international regional development institutions that combine the interests of national communities, the state, and bilateral and multilateral donor funds.

The most proven mechanism in this context, and in international and national practice, is public-private partnership (PPP). Ukraine has the relevant national legal framework, experience in implementing such international projects, the possibility of using World Bank Group guarantees, and the availability of bilateral and multilateral international donor funds established to overcome the consequences of Russian aggression. The scale of destruction is constantly growing throughout our country, so all regions, industries, and sectors of the economy will need to be rebuilt.

Attracting investors to ensure national recovery through the implementation of PPP projects will not only allow us to rebuild what has been destroyed by the aggressor and finance programmes using modern, green, innovative approaches, mechanisms, and tools, but also ensure the efficiency and effectiveness of such projects. Investors will be able to take their interests into account, influence the terms and mechanisms of cooperation within the PPP, and gain access to the developments and products of new enterprises, industries, and companies where joint innovations, technologies, and resources, including Ukrainian ones, will be applied. The joint efforts of our country and international partners, and investors in national recovery, will allow us to realise the interests of PPP participants and form a roadmap for sustainable development based on the example of Ukraine's post-war recovery.

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## **MODERN MEDICINE AS A TOOL FOR SUSTAINABLE DEVELOPMENT: FROM TREATMENT TO POPULATION HEALTH MANAGEMENT**

In the context of global social and economic transformations, modern medicine is increasingly viewed not only as a field for treating diseases but also as a system for managing population health. Health represents a key factor in sustainable development, as it determines quality of life, social stability, and the effective use of human capital. This broader perspective emphasizes prevention, early detection, health promotion, and the reduction of avoidable risks that arise from changing lifestyles, urbanization, environmental pressures, demographic aging, and the growing burden of chronic conditions. As societies become more interconnected and mobile, health systems must also respond to cross border threats, including infectious disease outbreaks, antimicrobial resistance, and the health impacts of humanitarian and environmental crises, which can rapidly disrupt economic activity and public confidence. The transition from a reactive medical model to a proactive one, focused on prevention, early diagnostics, and personalized care, contributes to reducing the burden on healthcare systems and enhancing their long-term efficiency. Digital medical technologies, information systems, and management tools play a crucial role in this process, ensuring the accessibility of healthcare services, supporting decision-making, and monitoring population health [1].

In the context of sustainable development, modern medicine emerges as an integrated social institution that combines clinical, managerial, and technological approaches to ensure a balance between the quality, accessibility, and efficiency of healthcare services.

The aim of this article is to analyze the role of modern medicine as a tool for sustainable development, focusing on the transition from a disease-treatment model to a system of population health management, and to highlight the significance of preventive, digital, and managerial approaches in improving the efficiency of healthcare systems.

The shift to a proactive medical model involves not only the implementation of preventive measures but also the integration of digital technologies that provide effective management of population health data. The use of electronic medical records, telemedicine platforms, and analytical systems enables rapid assessment of patient needs, risk prediction, and informed decision-making. These approaches enhance the quality of healthcare, optimize resources, and reduce response times to epidemiological and social challenges [2].

Modern medicine also places particular emphasis on a personalized approach to patients, which takes into account individual characteristics, lifestyle, genetic factors, and comorbidities. By tailoring medical interventions to the unique needs of each patient, healthcare providers can improve diagnostic accuracy, optimize treatment plans, and enhance patient adherence to therapies. This approach enables not only more effective treatment of existing diseases but also proactive prevention of potential health issues through early risk assessment, lifestyle modification, and targeted screening programs. As a result, the personalized model contributes to reducing the burden on the healthcare system, minimizing unnecessary hospitalizations and medical interventions, and increasing the long-term resilience, efficiency, and sustainability of medical infrastructure. Furthermore, the integration of personalized medicine with digital health tools, such as wearable devices, electronic health records, and predictive analytics, supports continuous monitoring and timely decision-making, ultimately fostering a more responsive and adaptive healthcare environment [3].

Moreover, management tools such as analytical dashboards, digital platforms for resource planning, and monitoring treatment effectiveness ensure process transparency and control over the

achievement of strategic goals in healthcare. Implementing such solutions helps achieve a balance between accessibility, quality, and cost-effectiveness of medical services, which is critical for sustainable societal development.

Thus, modern medicine emerges not only as a system for treating diseases but as a comprehensive instrument for population health management that integrates clinical, digital, and managerial approaches. Its role in promoting sustainable development lies in enhancing the efficiency of medical processes, the accessibility of healthcare services, the optimization of resources, and the formation of a healthy and productive human capital.

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## GLOBAL TRENDS IN THE DIGITAL AGE: BETWEEN ECONOMIC COMPLEXITY AND SUSTAINABLE DEVELOPMENT

Over the past fifty years, profound transformations have occurred in the global system of economic relations, as all its subsystems increasingly operate based on new information and communication technologies (ICT). The digitalization of ICT has both intensified the complexity of economic processes and significantly accelerated their pace.

According to the European Commission definition, "The digital economy is the result of the transformational effects of new General-Purpose Technologies (GPT) in the fields of information and communication. It has impacted all the sectors of the economy and social activities, for instance: retail, transports, financial services, manufacturing, education, healthcare, media and so on. It has implications much beyond the Information and Communication Technology (ICT) sector" [1].

The Recommendations submitted by the Public Interest Declassification Board "A Vision for the Digital Age: Modernization of the U.S. National Security Classification and Declassification System, " emphasize that "Information Technology, and particularly tools and services that apply AI, Big Data, and Cloud solutions, among others are key to transitioning from the current analog model into a highly functioning digital paradigm" [2].

Under these new conditions, countries and firms actively engaged in global trade find themselves in a contradictory situation: the high speed of technological change necessitates a rapid response, which in turn requires strengthening close ties with an increasing number of international actors who may simultaneously impose diverse social and environmental requirements.

On the one hand, digital solutions enable the implementation of a wide range of sustainable development initiatives aimed at achieving economic, social, and environmental objectives. On the

other hand, accelerated digitalization itself – characterized by high-energy consumption and the large-scale generation of electronic waste, among other effects – creates significant challenges to the safe and healthy development of future generations.

According to official statistics, Global goods and services trade was valued at \$33 trillion in 2024 (close to 30% of global GDP) [3]. The level of its complexity is evident in the data from UNCTAD: "80% of world trade takes place within value chains, and around 60% of world merchandise trade is in intermediate goods" [4].

The intensification of the contemporary tension between economic complexity and sustainable development can be clearly illustrated by the case of Japan.

Japan is a key participant in the global, highly complex network of investment and trade. The country predominantly exports unique, technologically sophisticated components that constitute critical inputs in global value chains. For more than two decades, Japan has ranked first among all countries worldwide in terms of the Economic Complexity Index of trade.

According to the World Bank, Japan ranked as the fourth-largest economy in the world by GDP in 2024, following the United States, China, and Germany [5]. According to UNCTAD, in 2024, Japan became the second-largest source of foreign direct investment globally [6]. At the same time, in recent years, Japan has been losing its leading position in the Sustainable Trade Index (STI), which reflects a country's readiness to participate in the international trading system in a manner that supports long-term sustainable development. Moreover, in the latest Climate Change Performance Index (CCPI), Japan ranks 57th, being classified as a country with very low performance due to greenhouse gas emissions, energy use, and renewable energy deployment, as well as a very low score for climate policy.

Thus, in the digital era, contemporary governments and corporate leaders must regularly reassess their economic and business development strategies to identify a viable balance between economic complexity and sustainable development.

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## FINANCING EDUCATION AS A FACTOR IN ENSURING THE SUSTAINABLE DEVELOPMENT OF THE COUNTRY

In today's world, financing education remains one of the key elements of sustainable development in any country, as it shapes the quality of human capital, the innovative potential of

the economy and, ultimately, the social standard of living of the population. That is why spending on education should be viewed not as a current expense of the state budget, but as a long-term investment in achieving the Sustainable Development Goals (SDGs). This thesis is confirmed by studies conducted by international organizations that focus on the interrelationships between SDG 4 “Quality Education” and the goals of overcoming poverty, increasing labor productivity and reducing inequality [1]. The United Nations identifies a direct correlation between the level of education funding and the achievement of key SDGs – it is education that shapes the system of competencies necessary for participation in democratic governance, innovative development and socially responsible behavior of the majority of citizens [2]. In other words, without adequate financing for education, the country cannot develop economically, innovatively, or socially. According to OECD research, in 2021, developed countries spent an average of 4.9% of GDP on education (about 3.3% of GDP on primary and secondary education and 1.4% on higher education). This amounted to \$11,900 per student in primary school, \$13,300 in secondary school, and over \$20,500 in higher education [1; 3]. For comparison: in 2021 (the last year before the introduction of martial law), Ukraine spent approximately 5.1% of GDP on education, and in 2024, this figure had already fallen to 4.5% (UAH 178.8 billion) [4]. However, despite the increase in education spending, there has also been a growing gap in funding between countries. This situation makes it impossible for low-income countries to achieve SDG 4 by 2030. This, in turn, exacerbates the problem of inequality against the backdrop of underfunding of education spending and inclusive education [5].

For Ukraine, under martial law, financing education is becoming a critical element of social and economic stability in society. Nominally, since the start of the war in February 2014, spending on education has increased, but due to the narrow revenue base of the state budget, educational services remain chronically underfunded, especially against the backdrop of new tasks for rebuilding the country. A way out of this situation could be the introduction of multi-channel models of financing the education sector based on a combination of financial resources from the state, municipal authorities, business and international aid. This involves not only direct funding within budget programs, but also the creation of a risk-sharing mechanism in education based on a combination of state funding, preferential loans, scholarships and grant programs, which will ensure mass access to quality and modern educational services for the population [6]. In addition, such approaches to financing will ensure the long-term systematic growth of Ukraine's innovative potential in global labor markets and the sustainable development of the state [7].

Thus, financing education is an important area of public policy that creates a multiplier effect – educated citizens are able to use infrastructure more efficiently and, as a result, produce more innovative products. Innovative production attracts more investment resources and generates greater added value and taxes. In other words, a country's sustainable development strategy is impossible without significant investment in education and citizen development and therefore achieving SDG 4 should be a top priority in the current conditions of any state's development.

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### FARM DEVELOPMENT STRATEGY

Modern Ukrainian agribusiness is at a critical juncture between two fundamentally different development models: traditional raw material, focused on the export of unprocessed products, and innovative and brand-oriented, which involves the creation of added value through quality, environmental friendliness and marketing activity. In conditions of limited financial resources, especially for small and medium-sized farms, the choice of a strategic direction of development becomes a critical factor in competitiveness and financial sustainability.

Most existing concepts of strategic development of agricultural enterprises focus either exclusively on technological modernization or on marketing tools, considering these two dimensions in isolation. However, the real competitiveness of farms is formed at the intersection of these factors. At the same time, there are no validated strategic diagnostic tools that would allow enterprises to: (1) determine their current strategic position; (2) identify the optimal development trajectory taking into account available resources; (3) assess the economic feasibility of various strategic alternatives. This problem is particularly relevant for farms with limited innovative capacity, which make up the majority of the Ukrainian agricultural sector.

To systematize strategic trajectories and determine the real positions of agricultural enterprises, it is advisable to use matrix tools that allow combining the assessment of the technological level and marketing activity into a holistic analytical structure. In this context, the matrix of the ratio of innovative capacity and marketing activity of agribusiness (Fig. 1) is a modern analytical tool that allows for a comprehensive structuring of strategic approaches to the development of agricultural enterprises. It integrates two key parameters of competitiveness – the technological level of production and the depth of the marketing function, which together determine the ability of the enterprise to transition from a raw material model of operation to an innovative and brand model.

As a result of combining the two dimensions, four strategic quadrants are formed, each of which reflects a certain model of development of an agricultural enterprise.

1. The strategy of operational integration and digital efficiency involves ensuring competitive advantages through technological modernization, automation of production processes, the use of elements of precision agriculture and digital monitoring systems. The marketing function is limited to implementing the necessary operational procedures – certification, documentary support and sales organization. Enterprises operate in highly competitive product segments, but have limited opportunities to form a value premium.

	Basic marketing (logistics, documentation, certification)	Strategic Marketing (system branding, digital communications, R&D, building long-term relationships with consumers)
High innovation (precision farming tools, automated management systems, modern analytical technologies)	Operational integration and digital efficiency strategy	Innovation and marketing synergy strategy
Low innovation (minimum level of mechanization and digitalization)	Technology stabilization and partnership strategy	Market differentiation strategy through quality

**Figure 1.** Matrix "innovative capacity - marketing activity"

Developed by the authors

2. The strategy of synergy of innovation and marketing involves a combination of high technological capabilities and deep marketing activity. The company's activities are aimed at creating a comprehensive value proposition, which is supported by digital production technologies and advanced promotion tools. It is envisaged to form standards for an innovative and brand model of agribusiness. In practice, these farms are producers of organic products.

3. The strategy of technological stabilization and partnership involves minimal technological modernization, a low level of digitalization and limited financial resources, which lead to a focus on ensuring basic operational stability. The marketing function does not go beyond standard sales practices. Increasing efficiency is possible through the gradual mechanization of production, the introduction of GPS navigation and monitoring, participation in state digital support programs, cooperation for the shared use of equipment, cost optimization and the implementation of basic ERP solutions.

4. The strategy of market differentiation through quality is aimed at creating unique consumer value: product branding, local positioning, demonstration of environmental friendliness, transparency of production practices, development of direct sales channels and active communication with the consumer. These enterprises are not critically reliant on the volatility of world markets and can set a price premium due to the trust and loyalty of consumers.

An integrated analysis of material and technical support, technological level of production, structure of sales channels, level of marketing activity and influence of military factors gives grounds to assert that it is the quadrant "Technological stabilization and partnership strategy" that is dominant for most Ukrainian agricultural enterprises.

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## APPROACHES AND TOOLS OF SUSTAINABLE DEVELOPMENT MANAGEMENT IN THE FASHION INDUSTRY

Growing regulatory pressure, consumer demands for ethics and awareness of fashion's environmental footprint have made sustainability management (ESG) in the fashion industry an integral part of strategic management, requiring new technological solutions for transparency and circularity.

The circular economy in fashion is a systems approach that requires brands to take responsibility for a product after it is sold, from design to end of life [1]. Circular economy management strategies go beyond single use: fashion brands offer repair and alteration services to extend the life of garments [2], and companies like H&M and Adidas invest in recycling programs using specialized technologies to separate fibers, remove dyes, and re-spin yarns [3] – transforming old textiles into valuable raw materials.

Two of the most common management actions in a circular economy are the implementation of design for circularity (so that the product is easy to recycle) and increasing the proportion of

products made from recycled fibers. Brands such as Nike and Adidas are actively using recycled polyester derived from plastic bottles, offering a sustainable alternative to virgin materials. In addition, an important element is educating consumers on how to use products more responsibly and extend their lifespan [1].

As fashion supply chains are complex and opaque, traceability technologies have become key to meeting ESG commitments.

Under regulatory pressure (e.g. the EU Circular Economy Action Plan), brands are being forced to increase transparency. Blockchain, a distributed, tamper-proof ledger, offers a mechanism to record and notarize transactions of the origin of materials and production stages. This technology has the potential to revolutionize transparency in tracking clothing throughout the chain [4].

However, the effectiveness of blockchain depends on the quality of the data. Research shows that the lack of standardized terminology and “clean” data in the global fashion supply chain is a significant obstacle to fully realizing the potential of information systems such as blockchain [5]. Therefore, technological implementation should be accompanied by industry collaboration for regulatory data standardization.

Among the transparency solutions, we can highlight physical tracers (e.g. Haelixa DNA markers) – these are substances that are applied to textile fibers (sprays, inks) to ensure end-to-end traceability. They allow brands to more confidently verify sustainability claims and labels (RFID, QR, NFC) – these tools allow for instant product scanning and provide the end consumer with direct access to lifecycle data (Digital Product Passports, DPPs) [6]. For fashion brands, they improve logistics and inventory management. TextileGenesis offers a SaaS platform for reliable and fully digital textile tracking from fiber to consumer [7].

ESG reporting involves disclosing a company’s environmental, social and governance impacts, which is particularly relevant in the fashion sector due to its significant environmental and social footprint. The main management challenges are collecting reliable and verifiable data across a fragmented and multi-tiered supply chain [8].

Sustainability management is therefore no longer just a function of compliance, but is becoming a source of competitive advantage. Innovations such as 3D weaving demonstrate that sustainability goals (waste minimization, localization) now directly lead to innovations in the underlying production technology, requiring a rethinking of the entire process.

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## **MANAGEMENT OF THE COMPETITIVENESS OF LLC “KATERYNOSLAVKHLIB” THROUGH THE IMPROVEMENT OF ITS PRODUCT STRATEGY**

The modern bakery market shows a clear trend towards a change in the structure of demand: consumers are increasingly abandoning traditional mass varieties in favor of products with increased nutritional value, whole grain, functional and specialized breads. Industry analytical reviews note that the market is moving towards healthier and more diverse products, as consumers are increasingly focusing on nutrition aimed at health, balanced diet and disease prevention [1]. Such a change in consumer preferences is not a short-term trend, but a sustainable long-term trend, which is reinforced by the development of a culture of responsible consumption, the dissemination of information about the benefits of dietary fiber, natural ingredients and a decrease in the share of processed foods in the diet. In such conditions, enterprises in the bakery industry have to actually rethink their approaches to the formation of the assortment. The model that has been based on mass production of social bread varieties for years no longer provides either stable sales volume or a sufficient level of profitability. Consumer tastes and expectations are changing faster than the industry is used to reacting, and this forces manufacturers to look for new solutions.

In response to these changes, many companies are moving to develop innovative, premium and functional products. Such products allow combining the price expectations of buyers with their desire to receive more useful, interesting and diverse products. In fact, we are talking about a transition from a mass monotonous assortment to a more flexible, differentiated and focused on specific consumer segments. This requires not only updating recipes and production technologies, but also a deeper review of the product strategy in general. Companies need to learn to respond faster to market changes, work with different product formats and offer solutions that can provide them with sustainable competitive advantages in the long term.

The management of the competitiveness of the enterprise is largely determined by the ability to form a value proposition that reflects the specifics of the target market segments and the expected benefits of consumers. As emphasized in modern literature, the value proposition contributes to the differentiation of the product, determines its market positioning and is an important component of the marketing strategy of the enterprise [2]. This means that a competitive manufacturer must form a product portfolio that combines traditional bakery products with products that create added value and provide increased margins.

Within the framework of the development of the product strategy, special attention is paid to products with increased added value: grain, yeast-free, functional and craft products. Global trends confirm that bakery products are increasingly made on the basis of whole grains, plant ingredients and functional additives [1], which corresponds to the pan-European trend for healthy eating. The practical implementation of such approaches can ensure an increase in the share of premium and functional segments in the sales structure - from 8.6% to 12.4%, i.e. by 3.8 percentage points.

An important tool for increasing the competitiveness of products is packaging modernization. Analytical sources emphasize that innovative packaging solutions with an extended shelf life increase the attractiveness of products and stimulate demand [1]. The use of barrier materials, multilayer polymer film and individual packaging allows you to reduce the level of write-offs by 9%, which is equivalent to an economic effect of about 1.2 million UAH per year. Thus, packaging modernization not only improves the product presentation, but also directly affects the financial results of the enterprise.

The assessment of the economic consequences of the implementation of the proposed measures shows that they are not only logically justified, but also financially profitable. Analysis of the dynamics of revenue, marginal profit, return on investment and payback period demonstrated the formation of a sustainable positive effect. For the considered set of management decisions, the

NPV was calculated at +2,840 thousand UAH, the return on investment (ROI) is 46%, and the payback period is about 1.8 years with a total investment volume of 6.15 million UAH. Such parameters can be considered acceptable and attractive from the point of view of investment.

Summarizing the results obtained, we can conclude that the development of products with high added value, packaging modernization and expansion of sales channels really work as complementary tools to increase the competitiveness of the enterprise. Focusing on healthy eating trends, using modern technological solutions and building a multi-channel sales system make it possible to form a stable and at the same time flexible product portfolio, which is interesting for both retail chains and the HoReCa segment. As a result, this not only contributes to the growth of financial results, but also reduces the sensitivity of the enterprise to market fluctuations, creates a margin of safety and provides conditions for long-term development in a changing competitive environment.

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### **THE IMPORTANCE OF GEODETIC AND NATURAL SCIENCE KNOWLEDGE FOR CONSTRUCTION**

Among the sciences that directly relate to construction, it is worth mentioning, above all, geodesy, spatial planning, mathematics, geology, geomorphology, and others. There is no need to elaborate on the importance of geodesy for construction. As is common knowledge, geodesy's sphere of competence includes, among other things, determining the coordinates and elevations of points, surveying localities, and compiling maps and plans of territories. Knowledge of the differences in elevation from end to end of a structure is particularly important for the construction of various structures. Such hypsometric information is crucial for foundation design, and thus for ensuring the strength of any structure. Geodetic measurements are particularly important for the design and construction of bridges, hydraulic structures, and underground communications. The precision of such measurements must be very high, requiring the use of high-altitude levelers, electronic tacheometers, and other precision instruments. The choice of location for construction is also crucial, requiring up-to-date and accurate local plans.

From a spatial planning perspective, the density of buildings is crucial, as high density must also limit further construction in that area. Mathematics provides the most general basis for construction work. Not only simple arithmetic calculations, but also trigonometric functions and various branches of higher mathematics find application in the construction of structures and roads. Equally important are the interdisciplinary connections between construction and geology. In particular, the composition of mountain rocks, which have different densities, is of great importance, above all else, for the construction of underground structures, such as mines, metropolitan areas, and others. It is common knowledge that due to geological conditions, not every city can accommodate metropolitan areas. For example, in Lviv, where the crystalline foundations of the territory are buried even deeper (nearly 6-7 km), there is no possibility of building a metro. Opposite, in Kyiv, which is built on granite, the metro was the first in Ukraine and has been in operation since 1960. Geological conditions are also important for ground construction. Differences in rock composition determine the depth at which a structure's foundation should be laid. The ground surface, composed of quick rocks, requires a deeper foundation than the surface, composed of hard rocks, which is understandable a priori. In any case, the importance of geological research

for construction is unquestionable. Not only the composition of mountain rocks is important for construction, but also the underlying subsurface. Therefore, there is also a need for deep-level research. The nature of the relief is equally important for construction. The relief of the earth's surface is a very important factor, as its slope largely determines the peculiarities of building design and often makes their removal impossible. It is no secret that the construction conditions in flat and mountainous areas are very different. Road construction is a clear example. In plains, roads are built on high ground, on or near watersheds. Roads on plains are almost always level, with the possible exception of rural settlements. In mountainous areas, roads are laid in valleys, as this is the only place where even a small amount of surface leveling is possible for safe road traffic. As for rail transport, installing railways in the mountains is usually only possible through the construction of tunnels. Moreover, their construction is mandatory if the slope is steeper than 9%. Another peculiarity of mountainous areas is the lack of urban settlements in high-elevation areas. In these places, only long-established villages, where the population engages in traditional farming, can be found. There are no real roads in this area, and their construction is not certain due to the very low population density and difficult road conditions. Another geomorphological factor relevant to construction is permafrost. Groundwater, which transforms into ice for several months, is a significant obstacle to the construction of buildings and roads. In particular, permafrost usually constitutes a component of a cold climate. Therefore, firstly, roads, as well as settlements, are scarce in such a locality; secondly, their removal requires unique engineering concepts. Therefore, geomorphological research also holds a significant place among the scientific fields applied to construction. It should be noted that, considering Prof. O. I. Szabli's classification of interdisciplinary connections, all the connections between construction and other sciences and branches of human activity discussed above are informational.

The examples highlighted above not only demonstrate the crucial role of various branches of natural science as a scientific foundation for construction, but also demonstrate the interconnectedness of the Earth sciences, which manifests itself in a unique way in the field of construction. Construction, as a practical branch of human activity, is just one of many fields of applied science that need to consider the achievements of fundamental sciences, particularly natural sciences and some technical ones, such as geodesy, and economics (spatial planning).

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## **SOCIAL COMPETENCE OF STUDENT YOUTH AS A PREREQUISITE FOR SUSTAINABLE SOCIETAL DEVELOPMENT**

The contemporary world is confronted with new global challenges; therefore, young people must act not as passive observers but as drivers of transformation on the path towards sustainable development. Social competence is essential for young people to act as effective agents of change. Well-developed social skills enable individuals not only to adapt successfully to the dynamic conditions of their environment but also to engage constructively in interactions and make responsible decisions, which is essential for addressing socially significant problems.

The concept of social competence is a complex one. In classical scholarship, it is defined as the ability to engage in effective social interaction, to adapt optimally to communicative situations, and to establish trusting relationships. Contemporary researchers expand this definition by emphasising that social competence requires orientation towards communicative goals, the content of communication, and the psychological characteristics of the participants involved in interaction [1, p. 167].

Social and emotional learning (SEL) represents a leading approach to fostering social competence. It is a process through which young people acquire knowledge, refine skills, and develop values necessary for building a healthy identity, managing emotional states, and achieving shared goals [2; 3].

The development of social and emotional skills is closely linked to achieving the Sustainable Development Goals (SDGs). Empathy and the ability to cooperate correspond to SDG 3 («Good Health and Well-being»), as these skills contribute to the formation of healthy relationships and the reduction of stress. Responsible decision-making underpins SDG 12 («Responsible Consumption and Production»), as it requires awareness of the environmental and societal consequences of one's actions. Finally, skills related to conflict resolution and respect for cultural diversity are fundamental to achieving SDG 16 («Peace, Justice and Strong Institutions») [2, p. 2].

Thus, education for sustainable development (ESD) requires a holistic approach that integrates cognitive, social-emotional, and behavioural learning outcomes. Without the development of social competencies, the challenges of sustainable development cannot be fully understood [2; 4].

Research into young people's priorities is essential for understanding which issues they perceive as most pressing. A recent survey of youth in the Western Balkans identified three priority SDGs: 1 – No Poverty; 2 – Zero Hunger; and 3 – Good Health and Well-being [5, p. 10].

These findings indicate that young people prioritise social issues related to quality of life and basic human needs. Addressing these challenges is impossible without a high level of social competence. Overcoming poverty and hunger requires community-based initiatives grounded in compassion, solidarity, the ability to solve problems collaboratively, and the mobilisation of collective action. Ensuring good health and well-being also relies on skills related to building social connections and providing emotional support. These competencies make it possible to develop social initiatives and drive significant changes within society.

An empirical study conducted by Kulikova et al. (2024) demonstrated that young people predominantly exhibit average levels of social competence development. These findings may indicate a degree of instability in the communicative sphere of personality during this developmental stage.

The study also assessed the impact of a specially designed sociocultural programme. Its implementation resulted in a 35% increase in students' communicative skills, while organisational abilities remained unchanged. It suggests that the development of different components of social competence requires differentiated pedagogical approaches [1].

It implies that, rather than introducing isolated lessons focused on social and emotional education, it is more appropriate to adopt a systemic approach that integrates SEL with character education and the formation of moral values. Learning spaces ought to be created so that students can tackle real issues within their own communities. Such an approach should encompass the entire school community and be embedded across all aspects of the educational process.

Any educational reform aimed at developing social competencies must begin with high-quality teacher preparation. Educators require not only theoretical knowledge but also practical skills to create a supportive classroom environment conducive to effective SEL implementation. Therefore, modules on education for sustainable development should be incorporated into teacher education curricula. It will equip future teachers with the competencies necessary to foster socially responsible citizens capable of contributing to sustainable societal development [3, p. 4].

In conclusion, social competence constitutes an integral component of education for sustainable development, as it equips young people with the tools required to transform passive knowledge into action. Consequently, investment in programmes that promote the development of social competence among young people becomes a strategic necessity for achieving a sustainable and equitable future.

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## METHODS OF ASSESSING THE PROFITABILITY OF AGRICULTURAL ENTERPRISES IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

The profitability of agricultural enterprises is the fundamental indicator of their performance and a key prerequisite for ensuring the sustainable development of socio-economic systems. It is profitability that guarantees financial stability, creates opportunities for expanded reproduction, and allows the implementation of social and environmental initiatives inherent in the concept of sustainability.

In agriculture, the process of profit formation has specific features driven by the seasonality of production, dependence on natural and climatic conditions, yield fluctuations, and changes in market conditions. Therefore, ensuring the sustainable development of the agricultural sector requires an effective system for assessing and planning financial results.

Profit represents the absolute financial result of an enterprise's activity, defined as the difference between total income and incurred expenses. It reflects the final effect of the enterprise's work but does not fully demonstrate the efficiency of resource utilization, which is critical for assessing sustainability.

Profitability, unlike absolute profit, is a relative indicator of economic efficiency. It characterizes the level of yield of the enterprise, return on assets, and the efficiency of capital use in the production process. Profitability is directly related to profit generation and allows for comparing the efficiency of enterprises of different ownership forms and assessing the intensity of their operations [1].

In the context of sustainable development planning, profitability indicators are grouped as follows:

1. Profitability of sales (gross, operating, and net profit margins). These indicators reflect the share of profit in every hryvnia of sales revenue, allowing for the evaluation of production efficiency and cost management.
2. Return on Assets (ROA) demonstrates the efficiency of using property and resources (land, machinery, current assets) to generate profit. Rational use of resources is a core component of economic sustainability.
3. Return on Equity (ROE) determines the return on owners' investments and the efficiency of using borrowed resources.

Cost profitability indicators (profitability of operating costs and activity costs) reflect the profit generated per hryvnia of expenses [2].

To analyze the financial basis of sustainable development, absolute indicators are also used:

1. Net profit – the final financial result available to the enterprise after taxes, which serves as the main source for funding sustainable development projects.
2. Gross profit – indicates the efficiency of production organization.
3. Operating profit – reflects the efficiency of the core business activity.
4. Marginal profit – shows the funds remaining after covering variable costs [3].

Thus, profitability acts as the primary indicator of the efficiency of agricultural enterprises. While profit reflects the absolute result, profitability demonstrates the quality of management of resources, capital, and costs. A comprehensive assessment of these indicators is essential for planning the sustainable development of agricultural enterprises, ensuring their competitiveness and long-term financial stability.

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### THE ROLE OF DIGITALISATION IN ENSURING SUSTAINABLE DEVELOPMENT IN TOURISM

Digitalisation is a key catalyst for the tourism industry's transition to a sustainable development model, ensuring economic viability, social inclusiveness and environmental responsibility. The digitalization of activities is a prerequisite for the development of society in modern conditions [1, p. 20]. Emerging and maturing new technologies include automation, big data, cloud computing, and artificial intelligence are changing the way businesses interact with their consumers, run their operations, and make decisions. These technologies not only help to better understand consumer preferences but also enable speedy response to abrupt changes in such preferences, therefore improving the efficiency of companies and customer pleasure [2, p. 229]. Digital technologies such as the Internet of Things (IoT), Big Data and sensors enable accurate monitoring and optimisation of energy, water and other resource consumption in hotels and tourist facilities, promoting the implementation of energy management systems and waste reduction.

Digitised platforms and applications help tourists plan routes with a minimal carbon footprint, choose environmentally friendly modes of transport and promote eco-routes. The transition to electronic tickets, digital registration and information materials significantly reduces the use of paper and printed materials. In addition, technology is used to monitor congestion, noise levels and pollution in popular tourist locations, which is an important element in combating overtourism. From an economic perspective, automating booking, registration, marketing and customer service with AI, chatbots and CRM systems reduces operating costs and improves service quality. Digital platforms allow small local businesses and suppliers to gain direct access to the global tourist market, promoting inclusive economic growth. AR/VR and Big Data technologies enable personalized and immersive experiences for tourists, increasing their satisfaction and willingness to return. The use of blockchain can also increase the transparency of financial transactions and data security. In terms of social sustainability, data monitoring allows for the prediction and regulation of the occupancy of facilities and areas, preventing overcrowding and preserving the authenticity of local communities. The use of digital archives, 3D modelling and virtual tours makes cultural and historical sites more accessible, contributing to their preservation and promotion. Mobile applications and online platforms provide tourists with easy access to reliable information about the area, culture, and rules of responsible behaviour. Digitisation also stimulates education and retraining, creating new, higher-paying jobs in the industry. Overall, the introduction of digitalisation into tourism processes makes it possible to create the following conditions for

sustainable development in the tourism sector: 1) efficiency and environmental friendliness: Digital technologies (IoT, Big Data, AI) enable accurate monitoring and optimisation of resource consumption, facilitating the transition to paperless and low-carbon tourism practices. This is critical for minimising negative environmental impacts; 2) inclusive economic growth: online platforms and mobile applications democratise market access, providing small and medium-sized enterprises (SMEs) and local communities with new opportunities to directly engage tourists, contributing to a more equitable distribution of tourism revenues; 3) experience management and heritage preservation: The use of AR/VR and other immersive technologies not only enhances the quality of the tourist experience through personalisation, but also plays a crucial role in preserving and virtualising cultural heritage, making it accessible without the risk of physical damage; 4) combating overtourism: Big data and geolocation analysis allows for effective forecasting, regulation, and geographical distribution of tourist flows, reducing the burden on the most popular locations and improving the quality of life for local residents.

However, there are also challenges, in particular the need to ensure equal access to digital technologies for all market participants and to overcome the so-called ‘digital divide’. Ethical issues and data privacy are also pressing, requiring a clear regulatory framework, while the growing energy consumption of technologies requires a transition to environmentally friendly energy sources to support artificial intelligence infrastructure and big data processing. Therefore, to ensure truly sustainable development in tourism, it is not enough to simply implement technologies. Strategic integration of digitalisation into policy and business models is needed, focused on ethical principles, data protection and overcoming the ‘digital divide’. Only under such conditions will digitalisation become a reliable tool that harmoniously combines the interests of business, society and nature.

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## FORMATION OF YOUTH FINANCIAL COMPETENCE AS A BASIS OF SUSTAINABLE DEVELOPMENT

In the current conditions of economic transformation and the development of digital technologies, the issue of youth financial literacy is becoming particularly relevant. Financial culture is an important component of human capital and a prerequisite for ensuring sustainable socio-economic development. For Ukraine, which is characterized by active demographic and economic changes, the formation of youth financial competence is a strategic task that can ensure the growth of the population's well-being and the stability of its economy [1].

The purpose of the study is to analyze the process of forming youth financial literacy and justify its role as a tool for sustainable development. To achieve this goal, the following tasks are outlined: to reveal the essence of financial literacy and its importance for the country's development and to suggest directions for increasing youth financial competence.

Financial literacy is defined as a set of knowledge, skills and abilities that allow a person to make informed financial decisions and effectively manage their own resources. A high level of financial literacy helps reduce debt risks, increase financial security, and foster economically responsible behavior among young people. In the context of sustainable development, it acts as a factor in strengthening the economic stability of households, developing entrepreneurship and increasing the level of investment activity of the population. [2].

The results of sociological research indicate an insufficient level of financial culture among students and schoolchildren of the country. A significant part of young people has a fragmented understanding of the tools for managing personal finances, investing, lending and insurance. The main problems are: insufficient integration of financial education into school and professional educational programs, limited opportunities for young people to participate in practical financial trainings and projects, insufficient digital competence to work with modern online financial tools and weak interaction between educational institutions, business structures and financial institutions.

According to the NBU, the level of financial literacy of youth in Ukraine remains lower than the average European indicator, which highlights the need to develop financial education programs [3].

The main institutions that influence the process of forming financial competence of youth are: educational institutions that implement financial literacy courses, elements of economic education and project-based learning methods; local governments that implement youth support programs and stimulate the development of youth startups; financial institutions, including banks, credit unions and insurance companies, that conduct trainings, webinars and educational events; public organizations and youth centers that actively promote knowledge in the field of finance, organize competitions, hackathons and educational marathons. An effective combination of the activities of educational, state and financial institutions creates a favorable basis for increasing the financial competence of youth.

In order to form sustainable financial behavior of the younger generation, it is advisable to integrate content modules on financial literacy into school, vocational pre-university and higher education programs, regularly conduct trainings, master classes and workshops in cooperation with financial institutions and business, create a specialized center for financial education of youth, develop digital educational platforms and mobile applications for independent mastery of financial skills and activate the activities of business incubators and startup schools focused on the development of entrepreneurial competence. The implementation of these measures will contribute to strengthening the financial competence of the younger generation and increasing its ability to function effectively in the modern economic environment [4].

### **Conclusions.**

The formation of financial literacy of the country's youth is an important factor in ensuring its sustainable development, increasing economic security and competitiveness of human capital. Strengthening financial education, expanding partnerships between educational institutions and financial institutions, and introducing innovative digital tools will create conditions for increasing the financial competence of the younger generation.

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## ANALYSIS OF SUSTAINABLE PRACTICES IN THE TOURISM AND HOSPITALITY INDUSTRY

It is critically important for Ukraine to study successful global experience and analyze barriers to the implementation of sustainable practices. This will allow for the formation of an effective strategy for the recovery of the industry, based on a balance of economic benefit, environmental safety and social responsibility, as well as the use of the latest digital tools for destination management. In the works of Ukrainian scientists, considerable attention is paid to the theoretical and methodological substantiation of the concept, to the clarification of its definition as a triad of interconnected components: social, economic and natural [1, 2].

The purpose of the work: based on the analysis of individual cases of hospitality and tourism establishments, to systematize the main innovative directions and barriers in the context of sustainable development. To achieve the goal, the following research methods were used - analysis, synthesis, induction, a systematic approach was applied in considering examples of implementing sustainability principles in the practice of hospitality establishments. Research results: the authors systematized the main measures for implementing sustainability principles in the field of hospitality and tourism, analyzed the main problems associated with this activity, which create significant barriers to practical implementation (table 1).

**Table 1.** Practical measures for implementing the principles of sustainable development of tourism business and hospitality establishments

№	Actions	Cost level
1	Switching to LED lighting	+
2	Use of alternative energy sources: solar panels, heat pumps	+++
3	Individual thermostats in hotel rooms	++
4	Motion sensors in low-traffic areas	+
5	Modern energy-efficient equipment	++
6	Information signs in hotels explaining the voluntary towel and bed linen change policy	+
7	Water meters	+
8	Bicycle rental	+
9	Electric scooter rental	++
10	Organization of hazardous waste collection (batteries)	+
11	Water-saving technologies	++
12	Eco-transport for transporting tourists	+++
13	Installation of car charging stations	++
14	Destination air monitoring system	+++
15	Solid waste sorting	+
16	Environmental certification of establishments	+++
17	Digitalization of tourism services	++
18	Using local craft products in the activities of establishments	+
19	Educational activities for staff on sustainable development issues	++
20	Educational activities for the local population on sustainable development issues	+
21	Greening of buildings and facilities	+
22	Informing tourists about sustainable development issues	+
23	Popularization of local culture through the organization of exhibitions and sales	+
24	Creation and implementation of a tourist product based on eco-trails	+

low cost - +; medium cost - ++; high cost - +++.

Scope: The research results will be useful for hospitality and tourism practitioners, researchers, and regional leaders in sustainable tourism, by expanding the understanding of implementing sustainability principles. Conclusions: Sustainable development principles can be implemented in tourism practice by forming appropriate programs based on the Institution Development Strategy and the principle "Think globally - act locally." Activities were assessed by resource expenditure.

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### THE NESSECITY FOR INTEGRATION OF MANAGEMENT AND FINANCIAL ACCOUNTING IN MODERN CIRCUMSTANCES

In today's economic environment, characterized by a highly dynamic market, digitization of business processes, increased competition, and growing demands for transparency in business operations, the integration of management and financial accounting has become an objective necessity. It is impossible to imagine modern business in the world without an effective accounting system that provides timely and reliable information for management decision-making. In the context

of globalization and increased competition, companies are facing the need to integrate financial and management accounting. This is facilitated by several factors listed below.

Firstly, there is the unity of the information base for management: financial and management accounting are based on the same primary documents but are used for different purposes. Therefore, their integration will eliminate duplication of accounting operations, reduce the risk of data discrepancies, and provide a single "source of truth" for management decision-making. As a result of this integration, management will receive consistent, reliable, and timely information.

Secondly, improving the quality of management decisions. Financial accounting is focused on external users and reflects the results of activities after this fact, while management accounting is focused on internal needs and future decisions. Their integration will allow for the prompt analysis of expenses, income, and financial results; combining actual data with planned and forecast indicators; and improving the accuracy of budgeting and controlling. This is especially important in conditions of instability and limited resources.

Third, optimization of enterprise costs and resources. An integrated accounting system will help reduce accounting costs, reduce the labor intensity of information processing, and increase the efficiency of financial, material, and labor resources. Management accounting, based on financial data, allows you to identify reserves for reducing costs and increasing profitability.

Fourth, enhanced control and risk management. The integration of accounting systems will ensure transparency of financial and economic operations, promote more effective internal control, and enable timely detection of deviations from planned indicators. This, in turn, reduces financial, tax, and operational risks, which is critically important in conditions of increased uncertainty.

Fifth, compliance with the requirements of the digital economy. Modern ERP systems (BAS, SAP, Oracle, Microsoft Dynamics, etc.) provide for integrated financial and management accounting. This approach automates accounting processes, speeds up reporting, and enables

multidimensional data analysis in real time. Therefore, digitalization makes integration not only desirable but also inevitable.

Sixth, it increases the investment attractiveness of the enterprise, as integrated accounting provides: transparent financial information; high-quality management analytics; trust from investors, creditors, and partners. Overall, this creates conditions for attracting financing and sustainable development of the enterprise.

In summary, we see that this combination not only ensures financial reporting in accordance with national and international standards, but also provides tools for planning, controlling, and analyzing the enterprise's operational activities. The integration of both accounting systems will create a single information base that will be used for strategic planning, budgeting, and forecasting financial indicators.

Therefore, the integration of management and financial accounting is a key factor in the effectiveness of modern business. Global practice demonstrates a high level of automation, the use of analytical methods, and a strategic focus on accounting, while Ukrainian practice is gradually adapting to these standards. The integration of accounting in a competitive market provides enterprises with comprehensive information support for making operational and strategic decisions, increases the transparency of activities, and creates the conditions for sustainable development in a global economy.

Hence, the integration of management and financial accounting in modern conditions is a necessary condition for effective enterprise management, as it ensures the unity of the information space, increases the validity of management decisions, optimizes costs, reduces risks, and meets the requirements of the digital economy.

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## THE ROLE AND SIGNIFICANCE OF MODERN MEDICINE IN ENSURING SUSTAINABLE DEVELOPMENT

### Introduction

Nowadays, in 21st century, the term “sustainable development” goes beyond just “efficient usage of the natural resources” it spans equitable access to essential services, feeling of fairness among society, optimization of governmental expenses. Among all pillars of sustainability, well-being and medicine as a key component of it play a crucial role. For instance, in the United Nations’ Sustainable Development Goal 3’ says that beyond many subgoals, it aims to “ensure healthy lives and promote well-being for all at all ages.” Highly developed modern medicine plays one of the most important roles in achieving these objectives by boosting health welfare, reducing percentage of people with diseases, and fostering robust health systems. Modern medical innovations, including application of technologies which improves precision of diagnostical outcomes, reduces the amount of routine work among employees of healthcare, increase the level of effectiveness of governmental innovations for healthcare – all it is transforming how the goals of healthcare are achieved and how it fosters long-term societal sustainability in many aspects. The concept of sustainability in healthcare apparently also involves minimizing the environmental footprint of healthcare systems as much as possible while ensuring optimization and as efficacious as possible

usage of natural, human, financial resources as possible. In this work, we will review how this purpose aligns, and how some areas may contradict each other [1]

### Objectives of Work

The main aim of this work is to highlight the contribution of modern medicine in boosting sustainable growth, emphasize the ways how it affects well-being, equity, and separately public budget burden. It also aspires to find key problems and opportunities which arise in aligning healthcare development with sustainable development objectives issued by the United Nations.

### Methodology

This study is based on an extensive review of various scientific literature such as articles, scholars' monographs, reports from key institutions (especially the UN), study of information published by different governments on public healthcare, etc. The method for the analysis includes both qualitative approaches of theoretical frameworks on sustainable development, healthcare with case-based evidence on advances in modern medicine. There are highlighted separately the impact of medical innovations on outcomes linked to sustainable development. [2]

### Results and Discussion

The review exposes some key points in which modern medicine contributes to sustainable development:

1. **Improved Health Outcomes:** Modern medical technologies which are widely used in both public and private sectors in many developed countries have significantly increased the level of ability to prevent, detect, and manage different types of diseases. These innovations have led to reduced mortality rates, especially among active working generations, longer life expectancy, the later expected retirement age, and more efficient funding of healthcare by state budget. [3]
2. **Financial and Budgetary Impact:** While modern medical trends mainly align with goals of sustainability, it is necessary to mention considerable pressure on public budgets in many countries. Across different states, healthcare expenditures are growing faster than inflation and overall government revenue, creating financing deficit in national health systems. For example, in Poland the planned healthcare budget for 2026 is estimated to be approximately 23 billion zł below revenue assigned for healthcare, as medical service costs are rising, on average, 2.5 times faster than inflation – consequently, it can force the governments to reallocate funds from other sectors or adopt stricter fiscal reforms. This kind of budgetary pressure highlights the challenge which arises in public finances. [4]
3. **Technological and Organizational Innovation:** It would be wrong not to mention technological and organizational innovations which are present in medical progress: AI, predictive analytics, and Internet of Things devices – all it increases clinical precision, improves efficiency in usage of limited resources, and supports sustainable growth [5]
4. **Environmental Sustainability:** Modern healthcare has a trend for reduction of its contribution to environmental footprint by using renewable energy, engaging in recycling, developing innovative medical equipment – it helps in alignment of modern healthcare sector with sustainability goals. [6]

As it is seen, there are a lot of benefits which support sustainable goals, but the challenges, which desirably should be solved remain.

### Takeaways

As we can see, modern medicine highly affects sustainable development, improving health outcomes, promoting equity, and enabling healthcare systems to operate more efficiently and sustainably. But in parallel we should not disregard the potential threats which may cause the deviation of healthcare trends from sustainable growth. Stakeholders must do their best to ensure sustainable impacts of healthcare.

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## **BUSINESS MANAGEMENT SECURITY IN WARTIME CONDITIONS: STRATEGIC ADAPTATION, RISK MITIGATION, AND ORGANIZATIONAL RESILIENCE**

In wartime conditions, businesses face a complex set of challenges that require rapid adaptation of management strategies and the implementation of comprehensive security measures to ensure operational continuity. Military conflict generates high levels of uncertainty, disrupts economic stability, and creates significant threats to both physical and digital assets. Under such circumstances, the effectiveness of managerial decision-making determines not only the financial sustainability of enterprises but also their ability to function under extreme and prolonged crisis conditions [1–4].

The relevance of business management security during wartime is driven by the urgent need to maintain stable operations amid active hostilities. Disrupted supply chains, fluctuations in consumer demand, risks to physical infrastructure, and escalating cyber threats substantially increase the vulnerability of enterprises. These challenges necessitate the development of integrated security strategies covering all levels of management—from strategic planning and operational control to information and personnel security.

The complexity of the problem lies in the multidimensional nature of wartime risks. Enterprises may become direct or indirect targets of military actions, resulting in infrastructure damage, shutdown of production facilities, or loss of inventory. Armed conflict significantly complicates logistics and supply chains, leading to shortages, increased costs, or complete suspension of deliveries. The need to identify alternative suppliers often generates additional financial pressure.

At the same time, wartime conditions intensify cyber threats aimed at data destruction, theft of intellectual property, or deliberate disruption of business operations. The imposition of martial

law may cause workforce shortages and force enterprises to make difficult decisions regarding employee safety and workplace organization. Maintaining employee morale and psychological well-being becomes a critical managerial task. In addition, businesses face internal security risks arising from intentional or unintentional actions of employees, which may further undermine organizational stability.

Addressing these challenges requires a systematic approach to business security management. Key solutions include the adaptation of business strategies to wartime realities, the establishment of corporate security systems, strengthening cybersecurity, comprehensive personnel support, and continuous risk monitoring.

Strategic adaptation involves revising production, supply, and financial management models in response to wartime constraints. Diversification of supply sources and the accumulation of critical resource reserves are essential measures to enhance operational resilience. The creation of corporate security systems includes the development of emergency response plans, investment in physical protection infrastructure, and reinforcement of information security frameworks.

Cybersecurity plays a pivotal role in wartime business continuity. Enterprises must increase their level of cyber protection through the implementation of advanced security technologies, regular software updates, data encryption, and employee awareness training. Personnel support is equally important and includes psychological assistance, social guarantees, flexible working arrangements, and the use of remote work models to sustain business processes while ensuring employee safety.

Finally, effective risk monitoring systems are required to identify emerging threats in a timely manner and enable rapid managerial responses. Continuous assessment of physical, logistical, cyber, and human-related risks allows enterprises to remain adaptive and resilient in a volatile wartime environment.

The scientific novelty of this study lies in the development of an integrated conceptual approach to business management security under wartime conditions, which combines strategic adaptation, multi-level risk management, and organizational resilience within a single framework.

Unlike traditional crisis management models that predominantly focus on economic or operational risks, the proposed approach systematically integrates physical security, cybersecurity, logistics stability, and personnel-related risks, emphasizing their interdependence in wartime environments. This holistic perspective allows businesses to transition from reactive crisis responses to proactive security-oriented management, thereby enhancing their ability to sustain operations and recover under prolonged military conflict.

The proposed approach can be used by business managers and policymakers to design adaptive security strategies that minimize wartime risks, protect critical assets, and ensure continuity of operations. It is particularly relevant for enterprises operating in high-risk regions or under conditions of prolonged instability.

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## **TOOLS OF FOREIGN ECONOMIC ACTIVITY IN THE CONTEXT OF THE GLOBAL GOALS OF SUSTAINABLE DEVELOPMENT**

The current conditions of globalization are creating new requirements for the development of a country's foreign economic activity, prioritizing the effective use of financial and economic instruments. In the context of implementing the UN Sustainable Development Goals (SDGs) until 2030, the key objective is to ensure balanced economic growth, expand international cooperation, enhance the competitiveness of the national economy, and minimize foreign economic risks [1]. Ukraine, striving to expand its participation in international trade, modernize export-oriented sectors, and enhance competitiveness, is promoting the use of modern financial instruments for foreign economic activity in accordance with international principles of sustainable development.

Financial and economic instruments in foreign economic activity encompass a set of mechanisms that facilitate resource mobilization, optimize trade flows, and create conditions for innovative enterprise development. From the standpoint of the UN Sustainable Development Goals, they should ensure economic growth, develop infrastructure and innovation, and expand international partnerships.

Key principles of sustainable development in foreign economic activity include environmental responsibility of exporting enterprises; transparency of financial transactions and the fight against uncontrolled flows; focus on high-value-added products; and digitalization of international trade. The main financial and economic instruments for stimulating foreign economic activity include fiscal incentives, customs tariff regulation, financial support for exports, and investment instruments. Fiscal incentives constitute an important mechanism for supporting exports, particularly through tax preferences for innovative manufacturers, accelerated equipment depreciation, and special tax regimes in industrial parks, which facilitate the modernization of production and attract investment. Customs tariff regulation also plays a significant role, ensuring reduced duties on imported technological equipment, the digitalization of customs procedures, the development of risk-based controls and simplifications for authorized economic operators, and the harmonization of tariff policy with EU standards. Financial instruments such as export credit, risk insurance, financing of innovative projects, and the activities of export credit agencies provide additional support to exporters. Combined with investment mechanisms such as attracting foreign investment, cooperation with international financial institutions, and the development of public-private partnerships, a comprehensive export promotion system is being developed that reduces risks and strengthens Ukraine's competitive position in the global economy.

One of the priorities for the implementation of the CSR is the digital transformation of international trade. Electronic certificates, customs declarations, the use of big data and artificial intelligence in customs control significantly reduce transaction times and minimize corruption risks. The development of e-commerce opens up new opportunities for small and medium-sized enterprises, facilitating their integration into global production networks.

Modern challenges include the increasing role of financial and economic instruments in foreign economic activity: instability of global markets; increased economic competition; risks of supply chain disruption; shadow trade and smuggling; insufficient investment in high-tech industries.

Prospects for enhancing foreign economic activity in the context of the CSR include Ukraine's integration into the EU's single economic space; improvement of state export support instruments; development of green finance and clean manufacturing; Increasing financial transparency and digitalization of foreign economic activity procedures.

Financial and economic instruments play a key role in the development of foreign economic activity, ensuring stability, competitiveness, and the integration of national economies into global markets. Their effective application, combined with sustainable development principles, enables countries to achieve structural change, strengthen innovative potential, and develop a modern model of an export-oriented economy. For Ukraine, it is important to systematically improve financial support instruments for foreign economic activity, digitalize customs procedures, and actively implement environmentally friendly and socially responsible practices in line with the UN Sustainable Development Goals.

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### **FINANCIAL ASPECTS OF ENSURING SUSTAINABLE DEVELOPMENT OF SMALL ENTERPRISES**

Sustainable development of small enterprises is today considered as a strategic goal that combines economic efficiency, social responsibility and environmental sustainability of activities. Small businesses play an important role in shaping economic stability and a competitive environment, and their financial stability is a key factor in ensuring long-term development. Financial aspects of sustainable development include capital management, effective planning of income and expenses, optimization of financing sources and implementation of financial strategies that allow maintaining the solvency of the enterprise even in unstable market conditions.

One of the central financial tools for ensuring sustainable development is cash flow management. For small enterprises, which are often limited in financial resources, effective planning of receipts and payments allows reducing the risks of insolvency, ensuring timely fulfillment of obligations to suppliers and personnel, and also contributing to the accumulation of reserve funds for investment in innovation and modernization. Special attention is paid to the development of development budgets that take into account not only the current needs of the enterprise, but also long-term goals for expanding activities and increasing competitiveness.

Optimization of financing sources is another important direction of financial support for sustainable development. Small businesses can use their own funds, attract loans, leasing or government grants aimed at supporting entrepreneurial activity. Effective combination of these sources allows to minimize debt servicing costs and reduce financial risks. In addition, an important aspect is the formation of financial strategies that take into account the cyclicity of demand, seasonality of production and the peculiarities of the market in which the enterprise operates.

In the conditions of the modern market, the introduction of financial innovations and digital technologies is of great importance. The use of modern information systems for accounting, control and analysis of financial indicators allows small businesses to quickly respond to changes in the market situation and make informed management decisions. Digitalization of financial processes helps reduce administrative costs, increase transparency of financial activities and ensure more effective control over the use of resources [1].

No less important is the issue of social and environmental responsibility as an integral element of the financial strategy of sustainable development. Investments in improving occupational safety, environmentally friendly technologies and the development of local communities may be perceived as additional costs, but they form long-term business stability, strengthen the reputation of the enterprise and help attract new customers and partners. Analysis of the financial efficiency of such investments allows us to show their economic feasibility, since in

the long term they reduce the risks of losses and improve financial results [2].

Sustainable development of small enterprises is also associated with financial risk management. For this purpose, various methods of risk assessment and control are used, including financial modeling, diversification of income sources and insurance. Enterprises that systematically approach risk management are able to quickly adapt to changes in the external environment, reduce the impact of economic fluctuations and ensure stable growth of financial indicators [3].

Thus, the financial aspects of sustainable development of small enterprises cover a set of measures for capital management, optimization of sources of financing, implementation of digital technologies and financial strategies, as well as taking into account the social and environmental component. A systematic approach to financial management allows ensuring the stability of the enterprise's activities, increasing its competitiveness and contributing to the formation of a sustainable economic environment, which is the key to the long-term development of small enterprises.

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## **INDUSTRIAL PARKS AS A FACTOR IN UKRAINE'S ECONOMIC RECOVERY IN THE CONTEXT OF STATE SUPPORT AND IMPLEMENTATION CHALLENGES**

In the context of Ukraine's post-war recovery, one of the key directions of state economic policy is the stimulation of spatial development and the revitalization of urban economies. Industrial parks play an important role in this process as specialized areas with prepared infrastructure that provide conditions for the placement of enterprises, primarily of an industrial profile. The full-scale war has caused significant damage to Ukrainian businesses: some enterprises were destroyed or damaged, while certain territories found themselves under occupation or in active combat zones, which led to a sharp decline in industrial activity. For instance, in May 2022 the level of production capacity utilization decreased by 40% compared to pre-war indicators [1].

This situation has emphasized the need for targeted government interventions to restore industrial output and support regional economies. Establishing and expanding industrial parks can help attract both domestic and foreign investments, creating a favorable environment for business relocation and start-ups. In addition, IPs can facilitate the modernization of production processes by providing access to shared infrastructure, logistics, and technological resources. They also play a critical role in maintaining employment levels, thereby reducing social tensions in affected regions. Finally, the concentration of enterprises within industrial parks can promote knowledge exchange and innovation, contributing to long-term economic resilience and sustainable development.

In response to wartime challenges, at the end of 2022 the Government launched a relocation program for enterprises to safer regions in Western Ukraine. This process highlighted the need for accelerated development of industrial parks as a mechanism for rapid industrial recovery, job creation, investment attraction, and support for regional economic growth. After 2022, state policy regarding industrial parks significantly intensified. In particular, on 24 February 2023 the Cabinet of Ministers of Ukraine approved the Industrial Parks Development Strategy for 2023 - 2030, which

provides for state support for infrastructure development (up to 150 million UAH), tax incentives, and special regimes for investors that may reduce their costs by up to 25% [2]. According to the assessment of H. V. Duhinets and M. M. Vdovychenko, industrial parks can become centers of industrialization, promoting the modernization of industry, accelerating the launch of production processes, and integrating Ukrainian companies into global value chains [3].

Industrial parks have significant potential in the recovery of urban economies. First, they play an important role in attracting investment to regions whose industrial sectors have suffered the most. Second, industrial parks create new jobs, helping to reduce social tension. Third, the concentration of enterprises in one area generates a synergistic effect through the shared use of infrastructure, logistics resources, and innovative solutions. At the same time, the development of industrial parks in Ukraine faces a number of significant constraints. These include weak institutional capacity of industrial parks management bodies, insufficient autonomy of management companies, land plot issues - especially within urban boundaries - insufficient state funding, and low private capital interest due to high risks. Additional difficulties arise from complex bureaucratic procedures related to registration and obtaining permits.

Since the beginning of the full-scale war, more than 40 large enterprises have relocated to the Vinnytsia region, and this process continues [4]. Their development not only creates conditions for the placement of production facilities but also contributes to long-term improvements in regional investment attractiveness, the strengthening of local budgets, the development of related economic sectors, and the growth of employment levels. Combined with state support, industrial parks can become “growth points” in Ukraine’s post-war economic recovery system.

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## THE IMPACT OF SOCIO-ECONOMIC FACTORS ON GLOBAL FOOD PRICE SECURITY

Global food security issues remain one of the most pressing challenges of our time. Unfortunately, a large number of people around the world do not have sufficient access to quality food. This is a cause for serious concern at the international level.

With population growth, economic crises, climate change, and geopolitical shocks, the issue of food security is becoming particularly important, as food shortages or high prices directly affect

the socio-economic stability of countries and the well-being of people. According to the Global Report on Food Crises, in 2024, more than 295 million people in 53 countries experienced acute food shortages, which is 13.7 million more than in 2023. Analytical indicators show that socio-economic processes and food price fluctuations directly affect global food security and people's access to food. The main causes of the food crisis are a combination of economic shocks, armed conflicts, climate change, and forced population displacement, but the key factors are rising food prices and inflation. Price instability exacerbates inequality between countries and within societies. Poor populations in countries with weak economies that depend on food imports are among the most vulnerable. In such countries, market prices mean that even basic foods become unaffordable, exacerbating malnutrition and social instability.

According to the World Bank, a 1% increase in global food prices leads to an additional 10 million people living below the poverty line [2]. This shows how vulnerable low-income groups are, as they spend a large proportion of their income on food. When prices rise, consumers immediately lose the ability to afford a healthy and nutritious diet.

Environmental changes play an important role: frequent droughts, floods, cyclones, and other weather phenomena caused by climate change lead to crop destruction and reduced agricultural productivity in countries that depend on natural conditions. This not only reduces the amount of food available, but also makes its production more expensive.

In countries experiencing war and destabilization, economic issues become a strategic element of the functioning of the state. Military actions lead to disruption of production, reduced access to land resources, and destruction of logistics and storage facilities. This reduces production volumes and creates uncertainty in the domestic market. The structure of the food system is changing at all levels, from the producer to the end consumer. The destruction of transport infrastructure will lead to an increase in transportation costs and disrupt transport flows.

Overcoming food challenges requires not only short-term anti-crisis solutions, but also long-term strategic approaches. International cooperation plays an important role in this, as the global nature of food markets means that local crises quickly take on a global scale. It is particularly important to strengthen the participation of countries in global initiatives to stabilize food systems. International organizations, the World Bank, and other institutions monitor the situation and provide financial and technical support to promote the introduction of modern technologies in food production and storage. Coordination between countries makes it possible to respond quickly to food shortages and provide humanitarian aid to the regions most affected by crises.

A strategic direction is the development of sustainable food systems that can withstand economic and climate risks. This involves investing in innovative agricultural technologies, including precision farming, digital soil monitoring, and early warning systems for droughts and other extreme events. Equally important is support for smallholder farms, which provide a significant share of food in low- and middle-income countries but remain the most vulnerable to external shocks. Therefore, ensuring global food security in the current environment requires a comprehensive approach that combines economic, technological, and humanitarian tools. The resilience of food systems will determine not only the level of well-being of the population, but also the ability of states to withstand future crises. It is the integration of international efforts, national policies, and innovative solutions that is the key to shaping a stable food future.

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## **THE ROLE OF CUSTOMS AUTHORITIES IN ENHANCING THE ECONOMIC RESILIENCE OF THE STATE IN THE CONTEXT OF MILITARY CHALLENGES**

Military operations pose extraordinary challenges to the national economy, requiring the transformation of state institutions. In wartime, customs authorities gain strategic importance as a key element of the state's economic security system. Ensuring trade flows, fiscal stability, and control over strategic resources become core functions of the customs service to preserve economic sovereignty [1]. The relevance of this study lies in the need to rethink the role of customs authorities under extreme wartime conditions, as Ukraine's experience highlights their critical importance for maintaining economic stability during armed conflict [2].

Ensuring the functioning of trade flows during wartime is a priority task for the customs service. The rapid processing of humanitarian aid is of vital importance, as the timely delivery of medicines, food, and essential items to the population depends on it. Customs authorities are implementing simplified clearance procedures, creating «green corridors», and ensuring round-the-clock operation of checkpoints while maintaining the necessary controls to prevent abuse [3]. Critical imports, including fuel and lubricants, spare parts for infrastructure, medical equipment, and food, require priority clearance. Customs authorities apply risk-based controls, allowing reliable foreign trade participants to receive expedited clearance. The clearance of defense goods is a special category that requires the creation of specialized units and coordination with the Ministry of Defense [4].

The adaptation of customs procedures involves the introduction of temporary regulatory regimes, the abolition of certain types of duties for strategic imports, deferred clearance mechanisms, and post-clearance controls. At the same time, the customs service remains vigilant about the possible use of simplified procedures for smuggling [5]. Supporting economic stability through the fiscal function becomes critical when budget expenditures increase. Customs duties and taxes constitute a significant portion of government revenues, providing resources for defense, social payments, and infrastructure restoration. Effective operation means not only collecting payments, but also combating tax evasion and smuggling [1]. Control over strategic goods is an important element of national security. Customs authorities track the movement of dual-use goods, high-tech equipment, and energy resources. The customs service cooperates with intelligence agencies, applies sanctions lists, and controls export restrictions [2]. Countering the illegal movement of resources includes combating the smuggling of strategic goods, the export of cultural property, and the illegal trade in weapons. Customs authorities are tightening controls at borders, using technology to detect prohibited goods, and coordinating activities with law enforcement agencies [3].

Modernizing customs processes is becoming a prerequisite for effective work. Digital transformation involves the introduction of electronic declarations, automated risk analysis systems, electronic document management, and remote forms of interaction. This reduces processing time, increases transparency, and ensures operation under conditions of limited access to checkpoints [4]. International cooperation between customs services is becoming particularly important. The exchange of information on suspicious cargo, coordination of controls, mutual recognition of procedures, and technical assistance help maintain the effectiveness of customs services. Participation in international authorized economic operator programs and harmonization with European standards contribute to integration into global supply chains [5]. Digital solutions include artificial intelligence for analyzing data on foreign economic operations, blockchain technologies for information transparency, and mobile applications. The introduction of technologies allows for effective work even in conditions of infrastructure damage or staff evacuation [1]. Promising areas include the introduction of predictive analytics for risk forecasting, the creation of integrated platforms for interaction with business, the development of automated decision-making systems,

and the expansion of international cooperation [2]. In times of military challenges, customs authorities play a complex role, becoming a critically important element of the state's economic stability. The ability to adapt to changing conditions, ensure a balance between efficiency and control, maintain budget revenues, and use modern technologies determines the state's ability to maintain economic stability. An effective customs service becomes a strategic asset that ensures the functioning of the economy and lays the foundation for future recovery.

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### ECONOMIC SECURITY IN EU COUNTRIES: PROBLEMS AND PROSPECTS

Economic security is one of the key components of national and supranational stability, which determines the ability of a state or integration association to ensure sustainable development, competitiveness and resilience to external and internal challenges. For the European Union, economic security is of particular importance, since the level of interdependence of member states determines the transnational nature of risks and the need for a coordinated response policy. In the current conditions of multidimensional global changes, the EU is faced with a number of economic threats that affect both the internal stability of the Union and its positioning in the global economic system.

Analyzing scientific works, we can identify a number of problems and challenges [1-3]. One of the key problems remains energy dependence, especially on energy imports from third countries. The events of the last decade, including the Russian aggression against Ukraine, have significantly raised the issue of diversifying energy supplies and increasing the autonomy of the EU energy system. Despite active steps to develop "green" energy and alternative sources, many Member States are still largely dependent on external resources, which creates vulnerability to geopolitical and market fluctuations. The second key challenge is the unevenness of economic development between Member States. The economic disparities that can be traced between the Western and Eastern EU states affect the stability of the single market and the effectiveness of solidarity mechanisms. Conditionally weaker economies have limited access to capital, technology and high-productivity sectors, which slows down their integration and deepens their dependence on financial assistance from the EU. The third set of problems is related to the growth of global competition in the technological sphere. Against the backdrop of the active development of the economies of the USA, China and other players, there is a threat of technological dependence of the EU and the risk of losing competitive positions in strategic sectors, in particular in the field of microelectronics, artificial intelligence and digital platforms. Lagging behind in these sectors can have long-term consequences for economic autonomy and the ability to innovate.

Demographic changes are also a significant challenge. The aging of the population in many EU countries increases the burden on social systems and labor markets, limiting the potential for economic growth. The influx of labor through legal migration partially compensates for these trends, but at the same time creates political and social tensions that affect the internal stability of the Union. The problem of the vulnerability of the financial system should be highlighted separately. Despite the introduction of the Single Supervisory Mechanism and the Banking Union, the EU financial markets remain sensitive to global shocks. The COVID-19 pandemic has shown that even in highly developed economic systems, sharp liquidity imbalances, rising debt burdens and recessionary trends are possible.

Strengthening the EU's economic security requires a comprehensive approach, including both internal reforms and strategic expansion of cooperation with international partners. One of the key areas is the development of energy independence. The European Commission has outlined a number of strategic initiatives aimed at accelerating the transition to renewable energy, modernizing energy infrastructure and stimulating energy-saving technologies. Expanding investments in the green economy can also be an important factor in creating new jobs and reducing technological dependence on external suppliers. In the context of global economic transformation, the EU's economic security is increasingly taking on a systemic nature, which requires a combination of long-term strategic decisions with flexible mechanisms for responding to unforeseen challenges. Structural changes in the global economy, in particular the reorientation of production chains, increased competition for resources and technologies, as well as the growing role of geoeconomic instruments in state policies, are shaping new parameters for the functioning of the European Union. Accordingly, increasing economic security becomes not only a task of protecting internal stability, but also an important factor in strengthening the EU's foreign policy subjectivity.

The systematic nature of the reforms that the Union is implementing in the energy, technological and financial spheres indicates a desire to form a model of sustainable development that is able to withstand both geopolitical risks and internal socio-economic imbalances. However, the further success of these reforms will depend on the level of solidarity between the Member States, their willingness to compromise and a common vision of strategic goals. In this context, the development of multi-level governance is important, which allows coordinating national initiatives with European support mechanisms.

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### **3D-PRINTING OF PERSONALIZED MAXILLOFACIAL IMPLANTS AS A COMPONENT OF SUSTAINABLE MODERN MEDICINE**

In the context of global healthcare challenges, sustainable development has become a strategic priority of modern medicine, requiring innovative approaches that enhance clinical outcomes while optimizing resource utilization. The growing demand for personalized treatment, combined with increasing pressure on healthcare systems to reduce costs, operative time, and environmental impact, has accelerated the adoption of advanced digital and additive manufacturing technologies. In this regard, 3D-printing represents a transformative tool in contemporary medical

practice, particularly in oral and maxillofacial surgery, where anatomical complexity and functional demands necessitate highly individualized solutions. By enabling precise, patient-specific implant fabrication and more efficient surgical planning, 3D-printing contributes not only to improved medical results but also to the long-term sustainability of healthcare systems.

3D-printing demonstrates significant potential for optimizing both manufacturing and clinical workflows in oral and maxillofacial surgery by eliminating the need for manual fabrication and intraoperative adjustment of implants and surgical guides. This increased efficiency contributes to reduced treatment timelines, shorter waiting periods for surgical intervention, and improved operating room performance, which are essential elements of sustainable healthcare systems [1; 3]. Conventional standard-sized implants and autogenous bone grafts remain widely used for the reconstruction of bone defects; however, they require extensive customization and prolonged operative time. In the anatomically complex maxillofacial region, where intraoperative visibility is limited, even minor mismatches between the implant and the defect may result in implant instability or failure. The application of 3D-printing enables the production of patient-specific implants that precisely replicate anatomical structures, leading to improved functional and aesthetic outcomes within shorter production times [1; 3]. The integration of 3D-printing with virtual surgical planning has proven particularly effective in the reconstruction of complex anatomical areas, such as the orbital floor. Preoperative modeling and pre-bending of titanium meshes based on 3D-printed anatomical models allow for more accurate restoration of orbital volume and improved postoperative symmetry compared to conventional freehand techniques [1].

In mandibular reconstruction, the use of customized 3D-printed implants with pre-positioned dental implants represents a promising strategy for reducing the number of surgical procedures from two stages to a single intervention. The mechanical strength and stability of such surgical templates have been validated using finite element analysis, confirming their ability to withstand intraoperative forces [1]. Substantial advancements have also been achieved in temporomandibular joint prosthetics. Standard commercial prostheses often fail to accommodate individual anatomical variations, whereas 3D-printed porous prostheses fabricated from titanium and tantalum alloys exhibit improved biomechanical compatibility, reduced weight, and enhanced potential for muscle attachment. Clinical outcomes demonstrate significant improvements in pain reduction, mandibular function, and overall patient quality of life following implantation [1; 2].

A variety of 3D-printing technologies are currently employed in clinical practice, including powder bed fusion techniques (SLS, DMP) for metal implant fabrication, as well as vat photopolymerization (SLA, DLP), material jetting (PolyJet), and material extrusion (FDM/FFF) for the production of anatomical models, surgical guides, and temporary prosthetic solutions. Each technology presents distinct advantages and limitations in terms of precision, cost, biocompatibility, and post-processing requirements, which determine their specific clinical applications [2; 4]. In conclusion, the implementation of 3D-printing in oral and maxillofacial surgery promotes personalized treatment approaches, reduces the number of surgical interventions, optimizes resource utilization, and enhances clinical outcomes, thereby supporting the principles of modern medicine and sustainable healthcare development.

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## **AI-POWERED EMPLOYEE EXPERIENCE AS A STRATEGIC DRIVER OF SUSTAINABLE HUMAN CAPITAL MANAGEMENT**

The integration of artificial intelligence (AI) into human resource management represents a fundamental transformation in how organizations manage, develop, and engage their human capital. Contemporary businesses operate in environments marked by rapid technological advancement, workforce globalization, and dynamic labor market shifts – conditions that increasingly challenge traditional, administratively oriented approaches to human capital management (HCM). Within this context, the AI-powered employee experience emerges not simply as a technological enhancement but as a strategic driver capable of advancing sustainable human capital management [1]. When AI applications are aligned with broader sustainability principles, organizations can simultaneously optimize workforce effectiveness and enhance employee well-being, thereby strengthening long-term organizational resilience and competitive advantage.

The strategic value of AI-enhanced employee experience lies in its capacity to individualize engagement, development, and support – elements central to sustainable human capital management. Such tailored experiences promote deeper engagement, foster continuous learning, and support the cultivation of future-ready skills. Furthermore, AI-enabled well-being tools can identify early signs of stress or disengagement, enabling timely interventions, provided that these systems operate under conditions of transparency, fairness, and robust data governance. Emerging empirical evidence demonstrates that organizations implementing AI in these ways achieve improvements in employee satisfaction, retention, and overall workforce productivity [2-3].

Within this evolving landscape, Learning Experience Platforms (LXPs) constitute a pivotal mechanism for personalizing employee development. By analyzing individual skill profiles, learning histories, and career trajectories, LXPs construct adaptive learning pathways, recommend targeted content, and facilitate microlearning tailored to evolving organizational and individual needs. This personalized approach not only enhances the efficiency and relevance of learning but also contributes to sustainable skill renewal – an essential component of long-term human capital resilience. Talent marketplaces represent another significant innovation transforming internal mobility and career personalization. Powered by machine learning algorithms, these platforms match employees' skills, motivations, and performance data with internal roles, projects, and stretch assignments. Such dynamic alignment supports career growth, ensures more strategic deployment of internal talent, and enhances retention by offering transparent and individualized career pathways.

AI-driven sentiment analysis further enables organizations to assess employee attitudes, stress signals, and emerging concerns by analyzing data from surveys, communication platforms, and feedback systems. These insights allow HR managers to design proactive, targeted interventions that reduce burnout risks and strengthen the overall employee experience. Complementing this, organizational network analysis (ONA) uses AI to map formal and informal collaboration patterns, revealing knowledge flows, relational structures, and potential bottlenecks. Understanding these dynamics allows organizations to design more effective team-building initiatives, mentorship, and cross-functional collaborations, thereby reinforcing social capital and organizational cohesion. AI-enabled coaching platforms deliver individualized development guidance, goal-setting support, and performance recommendations based on continuous analysis of behavioral and performance data. Likewise, adaptive performance management systems leverage

AI to monitor progress, identify development needs, and align individual goals with evolving organizational priorities.

Despite these opportunities, the adoption of AI in human capital management introduces substantial ethical, social, and operational challenges. Algorithmic bias, opacity in decision-making, and risks to employee privacy can erode trust, compromise fairness, and generate resistance to AI integration. A growing concern is the emergence of “shadow AI” – the use of unauthorized or unmonitored AI tools by teams or individuals outside formal IT and HR frameworks [4]. Such informal adoption can lead to inconsistent or unverified decision-making processes, data security vulnerabilities, and significant privacy risks. To fully realize the potential of AI as a driver of sustainable human capital management, organizations must adopt frameworks that incorporate human oversight, ethical safeguards, transparency, and participatory decision-making. Ensuring that AI complements rather than substitutes the human dimension of management is essential, as is establishing mechanisms to monitor and regulate informal or shadow AI practices. When strategically governed, AI-powered employee experience can serve as a powerful catalyst for sustainable, human-centered organizational development.

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## **DIRECT AND INDIRECT METHODS OF LABOR MOTIVATION IN AGRICULTURAL ENTERPRISES**

The problems of motivating personnel and creating a motivational mechanism play a significant role in the management and planning of the enterprise.

Management of personnel motivation and stimulation is one of the components of effective personnel management, which reflects the relationship between the degree of achievement of the organization's goals and the goals of employees with personnel costs [1].

The main meaning of the motivation system is to stimulate the production behavior of the enterprise's employees, directing it to achieve the strategic tasks set for it, in other words, to combine the material interests of employees with the strategic tasks of the enterprise. Stimulation of workers' labor is based on the principle that the method of monetary motivation in combination with other forms of recognition of employees' merits can achieve the most desirable results for the enterprise.

Material motivation of personnel has a stabilizing effect and is able to retain the most valuable employees in the company. The main goal of non-material motivation is the satisfaction of the employee and the "health" of the team as a whole. To form a proper attitude to work, it is necessary to create such conditions under which the employee would perceive his work as a

conscious activity necessary for the normal material support of himself and his family, as a source of self-improvement, the basis of professional and career growth[ 2].

In agriculture, among the economic factors of motivation, remuneration is of great importance, which remains one of the main sources of monetary income of employees. Wages are remuneration paid to the employee under an employment contract for the work performed by him.

According to Article 2 of the Law of Ukraine "On Remuneration" dated 24.03.95. The salary structure consists of the following types:

Basic salary is remuneration for work performed in accordance with established labor standards (time standards, production, service, job duties).

Additional salary is remuneration for work in excess of established standards, for labor successes and ingenuity and for special working conditions. It includes additional payments, allowances, guarantee and compensation payments provided for by current legislation; bonuses related to the performance of production tasks and functions.

Other incentive and compensation payments are payments in the form of rewards based on the results of work for the year, bonuses under special systems and regulations, payments within the framework of grants, compensation and other monetary and material payments that are not provided for by acts of current legislation or that are made in excess of the norms established by the said acts.

Stimulating functions for remuneration of labor are also performed by collective agreements that form parity of interests of owners and employees of agricultural enterprises.

The parties to a collective agreement or agreement are determined by Article 3 of the Law of Ukraine "On Collective Agreements and Agreements". A collective agreement is concluded between the owner or an authorized body and one or more trade union or other bodies authorized to represent the labor collective, and in the absence of such bodies - by representatives of workers elected and authorized by the labor collective [3].

In addition to the above-mentioned direct economic methods of labor motivation, indirect (non-monetary) methods of stimulation are also used. These include such types of payments as: preferential rest for employees, preferential or free meals during the working day, preferential or free transport services, career advancement, etc.

When creating a labor motivation system, it is necessary to combine material and non-material methods of stimulation that take into account all the specifics of the activities of the enterprise and the individual employee.

In modern conditions, it is necessary to solve economic problems in a new way, among which one of the most important is increasing the efficiency of using the human resources of agricultural enterprises, which, in turn, can be achieved by improving the material and non-material incentives of employees.

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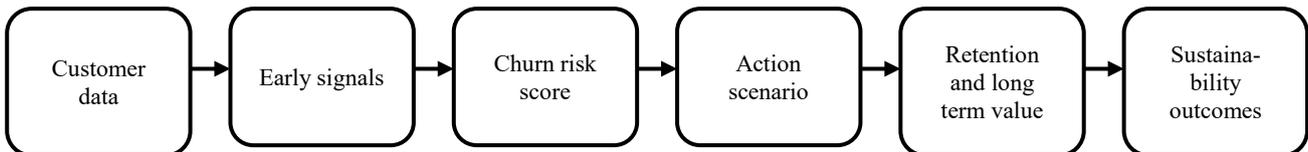
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## USING BIG DATA TO FORECAST AND REDUCE CUSTOMER CHURN IN E-COMMERCE BASED ON SUSTAINABLE DEVELOPMENT PRINCIPLES

E-commerce is characterized by low switching costs for consumers, so customer churn is a sensitive indicator of declining customer value and trust. From the perspective of sustainable

marketing, the priority is the long-term value of customer relationships rather than short-term sales, which reduces the need for excessive acquisition of new audiences and supports development stability [1, pp. 20-45]. In the digital environment, such decisions should be supported by big data analytics, which enables a shift from reactive promotions to targeted management of the underlying causes of customer dissatisfaction [2, pp. 10-28]. The purpose is to substantiate an approach to forecasting churn risk and selecting customer retention actions based on big data, taking into account managerial feasibility and sustainable development principles [3, pp. 1-6].

Practical implementation involves building an integrated customer profile using transactional data, behavioral events, service interactions, and delivery and return indicators [2, pp. 29-52]. The proposed transition loop from data to managerial decisions is summarized in Figure 1.



**Figure 1.** Big Data Driven Churn Management Loop

Early churn signals can be defined as persistent changes in brand interaction, including lower purchase and session frequency, higher return rates, more negative support contacts, deteriorating delivery performance, and weaker responses to communications [2, pp. 53-70]. On this basis, a churn risk model is developed, and its output is used not only to classify customers but also to assign managerial actions while considering the expected impact and the cost of interventions, which aligns with prescriptive analytics approaches in churn management [3, pp. 1-6]. The key differences between traditional and data-driven customer retention approaches are summarized in Table 1.

The link to sustainable development is reflected in the fact that effective retention reduces the need for excessive promotional stimulation, supports the ethical and relevant use of communications, and helps decrease operational losses across the order-fulfillment chain, including the share of returns and repeated deliveries [1, pp. 110-138]. In addition, digital tools should ensure the reliability of consumer-facing information and strengthen trust, which is an important factor for responsible interaction and the adoption of sustainable practices [4, pp. 5-12]. The effectiveness of the approach should be assessed using both predictive model metrics and managerial indicators of retention and long-term customer value.

**Table 1.** Comparison of Customer Retention Approaches

№	Criterion	Traditional approach	Data-driven approach
1	Decision basis	Mass rules	Early signals and churn scoring
2	Typical actions	Discounts and retargeting	Service actions and personalization
3	Expected effect	Short-term uplift	Long-term retention and value

Using big data to forecast and reduce churn enables a shift toward preventive customer relationship management based on early signals and economically justified interventions. In the context of sustainable development, this approach supports long-term value, improves the quality of digital communications and trust, and reduces the share of operational losses associated with returns and repeated delivery. Further development of this direction involves empirically testing intervention sets across different churn-risk segments and aligning retention metrics with sustainability indicators.

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## INFORMATION SYSTEMS AND DIGITAL TOOLS IN EDUCATION MANAGEMENT

The current stage of education development is characterized by intensive digital transformation, which changes both the organization of the learning process and the management system of educational institutions [1]. The study of information systems and digital tools in educational institutions is directly related to the socio-informational foundations of *sustainable development* planning, as modern education is a key social institution that shapes human capital and provides the accumulation and use of information resources for the strategic management of sustainable societal development.

*The aim* of this article is to investigate the role of information systems and digital tools in the digital transformation of education management, in particular their impact on enhancing the efficiency of managerial processes, creating an integrated digital educational environment, and ensuring the principles of sustainable development in educational management.

Digital transformation of management in education is based on rethinking traditional management models and transitioning to data-driven systems, automation, and technological infrastructure. Universities and schools increasingly perceive digital tools not as auxiliary resources but as integral components of strategic development that determine the quality of educational processes and the institution's ability to respond effectively to external challenges.

Information systems in education are complex software and technical solutions that ensure the collection, processing, transmission, and storage of data necessary for the functioning of an educational institution. Such systems include automated university management systems, electronic journals, LMS platforms, electronic document management systems, quality monitoring services, and analytics systems. Digital tools are individual technological means (cloud services, analytics modules, communication tools) that facilitate the automation of specific management functions, such as planning, control, assessment, document flow, and decision-making [2].

The digital educational environment encompasses infrastructure, software, digital services, and user interaction within a unified ecosystem of the educational institution. Its key components are technical infrastructure (network equipment, servers, computer hardware); software infrastructure (LMS, CRM, electronic document management systems, analytical dashboards); communication tools (interaction platforms, electronic offices, resources for remote work); security and data protection systems. An important aspect is the compliance of the digital environment with modern requirements: accessibility, inclusiveness, data protection, integration of various systems, user-friendliness, and effective support of the educational process [3].

Management of education in the context of sustainable development involves balancing quality, accessibility, and long-term efficiency of educational services. Key principles include transparency and accountability of management decisions; inclusiveness of digital services; rational use of resources; personalization of the educational trajectory through analytics and adaptive systems; and environmental sustainability through reducing paper-based workflows and transitioning to cloud services. This vision aligns with the ESG concept in higher education and modern international standards of internal quality assurance [4].

Thus, digital transformation of education management is a key factor in enhancing the efficiency of educational processes and the sustainable development of educational institutions. Information systems and digital tools provide automation of management functions, data integration, analytical decision support, and process transparency.

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### CADASTRAL VALUATION OF LANDS FOR BUSINESS ACTIVITIES: INNOVATIVE ECONOMIC MODEL

Despite the considerable number of studies on various aspects of the economic model of the cadastral land valuation, currently, there is a problem in the research and development of a common methodology for the economic modeling of the cadastral land valuation for the business activity in Ukraine. The cadastral land valuation an important procedure in types of work on preparing information for the state cadastre of real estate. Thus, the main specific character of urban lands is higher value of these areas in relation to other land categories in a few times. This is due to the high degree of urbanization and invested capital costs.

The cadastral evaluation must consider the market situations and trends the most. Frequency terms of the cadastral valuation for each of land categories and groups should be reviewed and individualized. The updating term for lands in populated localities should be minimal and certainly economically justified in the context of the revaluation. The primary task of the real estate cadastre is to identify and determine each piece of real estate which is the object of taxation. Such unit can be a land plot, the land plot with a residential building or other buildings, a part of the house, such as flat, and so on (everything that the property tax can be accrued on).

Tax and rent play the most important role in the formation of budgets of all levels. In turn, they consist of the cadastral value of the property determined as a result of the state cadastral valuation. Thus, the main budget forming land category is lands of populated localities. Updating results of the state cadastral land valuation, especially lands of populated localities, is a very important process. It requires a significant upgrading aimed at improving the quality of land appraisal types of work and adequately replenishing of budgets of all levels.

During the study used methods of spatial analysis to determine the influence of the dominant factors in the value of land, which are based on the existing legislative and normative land valuation base. The formulas for calculating of the levels of the indexes of certain prevailing factors and the integrated land value index for a particular district of the settlement were derived using methods of mathematical analysis.

Normative monetary valuation of the land of settlements requires information about factors that have a significant impact on the value of the territory. For this aim, from an entire set of factors, experts determine the prevailing factors and then determine the levels of influence of these factors on the general integrated index of value of land.

Methodological aspects of the land cadastral valuation activity, organizational basis of work on the revaluation of lands and types of updating (mass-scale, complete) are considered when there is a procedure of revaluation, operational adjustments and updating of evaluation results of lands as a permanently functioning system.

According to the results of the competition held on 22.08.2010, the customer – *The State Administration of Geological Cadastre in Cherkasy region and The Department of Lands Cherkassy region* concluded a contract (as of 30.08.2010 No. 223) on the implementation of the new state cadastral land valuation in populated localities of the region. Financing of the appraisal work was conducted at the expense of the regional budget in the amount of UAH 3.5 million and at the expense of budgets of local entities (UAH 7.3 million) [1].

The evaluation of the cadastral value of lands in populated localities of the region was done in accordance with *Article 13 of the Law of Ukraine «On Land Valuation»*, by *Methods of normative monetary value of non-agricultural lands (except settlements lands)* approved by the Cabinet of Ministers of Ukraine of 23.11.2011, No. 1278 [2].

As a result of our research, it is found that the main drawback of the work on updating results of the state cadastral land valuation is the duration of time intervals between revaluation rounds because the information loses its relevance. The reason for this situation is related to the financial support and a large scale of types of the work.

The cadastral valuation must consider the market situations and trends. So, in our view, it is appropriate to update data at intervals of not less than 1 time per year (a half). Terms of frequency of the cadastral valuation for each of the categories and groups of lands should be reviewed and individualized as the existing terms «... at least once every 5 years and not more than once in 3 years ...» do not reflect the dynamics of an emerging market. For lands of populated localities the updating term in the context of the revaluation should be minimal and certainly economically justified. To summarize, it should be noted that updating results of the state cadastral land valuation, especially lands of populated localities, is a very important process. It requires a significant upgrading aimed at improving the quality of land appraisal types of work and adequately replenishing of budgets of all levels.

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## ROLE AND PLACE OF LOGISTICS IN INTERNATIONAL TRADE AND MANAGEMENT OF RELATED OPERATIONS

Logistics in international trade plays the role of a “connecting fabric” between the manufacturer, seller, carrier, financial institutions, customs authorities and the final buyer, so its place is not auxiliary, but system-forming. It is logistics that translates a trade agreement from the level of agreements into the real movement of goods, information and funds, agrees who, when and under what conditions assumes costs, responsibilities and risks. In international deliveries, the complexity increases sharply due to distances, time zone differences, seasonality of demand, infrastructure restrictions, language and legal differences, as well as requirements for safety, labeling, packaging and maintaining quality during transportation. Therefore, logistics becomes a tool for competitiveness, it makes it possible to reduce order fulfillment time, reduce total costs, increase supply reliability and maintain a stable level of service in different markets [1-2]. For a company trading internationally, well-organized logistics means predictability, transparency and control of the supply chain, as well as the ability to quickly respond to delays in ports, changes in carrier tariffs, container shortages, increased control or fluctuations in exchange rates, which indirectly affect cost and price. Therefore, the management of international trade itself is impossible without the management of logistics operations, which include demand and inventory planning, supplier selection, contract preparation, transportation organization, warehouse processing, insurance, quality control, documentation and agreement on delivery terms. A key element is the correct structuring of the parties' responsibilities through delivery terms, for example through the International Rules for the Interpretation of Trade Terms Incoterms, since they determine the moment of transfer of risks and the allocation of costs between the seller and the buyer. Next comes the choice of logistics scheme, sea, air, road or rail transport, as well as multimodal combinations, where it is necessary to synchronize schedules and transshipments, ensure compatibility of containers and packaging, book capacities in advance and take into account restrictions on dangerous, perishable or high-value goods. Inventory management is an important part, because in international supply chains, a longer delivery cycle increases the need for buffer stocks, but excess stocks freeze capital and increase storage costs. Therefore, logistics links commercial decisions, such as assortment and batch size, with operational decisions, such as shipment frequency, inventory levels and warehouse selection, as well as with financial decisions, such as payment terms, credit limits and risk insurance..

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### **MULTILEVEL GOVERNANCE AND SUSTAINABLE DEVELOPMENT OF UKRAINIAN REGIONS IN THE CONTEXT OF THE EUROPEAN COHESION POLICY**

Mechanisms for implementing multilevel governance (MLG) today require more than just a technical distribution of powers between levels of government within the public administration. Since MLG presupposes the broad involvement of representatives of the non-governmental sector in the decision-making process namely, civil society organizations, businesses, trade unions the expert community, citizen self-organizations and activists the issue of their status, competence, and governance mechanisms arises. V. Malinovsky noted that the main idea of MLG is that a complex governance system functions not only through administrative levers but also through non-

hierarchical interaction tools such as public debate, consultation, negotiation, consensus building, and work within regulatory networks [1]. This approach is enshrined in the Charter for Multi-level Governance in Europe, adopted by the European Union (EU) Committee of the Regions in 2014 [2]. The document defines MLG as coordinated action by the EU, Member States, local and regional authorities based on partnership principles and aimed at shaping and implementing EU policy. It specifically emphasizes the importance of the participation of non-state actors like business, public institutions and citizens in regional policy.

According to the State Strategy for Regional Development of Ukraine for 2021-2027 [3] the strategic goal of state regional policy is achieved through the implementation of three key objectives, one of which is the development of an effective MLG system as the foundation of the integration and regional policy of the EU. The strategic priorities for regional development through 2027 are:

- development of the institutional capacity of local governments at the regional and local levels in strategic planning, project management, digitalization and anti-corruption;
- developing human capital, restoring entrepreneurship and economic growth based on the endogenous potential of territories and regional smart specializations;
- developing MLG, aligning the regional development management system with EU procedures and best practices;
- involving citizens in decision-making at the national, regional and local levels;
- developing partnerships, fostering inter-municipal, interregional and cross-border cooperation;
- fostering regional economic development by attracting investment for innovative projects;
- restoring and developing the system of social services at the regional and local levels.

The bodies implementing the Strategy are the regional, district, Kyiv and Sevastopol city (military and military-civilian) state administrations; military (military-civilian) administrations of settlements; city, town and village councils.

A more sustainable mechanism for regional development is implemented through Cohesion Policy, one of the key policies of the EU, aimed at reducing regional disparities and ensuring the sustainable development of all territories. Cohesion policy plays a key role in strengthening MLG, a system in which management decisions are made jointly at the European, national, regional and local levels. The underlying premise is that effective regional development is only possible through partnerships between all levels of government.

Cohesion policy strengthens MLG through several key mechanisms. First, the partnership principle involves government agencies, local administrations, social partners and civil society organizations in the planning and implementation of programs financed by EU funds. Second, strategic documents such as operational programs are developed jointly by central and regional authorities, fostering a culture of cooperative governance of territorial development. Third, reporting requirements and monitoring of the use of funds foster accountability, transparency and trust between levels of government. Furthermore, cohesion policy encourages regions to create their own development strategies, in particular Smart Specialization Strategies, which enhances their autonomy and accountability.

European cooperation programs such as INTERREG, URBACT and ESPON also play an important role, facilitating the exchange of experience and the establishment of partnerships between regions of different countries. Cohesion Policy approach is relevant in the context of decentralization and European integration for Ukraine as it can serve as a model for creating an effective regional development system based on partnerships between central government, regions and communities. Ukraine is already implementing these principles through the State Strategy for Regional Development, the creation of regional development agencies and participation in the EU Interreg NEXT program. Thus EU cohesion policy is not only a financial instrument but also an effective mechanism for strengthening multi-level cooperation, increasing trust, efficiency, transparency and the effectiveness of all levels of public administration.

Based on the analysis of multi-level governance instruments being implemented in Ukraine's public administration system, we can conclude that the development of MLG is particularly relevant in Ukraine in the context of decentralization, post-war reconstruction, regional planning, sustainable development and integration into the European governance environment. A necessary condition for its effectiveness is the development of institutions of trust, strengthening the culture of partnership and increasing the capacity of regional development institutions.

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### COST AND SERVICE MANAGEMENT BASED ON STATISTICAL ANALYSIS

Integrating statistical tools into cost and service management has become a key part of good governance in the hotel and restaurant industry. Statistical monitoring of financial performance allows businesses to systematically collect, interpret and apply financial data, supporting well-informed managerial decisions. By utilising statistical information, hospitality businesses in Ukraine can assess their financial condition more accurately, evaluate operational efficiency, and reinforce their competitive position. In this context, financial statistics serve as an analytical basis for optimising service quality while ensuring cost control and long-term sustainability.

An increasing amount of academic literature highlights the growing importance of statistical methods in managing costs and improving service delivery in the hospitality sector. Researchers have analysed the financial performance of Ukrainian hotels and restaurants in recent years, identifying major operational challenges and demonstrating how statistical indicators can help address them. Particular attention is given to financial metrics, such as profitability ratios, liquidity indicators and cost structures, which are essential for effective strategic planning. These studies confirm that statistical analysis serves as a tool not only for retrospective assessment, but also for predictive modelling and service optimisation.

The hotel and restaurant industry remains one of the most dynamic sectors of the national economy, providing vital services to tourists and locals alike. Managing enterprises in such an environment requires a systematic approach based on accurate data collection and advanced statistical tools. Financial statistics play a central role in helping managers to understand the interaction between costs, service quality, market demand and operational processes.

Statistical accounting of income and expenses encompasses several core components. One of the key elements is financial accounting, which provides data on revenues, expenditure, cash flows and assets. Based on these records, enterprises can evaluate profitability, liquidity, solvency and other performance indicators. Another essential component is financial analysis, which enables managers to identify relationships within the financial structure, detect operational weaknesses, and develop cost-efficient strategies. For example, if an enterprise observes a decline in revenue due to changing consumer demand, statistical financial analysis can help managers adjust pricing strategies, revise the product range or improve service delivery in order to maintain profitability.

A fundamental statistical accounting tool is the system of statistical reports, which are used to evaluate service performance, monitor internal processes, and forecast financial outcomes.

According to Ukrainian legislation, enterprises must compile a balance sheet and a statement of financial results, both of which provide valuable information for managing costs and services.

These reports help managers to evaluate profitability, assess financial stability and plan future activities. For instance, changes in costs reflected in financial statements may prompt decisions regarding production expansion, the introduction of new services, or cost restructuring.

However, despite the importance of statistics, many Ukrainian service enterprises struggle to apply statistical tools effectively. The most significant issues include insufficient accounting system development, a lack of qualified personnel, outdated software solutions and a weak analytical culture. Some managers do not fully understand the value of financial analysis, which reduces the efficiency of the decision-making process as a whole. Furthermore, low levels of automation hinder the timely processing of data and increase the likelihood of errors.

In today's climate, the importance of statistical analysis in cost management and service optimisation is growing. Statistics support retrospective evaluation and enable forecasting, strategic planning and risk reduction. However, enterprises still face several obstacles that limit their utilisation of statistical tools.

To integrate statistical analysis more effectively into cost and service management, enterprises must take the following measures: improve staff qualifications by providing training in financial management and statistical analysis; implement comprehensive systems for data collection and financial reporting; expand the use of modern software and analytical platforms; conduct ongoing market and competitor analysis to align pricing and service strategies with customer expectations; engage professional consultants and auditors to support strategic financial decisions.

Additionally, enterprises must consistently monitor financial indicators, update operational strategies, evaluate product and service profitability, develop cost-optimisation plans and leverage competitor data to strengthen their market position.

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### TAXATION OF BUSINESS ACTIVITIES IN UKRAINE IN CONDITIONS OF UNCERTAINTY

The strategic objective in conditions of uncertainty in Ukraine is to strengthen the coordination of efforts of state authorities and business entities to ensure national security and the effective functioning of the economy[1]. Despite the increasing level of unpredictability that Ukraine faces, in an attempt to rebuild its economy in a war-torn country, it is important to develop a constructive financial mechanism for rebuilding the country now.

An important task of Ukraine's reconstruction is to improve the quality of the business taxation system. This involves not only modernizing the components of this system and its instruments, but also forming transparent and predictable rules for business entities. An important

task is to implement a tax policy that contributes to both the transition of the economy from the shadow sector to the legal space and the stimulation of business activity, provides support and creates conditions for the development of small and medium-sized businesses.

The strategic objectives according to the National Revenue Strategy until 2030 include: “ensuring macroeconomic and financial stability by maintaining the level of revenue mobilization and reducing the need for external financing; ensuring the adaptation of Ukrainian legislation to EU legislation and the fulfillment of Ukraine's international obligations in terms of customs and tax policy and administration; strengthening integrity and trust in regulatory bodies through strengthening anti-corruption measures and increasing the transparency and efficiency of management procedures; increasing the level of compliance with tax and customs legislation by taxpayers and regulatory authorities; creating and implementing modern digital solutions for tax and customs administration”[2].

A key element of the "National Revenue Strategy until 2030" is the reform of the simplified taxation system, in particular by gradually expanding the tax base and increasing the level of the tax burden for business entities. It is planned to: optimize individual entrepreneurs of group 1, introduce a ban on the use of the simplified taxation system for legal entities; mandatory registration by VAT payers upon reaching a turnover of 1 million UAH per year; increase single tax rates; automate the acquisition of entrepreneur status; merge the 3rd group of individual entrepreneurs of the simplified system with the 2nd group; increasing rates for the fourth group and expanding the tax base; introducing a progressive tax scale for personal income tax; increasing excise duties on fuel, alcohol and tobacco products to a level that meets the EU minimum rates.

At the same time, in conditions of martial law, it is important to ensure synergy between the flexibility of the taxation mechanism for business entities and the predictability of the level of the tax burden. The flexibility of the taxation mechanism for business entities lies in the ability of tax authorities to promptly respond and adapt to economic changes and state fiscal needs, while ensuring the appropriate level of support for economic activity.

A flexible mechanism for taxation of business entities will allow synchronizing the strategic task of forming the revenue part of the state budget with the economic stimulation of business activity. The predictability of the level of the tax burden will ensure the creation of conditions under which business entities will be able to plan their activities efficiently and minimize risks.

Publicity and transparency of tax policy will allow business entities to predict tax liabilities. Therefore, the flexibility of the taxation mechanism for business entities, on the one hand, and the predictability of the level of the tax burden, on the other, will help ensure long-term financial stability. An important task is the implementation of a modern information and communication system for the administration of taxes and fees. Electronic offices, online income declaration, and automated generation of reports on the payment of taxes and fees will help reduce the administrative burden. At the same time, the use of automated models will increase the efficiency of control over the correctness of the calculation and payment of taxes and fees.

Thus, the mechanism for taxation of business activities under martial law must be both flexible and strategically oriented. Its effectiveness will be determined by the ability of state authorities, on the one hand, to ensure fiscal stability, and on the other, to create conditions to support the economic activity of business entities.

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## **PROSPECTS AND CHALLENGES FOR THE DEVELOPMENT OF RURAL GREEN TOURISM IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT**

Rural green tourism is considered an important tool for ensuring sustainable socio-economic development of rural areas worldwide. Its significance lies not only in meeting the recreational needs of the population, but also in addressing a number of key issues related to improving the quality of life of the rural population, stimulating economic activity, preserving the natural environment and cultural heritage, and creating a favorable social climate in communities. Thanks to its ability to combine economic efficiency, environmental balance, and social inclusiveness, rural green tourism is an important component of implementing sustainable development principles at the regional level.

Ukraine has significant potential for the development of rural green tourism, but its implementation remains insufficiently active. Despite general positive developments in the field of tourism, agritourism has not yet taken its rightful place in the structure of the national tourism product. Its development is strategically important in the context of rural revitalization, as it contributes to reducing unemployment, increasing the income of the local population, preserving cultural and historical identity, and forming self-sufficient and viable communities.

Rural green tourism is a tool for sustainable development of rural areas, combining economic, environmental, and social aspects. It is a form of recreation based on the use of the natural, cultural, and historical potential of villages, ensuring the harmonious development of regions as a whole. In many countries around the world, rural green tourism is an integral part of the comprehensive development of rural areas. This is due to its multifunctional importance for the economic development of rural settlements. Rural green tourism is an important factor in reducing unemployment, creating conditions for the realization of the entrepreneurial and self-employment potential of the rural population, increasing the profitability of local budgets, and stimulating the development of social infrastructure.

Rural green tourism expands the scope of employment for the rural population and provides villagers with additional income, expanding employment opportunities not only in the manufacturing sector, but also in the service sector. Experience also shows that small businesses engaged in rural green tourism differentiate their core activities in order to maximize the satisfaction of vacationers' needs: improving the structure of crops in their gardens, expanding the fruit and vegetable segment, feeding domestic animals, setting up greenhouse farming, hunting, beekeeping, fishing, animal husbandry, and floriculture. The social and economic advantages and results of the functioning of small rural green tourism enterprises include the fact that its development encourages the improvement of rural housing, streets, rural settlements, and territories and stimulates the development of social infrastructure [1, p. 29].

Among the key barriers to the development of rural green tourism in Ukraine are the low level of promotion of the country's tourist image, limited information support for rural locations, the lack of effective mechanisms for involving local residents in tourism activities, and insufficient integration of tourism into local development strategies. At the same time, current challenges, in particular the COVID-19 pandemic, war, and the transformation of consumer behavior patterns, have created a need to adapt tourism services to new realities. In such conditions, there is a growing demand for domestic tourism focused on environmentally friendly areas, outdoor recreation, and authentic cultural practices [2, p. 83].

For the effective development of rural green tourism, it is necessary to implement an integrated approach that combines institutional, economic, and regulatory mechanisms. The priorities should be: developing regional programs to support agritourism, creating a favorable environment for entrepreneurial activity, improving legislation, introducing preferential lending, providing grant support and tax incentives for entities providing tourism services in rural areas.

An important element in ensuring the sustainability of processes is the active participation of the local population in managing tourism development, which allows for strengthening social support for initiatives, increasing the level of local identity, and promoting the diversification of the economy of rural communities. In this way, rural green tourism can become a catalyst for sustainable development in these areas, integrating environmental responsibility, social justice, and economic viability.

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### INTEGRATION OF LOGISTICS AND FOREIGN ECONOMIC STRATEGY AS A BASIS FOR COMPANY'S SUSTAINABLE OPERATIONS IN GLOBAL ENVIRONMENT

The integration of foreign economic activity and logistics policy is becoming strategically important for manufacturing companies focused on long-term competitiveness. Since the smooth operation of the production cycle depends heavily on the regular import of components, technological equipment, and materials, coordinated management of international operations and logistics processes reduces the risks associated with supply disruptions, price volatility, and time losses resulting from customs and other cross-border delays. The formation of a single management system for export and import flows contributes to cost optimization, increased operational stability, and the formation of a stable position for the enterprise in global markets.

Publications by foreign authors confirm the significant impact of logistics strategy on the formation of competitive advantages. As noted in [1], the synergy of these areas makes it possible to increase consumer value by personalizing service, varying delivery parameters and payment terms, and flexibly tailoring logistics offerings to the requirements of individual market segments. For Ukrainian companies, mastering these competencies is an important prerequisite for expanding their presence in EU markets and effectively utilizing the opportunities offered by the free trade agreement. As evidenced by the results presented in [2], when developing their own logistics strategies, companies mainly focus on the basic strategic models proposed by M. Porter. In the logistics sphere, these approaches have evolved into the concepts of “lean” and “agile” logistics. These concepts are not mutually exclusive: combining them allows for maintaining both internal operational efficiency and the flexibility of external logistics solutions, using various management mechanisms and process models. The paper [3] emphasizes that in conditions of growing instability caused by global crises, variability of market conditions, and geopolitical uncertainty, the central task of enterprises is to ensure the stability of supply chains. This requires the implementation of an appropriate logistics strategy that includes investments in supply chain flexibility, the formation of partner ecosystems, inventory management, the development of production capacities, the harmonization of the portfolio of suppliers and products, the diversification of the geographical structure of production, as well as nearshoring and multisourcing practices.

The process of developing a logistics strategy, as stated in [4], involves a series of interrelated stages: defining the logistics mission, setting strategic goals and objectives, analyzing the internal and external environment, forming strategic decisions, and implementing the chosen model. At the stage of setting strategic goals, it is important to define a system of quantitative indicators that more accurately reflect the specifics of logistics processes and allow for an objective assessment of the

degree to which the target parameters have been achieved. Strategy formation comprises three key stages: planning, monitoring, and regulation. At the planning stage, the optimal configuration of the logistics system is selected, considering forecast demand, technological constraints, and available competencies. Monitoring ensures early detection of threats that could critically affect the achievement of strategic goals. At the adjustment stage, the strategy is adjusted by applying organizational and functional measures that minimize the negative impact of destabilizing factors and restore the consistency of strategic parameters. The coordination of logistics and foreign economic strategies is crucial for the formation of an effective enterprise management system in a globalized environment. The coordination of international supply operations allows for the control of flows, reduces costs, speeds up order fulfillment, and improves service reliability. At the same time, integration increases the adaptability of the enterprise to external shocks through the ability to flexibly adjust logistics routes, distribution channels, and inventory management policies.

In the long term, such an integrated model contributes to the formation of sustainable competitive advantages, ensuring a balance between the cost and quality of international logistics services, the development of a flexible supply and distribution infrastructure, and the implementation of innovative solutions in the field of global value chain management. This enables companies not only to maintain efficiency in the short term, but also to develop the potential to respond proactively to global trends, providing a basis for expanding their international presence. Therefore, the integration of logistics and foreign economic strategies is a key prerequisite for improving the efficiency, sustainability, and long-term competitiveness of manufacturing enterprises.

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## INTERNET MARKETING FOR THE RESTAURANT BUSINESS

Internet marketing in the restaurant industry has its own specifics, as it is focused not only on sales, but also on creating an image, forming customer loyalty and retaining regular visitors. The main goal of digital marketing for restaurants is to ensure a stable flow of guests, strengthen the brand's reputation and increase the level of recognition of the establishment in the local community.

Features of online marketing for the restaurant business:

1. Local focus. Restaurants are primarily focused on a specific geographical region. Therefore, it is important to use local SEO, Google Maps, and targeting by place of residence or stay of users.

2. Visual component. Visual content is critically important for the restaurant business - photos and videos of dishes, interior, and atmosphere of the establishment. This increases the emotional engagement of users.

3. Reputation Reliance. Online reviews, ratings, and posts on platforms (Google, TripAdvisor, Instagram, Facebook) directly influence customer choice, so reputation management (SERM) is an important component.

4. Customer communication. Interaction through social networks, chats, and messengers helps to build trust with visitors, respond quickly to their requests and feedback.

5. High role of mobile traffic. Most users search for restaurants via smartphones, so the website and social media pages should be adapted for mobile devices.

6. Seasonality and dynamics of demand. Restaurants often face changes in demand depending on the season, events or holidays, so marketing campaigns must be flexible and change quickly.

Basic online marketing tools for restaurants:

1. SEO (search engine optimization). Optimizing the establishment's website for search engines with a focus on local queries ("restaurant near me", "where to eat in [city]"). It is important to maintain up-to-date information on Google Business Profile, cartographic and thematic platforms.

2. SMM (social media marketing). The most popular platforms for the restaurant business are Instagram, Facebook, TikTok. They are used to create visually appealing content, promote promotions, raffles, menus, customer reviews, and communicate with the audience.

3. Targeted advertising. Used to attract new customers and promote special offers. Targeting is carried out by place of residence, age, interests (for example, "gastronomy", "wine", "coffee shops").

4. Contextual advertising (Google Ads). Allows you to show ads to users who are searching for restaurants or certain cuisines. This is effective when opening new establishments or promoting seasonal menus.

5. Email marketing and CRM. Sending newsletters with news, promotions, and holiday offers helps maintain contact with regular guests and encourage repeat visits.

6. Content marketing. Publishing thematic articles or videos: the history of the dish, chef's tips, cooking master classes. Such content builds brand expertise and increases audience trust.

7. Online reputation and review management (SERM). Monitoring comments and reviews on Google Maps, TripAdvisor, Facebook, Instagram. Timely response to negative comments helps strengthen the image of the establishment.

8. Affiliate programs and collaborations. Cooperation with bloggers, local guides, delivery services or other brands can significantly expand the audience.

Effective online marketing of the restaurant business combines creativity, emotion and technical analytics. Success is achieved through a combination of high-quality content, convenient digital services, active communication with customers and systematic work with online reputation. This approach allows you to create a unique digital image of the restaurant, increase brand recognition and ensure a stable flow of guests.

Internet marketing in the restaurant business is a multi-channel system that combines aesthetics, emotions and digital technologies. It helps not only to promote products, but also to create a unique experience of communication with the brand, which forms trust, loyalty and a desire to return again.

In Ukraine, SMM marketing has gained considerable popularity, and the main platforms for promoting brands remain Facebook and Instagram. These social networks are the most effective channels of communication with the audience for restaurant businesses.

Thus, the digital strategy in the restaurant business in Ukraine should be based on a comprehensive approach that combines SMM, content marketing, analytics, and personalization of customer interaction. This ensures sustainable brand development, strengthening its market position, and increasing the profitability of the enterprise.

It is important to understand that the Internet has created a digital environment where restaurant businesses can easily create useful content and share it with the world. This creates an opportunity for both small cafes and large restaurants to find their ideal customers. With the help of a media marketing tool, even entrepreneurs with minimal digital literacy can most effectively

promote their business on the Internet, effectively communicate with their target audience, and remain true to their brand.

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## **DIGITAL PLATFORMS AND DATA-DRIVEN DECISION MAKING AS TOOLS FOR SUSTAINABLE LIVESTOCK MARKET DEVELOPMENT**

The livestock sector remains one of the foundational pillars of global food security, nutrition, and rural livelihoods. However, traditional methods of record-keeping and decision-making in livestock enterprises – often based on paper documentation, manual logs or dispersed spreadsheets – increasingly prove inadequate in the context of growing market complexity, regulatory demands, and consumer expectations for transparency. This results in fragmented data landscapes, delays in decision-making, limited visibility into production processes, and reduced ability to forecast market trends or respond swiftly to risks (e.g., disease outbreaks, climate stressors). At the same time, ongoing digital transformation worldwide offers powerful tools that can address these challenges. The recent launch of the Food and Agriculture Organization of the United Nations (FAO)'s LSIPT web application demonstrates a shift toward data-driven sectoral strategy: this platform enables modelling the future of the livestock sector over decades, forecasting key indicators such as animal populations, production, income, and vulnerability – and simulating effects of shocks like droughts, disease or investments[1].

For livestock producers – especially in small and medium-sized farms – digital platforms can aggregate dispersed data, enabling more informed management decisions. Case studies show that digital data platforms designed for agriculture provide valuable decision-support systems, lowering barriers for smallholders and improving resource allocation, productivity, and sustainability[2].

Despite this potential, the adoption of digital technologies in livestock farming remains uneven. As highlighted by recent reviews, many tools are still experimental, data-sharing standards are underdeveloped, and small or medium enterprises often lack resources, digital literacy, or institutional support to implement them effectively[3].

The integration of digital platforms into the strategic management processes of livestock enterprises represents a critical shift toward evidence-based, adaptive, and market-oriented planning. Modern strategic management models emphasize the central role of data – not only for operational control but also for long-term forecasting, scenario planning, risk mitigation, and resource optimization. Digital tools enable managers to continuously collect, process, and analyze large volumes of production, financial, environmental, and market data, which enhances the ability to detect trends, identify bottlenecks, and adjust strategies accordingly.

Empirical studies underline that such “smart” farming solutions (commonly referred to under the umbrella of Precision Livestock Farming, PLF) significantly enhance productivity, animal welfare, and sustainability. For example, a recent review highlights that advanced sensing systems, combined with analytics, allow continuous real-time monitoring of livestock, enabling early detection of health issues, optimization of feeding and reproduction, and reduction of environmental footprint – transforming reactive management into proactive, data-driven governance[4].

The transition toward digital platforms and data-driven decision-making is becoming a fundamental prerequisite for the sustainable development of the livestock market. By integrating advanced information systems, IoT-based monitoring solutions, and analytical tools into strategic management processes, enterprises enhance operational transparency, improve resource efficiency, and strengthen the resilience of supply chains. Digitalization not only supports higher productivity and animal welfare but also enables the formation of innovative business models grounded in

accurate, real-time data. As a result, livestock enterprises gain stronger competitive advantages and contribute more effectively to the broader goals of sustainable economic and social development.

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### THE IMPACT OF PR MANAGEMENT AND OFFICE MANAGEMENT ON THE FORMATION OF A POSITIVE IMAGE AND INFORMATIONAL STABILITY OF AN ORGANIZATION

The formation of a sustainable image and the maintenance of informational stability are key conditions for the effective development of modern organizations. While external communications shape the public's perception of the company, the internal organization of processes ensures consistency in managerial decisions and the quality of interaction between departments. The combination of these two areas-stakeholder engagement and the rational organization of the internal environment-creates the foundation for cohesive and predictable organizational activities. For this reason, studying the role of PR and office management in supporting reputational and informational stability is highly relevant in the context of contemporary challenges and a competitive environment.

Within the system of marketing communications, PR activities serve as an essential supportive process that complements the core business functions. A public relations specialist in a commercial organization focuses on ensuring the effective implementation of marketing strategies and promotional plans. This does not imply a diminished role for PR; on the contrary, it acts as an equal component of the communication system, with clearly defined tasks and responsibilities. Moreover, developing a high-quality marketing strategy or business plan is practically impossible without taking into account the specifics of PR communications [1, c.14].

Office management occupies a significant role within an organization's management system, as it largely determines the efficiency of its daily operations. Its functions are aimed at creating comfortable material and technical conditions, maintaining proper hygienic standards, and fostering a favorable psychological climate for the effective work of managerial personnel. One of the key areas is the organization of information and documentation support, which ensures coordinated interaction among all structural units. Within the scope of office management, planning, organization, coordination, motivation, development, and control of the activities of auxiliary departments-such as the secretariat, administrative and housekeeping services, and courier service-are also carried out, supporting high-quality internal communication and contributing to improved managerial efficiency [2, c.73-76].

The synergy between PR and office management is manifested in the interaction of external communications with the internal organizational structure, enabling the creation of an effective information management system at all levels. The PR function is responsible for shaping a cohesive organizational image, promoting corporate values, and responding promptly to external informational challenges. Office management ensures the proper organization of work processes, documentation control, and coordination between departments, guaranteeing clarity and transparency of internal information flows. Together, these two areas form a unified communication ecosystem, where external messages and internal processes complement each other, enhancing the efficiency of managerial decisions and strengthening organizational stability in a dynamic information environment.

It is also important to note that the synergy of PR and office management contributes to more efficient use of organizational resources. Coordinated work between external and internal communications helps avoid duplication of information flows, reduces the time required for data processing, and improves the quality of decisions made. Furthermore, the joint activity of these areas fosters a culture of transparency and accountability, where each unit understands its role in achieving corporate objectives. This integrated approach not only increases staff productivity but also strengthens the organization's market position, providing competitive advantages through effective communication and coordinated operation of all services.

The coordinated interaction of PR and office management enables the organization to develop harmoniously, as external communications are supported by well-structured internal processes. This approach enhances brand trust, optimizes information flows, and contributes to the stability of managerial decisions. Integrating these areas allows the organization to adapt to changes, minimize risks, and maintain consistent information exchange both within the team and in relations with the public. This creates a solid foundation for long-term development and competitiveness.

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#### **SOME ASPECTS OF BUILDING AN INCLUSIVE INFORMATION SPACE BASED ON DIGITAL PLATFORMS**

Modern digitalization of the state offers unprecedented opportunities for economic growth, social development, and improving the quality of life. At the same time, it brings the risk of making existing inequalities worse. Building an inclusive information space based on digital platforms is becoming a critical aspect. This requires using universal design principles and ensuring accessibility for people with disabilities, especially since services are mostly provided through digital platforms.

A key element of an inclusive information space is the technological accessibility of digital platforms. This means that people with different types of disabilities (vision, hearing, motor, cognitive) must be able to effectively perceive, understand, and interact with digital content and interfaces.

The foundation for systemic changes in inclusivity was the "National Strategy for Creating a Barrier-Free Space in Ukraine until 2030," initiated by First Lady Olena Zelenska [2]. This initiative set the tone for the entire public and private sector and defined digital accessibility as a

priority area.

An important step in building an inclusive digital space was the adoption and implementation of international guidelines for web content accessibility (WCAG). The Cabinet of Ministers of Ukraine passed Resolution No. 757, which requires government bodies to follow the new state standard DSTU EN 301 549:2022, which mirrors European norms. Also, in November 2025, the Government approved a bill that extends digital accessibility requirements to private businesses in key sectors: banking, transport, e-commerce, medicine, education, and telecommunications [1].

The state enterprise "Diia" became the first company to implement and control the building of an inclusive digital space. The first state Competence Center for digital accessibility was created at "Diia," which conducts audits and training for other government agencies.

Digital platforms transform the physical world, making it more accessible. To ensure inclusion, it is necessary to invest in the digital literacy of both users and developers in the future. Educational programs must be developed for different target groups (elderly people, residents of remote areas, persons with disabilities) to teach them how to use digital platforms safely and effectively. This should include understanding the interface, navigation, and cybersecurity rules.

Modern digital platforms must implement effective mechanisms to moderate content that spreads hate or discrimination based on any signs. It is necessary to ensure transparency and control over data use for all users, especially vulnerable groups, and to promote a culture of respect and understanding in online communities.

Currently, in the conditions of war, the Ukrainian IT sector has turned inclusion from a marketing move into a technological standard and a vital necessity. Based on the state strategy and European norms, "Diia" and private businesses, such as Uklon, are creating a barrier-free environment where digital solutions really improve physical life and integrate people into society.

Therefore, building an inclusive information space based on digital platforms remains a complex, multi-sided process. It requires coordinated efforts from the state, the private sector, civil society, and international organizations. Digital platforms should act as a tool and a powerful driver for social equality, legal accessibility, political will, as well as overcoming the digital gap and increasing literacy.

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#### **STRESS RESEARCH IN THE COMPANY TO ACHIEVE SUSTAINABLE DEVELOPMENT GOALS**

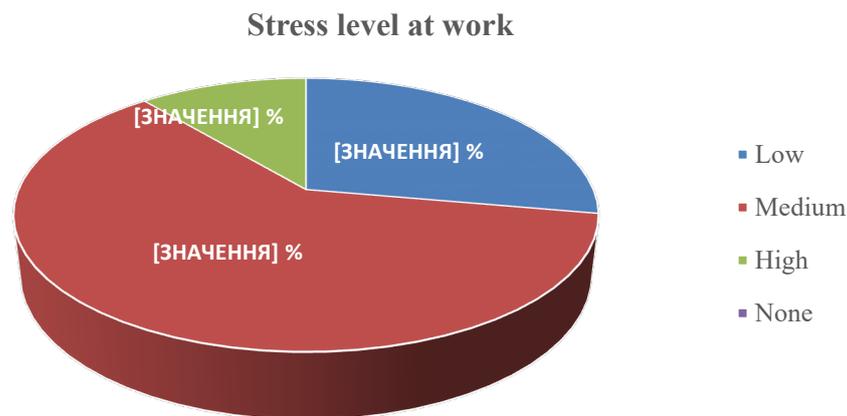
Stress, according to scientists, is characterized by multifacetedness and is a set of external challenges (mental and physical) that the body experiences, as well as the biological and pathobiological changes caused by them [1, c.21].

According to the results of Gradus Research [2], 53% of surveyed office workers in European countries have experienced stress recently (surveyed residents of big cities who currently work in offices in the production of goods/services or retail business in 7 European countries with the largest economies: Germany, France, Italy, the United Kingdom, Spain, the Netherlands and Poland). The top 5 main factors that cause stress in employees include work, financial issues, family relationships, personal health, and the socio-political situation in the country.

At work, risks to mental health (psychosocial risks) [3] may be related to job content or work schedule, specific characteristics of the workplace or opportunities for career development etc. The World Health Organization is committed to improving mental health at work, in particular “The WHO global strategy on health, environment and climate change» [4] responds to and it is in line with the 2030 Sustainable Development Agenda and the GPW13.

The work conducted a socio-psychological survey of employees of Vivat Publishing LLC [5] in order to identify the main prerequisites for the emergence of conflicts, stress factors and assess the psychological climate.

The results of the survey allowed us to identify the level of stress (Figure 1) and the main stress factors that can lead to aggravation of interpersonal relationships, disruption of communication and the formation of conflict situations during work. The data obtained became the basis for developing priority areas for improving the conflict management system within the studied enterprise.



**Figure 1.** Stress assessment at Vivat Publishing

Analysis of the survey results indicates that the majority of respondents (61.1%) experience an average level of stress at work, 27.8% assessed it as low, and 11.1% as high. The option “no stress” was not chosen by any of the respondents, which indicates the presence of a certain emotional load in all study participants.

This emphasizes the feasibility of implementing preventive measures to reduce stress levels and increase the psychological resilience of the company's personnel to ensure sustainable development goals.

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### **STRATEGIC ASPECTS OF INCREASING THE COMPETITIVENESS OF INDUSTRIAL ENTERPRISES WITHIN THE FRAMEWORK OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT**

The competitiveness of an enterprise is an integral characteristic of its ability to ensure long-term profitability and maintain a market position, which is achieved through the effective use of all types of resources and continuous improvement of key business processes [1, 2]. In conditions of military aggression, disruption of logistics chains and critical growth of risks, traditional approaches to assessing and ensuring competitiveness (through matrix models and the choice of a classical strategy) become insufficient. It is necessary to develop strategic imperatives that combine elements of anti-crisis management, reengineering and market diversification. The purpose of this study is to substantiate and develop a system of practical recommendations aimed at restoring and increasing the competitiveness of an industrial enterprise in conditions of deep economic instability, which is considered on the example of PrJSC «SUKHA BALKA».

Analysis of the activities of PrJSC «SUKHA BALKA», one of the key enterprises of the Kryvyi Rih Iron Ore Basin, for the period 2021–2024 revealed a systemic crisis caused by a combination of military risks and internal operational problems. Financial analysis showed a significant drop in production and financial indicators: the volume of commodity ore production decreased by 66% (from 2,697.4 thousand tons in 2021 to 917.0 thousand tons in 2024). This inevitably led to a decrease in net income by 65.52% and, as a result, to a net loss in 2024, which reached -333,856 thousand UAH.

Operational efficiency diagnostics revealed a critical shortage of human capital, which is the main limiting factor in the resumption of production: the number of personnel decreased by more than 50%. This, along with the increase in debt load (the financial leverage ratio exceeded 1.01), creates an extremely high financial risk. At the same time, the company retains an important competitive advantage - the high quality of iron ore raw materials (iron content in ore at 59%), which remains in demand in the markets of Central and Eastern Europe (CEE).

Based on the diagnostic results obtained, it is justified that the only effective way to overcome the crisis is to implement an integrated anti-crisis strategy, which covers four priority areas: financial optimization, restoration of production potential, strengthening foreign economic activity (FEA) and human capital management.

The main measures aimed at increasing competitiveness are:

1. Implementation of LEAN management and functional cost analysis (FCA). This measure is critical for the immediate restoration of operating profitability. It allows for a targeted reduction in the specific cost of ore by eliminating losses in the processes of mining and ore preparation, which is a key tool for anti-crisis cost management. The projected economic effect of reducing fixed and variable costs thanks to the LEAN system is estimated at UAH 111,645 thousand.

2. Technological modernization to compensate for the personnel shortage. Since a rapid restoration of the number of personnel is impossible, it is necessary to prioritize financing mining and preparatory work (GPR) and introduce automated transportation systems in underground conditions. This will increase the productivity of the remaining specialists and partially compensate for production losses.

3. Optimization of foreign economic activity. In conditions of disrupted logistics routes, it is important to reorient and protect key sales markets in CEE (in particular, the Czech Republic and Hungary), maximizing income at the expense of the short-term market niche that arose due to the displacement of Russian competitors. The economic effect of optimizing the sales structure and concluding long-term contracts is estimated at 217,250 thousand UAH.

4. Improving the motivation system. The development of a flexible and competitive bonus system is necessary to retain qualified engineering and technical personnel and experienced workers, the absence of which directly leads to a decline in production.

The total economic effect of implementing these measures is 328,895 thousand UAH. The application of this integrated approach allows the enterprise to almost completely eliminate the net loss in 2024, reducing it to a minimum level. Thus, the implementation of the proposed strategy is a strategic imperative that ensures the achievement of the break-even point, restores financial stability and lays the foundation for further investment development after the stabilization of the economic situation.

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### **MENTAL HEALTH AND PSYCHOLOGICAL WELL-BEING OF THE UKRAINIAN NATION IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT PROBLEMS**

The life of a modern person is filled with a large number of difficult situations related to the choice of a way to solve various life difficulties, psychological problems and conflicts. Every person inevitably faces the need to overcome difficult situations throughout his life. In the conditions of martial law in Ukraine, the basic needs of the individual for security, comfort, stability, the ability to satisfy the needs for sleep, food, hygiene are violated. The individual also suffers many losses, cannot plan his future and control his life in conditions of uncertainty. This leads to a decrease in the level of mental health, the ability to adapt to new environmental conditions, etc.

The term "psychological well-being" is considered in many psychological studies [1, 2, 3]. The theoretical foundations of understanding and interpreting the phenomenon of psychological well-being were laid by the studies of M. Bradburn, who interpreted it as a subjective perception of

happiness and general satisfaction with life. In his opinion, well-being is associated with self-esteem and a sense of social belonging, and not with the biological functions of the organism, and also depends on the realization of the physical, spiritual, social and material potentials of the individual [1].

Psychological well-being is also considered as the result of personal development and self-improvement. The personality, changing itself, affects the world around it, thus achieving internal harmony (K. Riff, E. Deci, R. Ryan). K. Riff developed her own theory, taking into account the analysis of concepts related to positive personality functioning (A. Maslow, C. Rogers, V. Gordon, C. Jung, E. Erikson) and identified six interrelated indicators of positive functioning [2].

*Autonomy* is considered as the ability to resist social pressure, independence in self-assessment and evaluation of one's own behavior, as well as self-regulation skills. This aspect allows the individual to act in accordance with their values and beliefs, without succumbing to external influences. *Environmental management* involves the ability to overcome difficulties in achieving their goals, the ability to achieve the goal, which is important for the implementation of personal and professional goals. *Positive relationships* with others include the ability to sympathize, empathize, and be flexible in dealing with people. This influences the formation of trusting relationships, which is important for social support and overall well-being of the individual. Having a *purpose in life* allows one to experience the meaning of one's existence, which includes the values of the past, present, and future. A purpose in life provides direction and motivation, which contributes to psychological well-being and the experience of well-being. *Personal growth* includes the desire for self-development and personal progress. It is about learning, self-improvement, and achieving success in various areas of life. *Self-perception* is viewed as the awareness of one's own qualities, abilities, and shortcomings, as well as the evaluation of oneself within the framework of social interactions [2, 3].

Psychological well-being of an individual is a complex characteristic of a person that is formed in the process of his life activity, includes a subjective feeling of happiness, meta-needs, transcendental aspects, as well as individual and interpersonal components that should be considered through the prism of satisfaction and as a result of personal growth and development. Psychological well-being is manifested in a feeling of meaningful life and contributes to the realization of one's own individual psychological capabilities to achieve both personal and social goals. The basis of psychological well-being and mental health of an individual is the ability to comprehend one's own existence, which is associated with the problem of choice and "existential fulfillment".

Psychological well-being and mental health are not a given, not a gift, but the result of a person's deep work on themselves, which becomes especially relevant during the war in Ukraine. Psychological support, the formation of strategies for overcoming stress, the formulation of the purpose of life in new conditions, "existential fulfillment" are extremely important for the health of the nation.

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## **RISK MANAGEMENT OF AGRARIAN ENTERPRISES AS A BASIS FOR ENSURING SUSTAINABLE DEVELOPMENT**

The agrarian sector of Ukraine is one of the key drivers of the state's economic development; however, its activity is accompanied by a high level of risks that directly affect the financial results and sustainability of enterprises. Ensuring the sustainable development of the agricultural sector requires strengthening economic security and resilience to external threats [1].

The most significant are natural-climatic risks caused by weather anomalies, droughts, floods, and other manifestations of climate change, which cause yield fluctuations and income instability for producers. These factors threaten the stability of the socio-economic system of the region. Economic risks are formed under the influence of instability in product and resource prices, exchange rate changes, tax policy, and the cost of credit resources, complicating the strategic planning of sustainable development for agrarian enterprises [2].

Production risks related to the technical condition of machinery, violations of technological processes, and labor organization shortcomings lead to increased production costs and resource overconsumption [3]. Market risks, manifested in demand fluctuations and logistical constraints (especially in war conditions), reduce financial stability [4].

Improving the efficiency of agrarian enterprises in the context of sustainable development is possible through the use of risk management tools: implementation of agricultural insurance systems, production diversification, and the application of innovative technologies. Research confirms that digital technologies for soil monitoring and precision farming optimize resource use, increase the economic efficiency of agricultural production, and reduce the negative impact of risks on profitability [5].

Consequently, the level of profitability and sustainability of agrarian enterprises largely depends on their ability to timely identify risks and adapt to the dynamic conditions of the external environment. Forming an effective risk management system is a necessary condition for ensuring financial stability and the sustainable development of the agrarian sector.

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## **HUMAN CAPITAL AND DEMOGRAPHIC ASPECTS IN ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS**

The topic of human capital and demographic aspects of sustainable development is crucial in modern economics and social policy. Human capital encompasses the knowledge, skills, health, education, and competencies of individuals that enhance labor productivity and drive economic growth. It is regarded as the primary factor in innovative development, the knowledge economy, and achieving the UN Sustainable Development Goals by 2030 [1]. Demographic factors, such as changes in population structure – including birth rates, mortality, migration, and aging – directly impact the formation and utilization of human capital, presenting both opportunities and challenges.

Human capital is built through diverse investments. According to Gary Becker's theory [2], it is not merely labor but "capital" that generates income and supports long-term growth. Becker likened education to purchasing machinery: a firm invests in equipment to boost productivity, just as individuals or societies invest in people to enhance their output. He estimated the rate of return on education – for instance, higher education in the US during the 1960s yielded 10–15% annual returns, often surpassing investments in stocks or real estate. In the context of sustainable development, this theory underscores that without investments in people, demographic challenges will lead to stagnation rather than dividends.

Investments in human capital span the entire life cycle and include education, healthcare, professional development, social protection, migration, and child-rearing as contributions to future capital. These investments yield returns through increased productivity, innovation, and economic growth.

Demographic aspects are intricately linked to human capital. An optimal population structure can generate a "demographic dividend" – accelerated growth from a large working-age population relative to dependents, driven by declining birth and mortality rates. This creates a "window of opportunity" with more workers, higher savings, and greater per-child investments in education and health. Developed countries grapple with aging populations and labor shortages, while developing nations often have youthful demographics but insufficient education and health levels, limiting the dividend's economic impact.

However, many countries, including Ukraine, face a demographic crisis: low birth rates, high mortality, mass emigration of skilled workers, and rapid aging. According to estimates, Ukraine's population has shrunk to below 36 million (including areas captured by Russia), significantly less than the 42 million before the full-scale invasion in 2022 [3]. This diminishes human capital, strains social systems, and impedes sustainable development.

Human capital forms the bedrock of sustainable development, with its effective cultivation relying on targeted investments and addressing demographic challenges. Without prioritizing education, health, and lifelong learning, issues like depopulation and aging will result in economic stagnation. For Ukraine, implementing strategies to repatriate migrants, boost birth rates, and promote continuous education is essential to harness human potential as a driver for recovery and UN SDG attainment.

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## THE ROLE AND IMPORTANCE OF MODERN MEDICINE IN ENSURING SUSTAINABLE DEVELOPMENT

1. **Public health as the foundation of sustainable development.** The modern concept of sustainable development is based on the interconnection of economic, social, and environmental factors, with human beings and their health at the center. Without an effective healthcare system, long-term economic growth and social stability are impossible [1,2].
2. **The role of medicine in achieving the UN Sustainable Development Goals.** Medicine is a key instrument in implementing Sustainable Development Goal 3, *Good Health and Well-being*, and further contributes to poverty reduction and the promotion of social equity [3].
3. **The war in Ukraine as a systemic challenge to sustainable development.** The full-scale war has led to a sharp deterioration in the demographic situation, increased mortality, disability, and population migration, creating long-term risks for the country's development [4,5].
4. **Destruction of medical infrastructure.** According to the Ministry of Health of Ukraine, as a result of hostilities, more than 2 200–2 300 medical facilities, including hospitals, clinics, and outpatient centers, have been damaged or destroyed [6].
5. **Attacks on healthcare as violations of international humanitarian law.** The World Health Organization has recorded more than 2 200 attacks on the healthcare system, resulting in the deaths of over 200 people and injuries to around 700 medical workers and patients [7].
6. **Growing demand for medical care.** The number of civilian casualties of the war exceeds 36 000 people, a significant proportion of whom require long-term medical care, surgical treatment, and rehabilitation [5,8].
7. **Emergency and military medicine using innovation and digital technologies.** The development of emergency medical services, tactical medicine, and medical evacuation has become a decisive factor in reducing mortality among the wounded. The active use of telemedicine, mobile medical teams, and electronic patient record systems ensures the continuity of healthcare in wartime conditions [9].
8. **Mental health as a long-term factor of sustainable development.** The war has caused a widespread increase in psychological trauma, depression, and post-traumatic stress disorders, which, without adequate support, will negatively affect the economy and social sphere for decades [10,11].
9. **Post-war rehabilitation and recovery.** The healthcare system will become the foundation for the physical, psychological, and social rehabilitation of the population [2,11].
10. **International medical and humanitarian support.** Assistance from international organizations plays a key role in maintaining the functioning of the healthcare system and preparing for post-war recovery. We express our gratitude to the Republic of Poland for its tremendous contribution to supporting Ukrainians, including in the medical sector. For example, since the beginning of the war, more than 1.3 million Ukrainian refugees have used services provided by Poland's public healthcare system. Poland has also become an important hub for medical evacuation of Ukrainians: through the MEDEVAC HUB in the city of Jasionka (Rzeszów), since the start of the center's operation in September 2022, more than 3,500 patients from Ukraine have passed through the evacuation system, and over 1,650 people have been referred for treatment to various European countries, along with many other implemented projects. Once again, sincere thanks to all international partners who have helped and continue to help [12,13].

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## **FEATURES OF FINANCIAL AND ECONOMIC SUPPORT OF SUSTAINABLE DEVELOPMENT**

Sustainable development, as a comprehensive concept of balanced social progress, involves harmonising economic growth, social welfare and environmental security. One of the dominant factors in this process is the financial and economic mechanism that forms effective mechanisms for transforming strategic goals into appropriate policy instruments. The effectiveness of this mechanism is largely determined by a set of principles governing the formation, distribution and use of resources.

In this context, it is advisable to focus on a number of principles, the observance of which will contribute to the achievement of the goal, namely the formation and implementation of the mechanism outlined above. Among them, it is worth mentioning:

- efficient use of resources (achieved through the application of a programme-targeted approach, evaluation of the results of programme implementation using budget funds, and a well-established process of optimising the structure of expenditures); adherence to an investment-oriented development model, which in the long term should ensure more efficient use of budget funds and lay the groundwork for multiplier effects;

- diversifying sources of financing for sustainable development (in addition to the budget, other forms of financial support for such processes must be sought, namely by attracting private investors, international assistance in the form of grants or preferential loans, the use of modern financial instruments, such as the creation of special funds, the issuance of targeted bonds aimed at supporting green energy, and the improvement of public-private partnership mechanisms);

- ensuring financial stability and macroeconomic balance (achieving these parameters is the basis for long-term development, contributes to strengthening control over debt burden, filling and rational distribution of financial flows within the budget system, strengthening opportunities for forming the necessary financial reserves in budgets at various levels; it is also important to make adjustments to budgetary and tax policy in view of the existing realities and to set strategic guidelines);

- achieving so-called «environmental balance» in financial decision-making (financial support for projects aimed at: overcoming anthropogenic impact on the environment, supporting energy efficiency and the use of natural energy sources, etc.);
- implementation of social responsibility and inclusiveness doctrines in management practice (levelling social disparities, ensuring equal opportunities for development and access to public goods, forming social standards appropriate to current conditions and providing tools for their implementation, etc.).

The above list is not exhaustive and could be significantly expanded, however our state and the entire civilised world are currently experiencing significant destabilising influences caused by military aggression against Ukraine. Quite often, the question arises not about ensuring progress towards achieving new sustainable development goals, but about the basic survival of the population and ensuring the stability of both the national economy and society as a whole. The consequences of the most extensive military aggression since the Second World War are having a catastrophically destabilising impact on the socio-economic aspects of the development of our state, as well as on environmental, migration and other processes that are taking place not only at the national level, but also affecting communities in other countries, primarily those belonging to the European Union.

Failure to take existing trends into account and failure to develop or adopt appropriate measures in a timely manner by the international community will have catastrophic consequences not only for Ukraine, but also for the sustainable development of the entire international community.

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## **FORENSIC ECONOMIC EXAMINATION AS A TOOL FOR ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS**

Forensic economic examination acts as a crucial instrument in planning and ensuring the economic security of socio-economic systems, guaranteeing financial transparency and accountability within the state. It relies on the application of specialized knowledge in accounting, financial analysis, and economic-legal research to ensure the correctness and legality of business operations. The essence and professional requirements for an economic expert are detailed in scientific works emphasizing the interdisciplinary and evidentiary nature of expert conclusions [1].

In the context of ensuring sustainable development, the role of forensic economic examination is particularly significant in countering economic offenses that undermine financial stability and trust in state institutions. Examination helps detect tax evasion schemes, fictitious entrepreneurship, budget fraud, and other abuses, as confirmed by research on its application in criminal proceedings [2; 3].

A significant contribution of examination is evident in public administration: it allows for controlling the targeted use of budgetary resources, verifying the accuracy of financial reporting of state enterprises, and preventing corruption risks. This strengthens the state's institutional resilience and contributes to forming a transparent economic environment - a key element in planning sustainable development [3].

For the business sector, forensic economic examination ensures the protection of rights and interests in commercial disputes, verification of financial information accuracy, and increases investment attractiveness by confirming the honesty and legality of operations. An effective examination system creates conditions for fair competition, which correlates with the principles of sustainable economic development [4].

Scientific research highlights that the prospect of developing forensic economic examination in Ukraine is linked to digitalization, implementation of international standards, improvement of methodologies, and enhancing expert training. This will improve the quality of expert conclusions,

strengthen the financial control system, and reinforce anti-corruption mechanisms, which are necessary conditions for the sustainable development of the economy [5].

Thus, forensic economic examination serves as an integral element of sustainable development, ensuring financial transparency, effective public administration, fair justice, and the stability of economic processes.

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## VISUALIZATION OF SUSTAINABLE DEVELOPMENT VALUES IN THE COMPANY'S MARKETING COMMUNICATIONS SYSTEM

In the context of growing societal expectations regarding corporate responsibility, marketing communications increasingly function as a strategic tool for conveying sustainable development values to diverse stakeholder groups. Beyond traditional promotional objectives, contemporary marketing communication systems are expected to articulate economic, environmental and social priorities in a clear, coherent and visually recognizable manner [1]. Visualization of sustainable development values thus becomes an essential mechanism for shaping stakeholder perceptions, enhancing transparency and reinforcing trust, particularly in sectors of strategic importance where public accountability and long-term stability are critical.

Naftogaz of Ukraine is a state-owned energy company that plays a central role in ensuring national energy security and the stable functioning of the fuel and energy sector. Operating at the intersection of economic performance, public interest and international obligations, the company's activities extend beyond purely commercial considerations and are closely linked to broader sustainable development objectives. In this regard, Naftogaz integrates sustainability-related principles into its corporate governance and marketing communications, using visual and narrative elements to communicate commitments to transparency, responsible resource management and alignment with international sustainability standards. Such an approach positions the company's marketing communications system as a key instrument for visualizing sustainable development values and strengthening long-term relationships with stakeholders [2].

In the development of marketing communications with consumers and institutional partners, environmental considerations constitute a strategic dimension rather than a supplementary narrative element [3]. For a state-owned energy company such as Naftogaz of Ukraine, the integration of ecological values into communication practices is closely linked to public accountability and long-

term sustainability objectives. The company's communicative image is therefore shaped through the use of clear and visually structured symbolic elements that convey environmental responsibility and a prudent approach to natural resource management. Such visualization is particularly significant for the oil and gas sector, where societal expectations regarding environmental impact are high and where transparent communication of sustainability commitments plays a critical role in fostering stakeholder trust [2].

The visual identity of Naftogaz of Ukraine is constructed in a manner that symbolically communicates the company's role within the energy sector while simultaneously reinforcing values of stability, responsibility and long-term development. Rather than relying on explicit figurative imagery, the company's logo employs a restrained color palette and abstract visual forms that are closely associated with reliability, continuity and institutional trust [2]. Within the marketing communications system, this visual solution functions as a tool for conveying sustainable development values, as it aligns sectoral affiliation with a broader commitment to transparency and prudent resource management. Such an approach is particularly relevant for a state-owned oil and gas company, where visual consistency and symbolic clarity contribute to the formation of a credible and socially responsible corporate image.

Within contemporary marketing communications, advertising materials increasingly perform a value-oriented function by visualizing a company's environmental responsibility and commitment to sustainable development [4]. In the case of Naftogaz of Ukraine, visual narratives employed across mass media channels emphasize harmony between energy production and the natural environment, thereby addressing heightened public sensitivity to ecological risks associated with the oil and gas sector.

Such communication practices rely on visual and textual elements that symbolically represent environmental stewardship, technological responsibility and efforts to reduce anthropogenic impact. The effectiveness of this approach is consistent with established international marketing experience, which demonstrates that visual references to nature, biodiversity, and environmentally oriented technologies contribute to greater credibility and acceptance of energy companies' sustainability commitments.

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## CONSUMER BEHAVIOUR MOTIVATION: BRANDS ON THE BRAIN

Motivation may be interpreted as a dynamic psychological mechanism that shapes and directs individual behaviour through the interaction of internal dispositions and external stimuli. In the context of consumer behaviour, motivation reflects not only the presence of activating factors that prompt action, but also a specific mental state characterised by readiness to respond to market signals, particularly brand-related cues. This state emerges from the configuration of consumers'

needs, values, beliefs, and attitudes, which together form a cognitive-emotional framework for decision-making [1]. Consequently, motivation should be understood not merely as an external inducement to act, but as an internally structured condition that determines how brands are perceived, remembered and prioritised in the consumer's mind. From this perspective, brands function as symbolic and emotional triggers that activate motivational processes and influence behavioural outcomes.

Fogg's behaviour formula provides a useful theoretical lens for explaining how and when consumer actions occur, particularly in environments saturated with brand-related stimuli. According to this approach, behaviour emerges only at the point where several psychological and situational conditions converge simultaneously, meaning that the absence of even one component prevents action from taking place [1, 2]. The key components of Fogg's formula can be interpreted as follows:

- motivation, understood as the internal drive that makes a particular consumer action subjectively valuable (emotional attachment, anticipated benefits, symbolic meanings, social recognition or avoidance of negative outcomes);
- ability, referring to the consumer's perception of how easy or feasible the action is to perform. Even when brand motivation is strong, behavioural response is unlikely if the action requires excessive cognitive effort, time or uncertainty;
- trigger, defined as the situational cue that activates behaviour at a specific moment. Triggers may take the form of brand messages, visual symbols, digital notifications or contextual prompts embedded in the consumer's environment, serving to translate latent motivation and ability into immediate action.

Taken together, these components illustrate that brands influence consumer behaviour not only by stimulating desire, but by synchronising motivational intensity, perceived ease and timely cues. As a result, brands function as cognitive and emotional mechanisms that align internal readiness with external prompts, thereby transforming intention into observable consumer behaviour.

In consumer-oriented digital environments, motivational techniques grounded in cognitive psychology are widely used to reduce mental effort, sustain attention and facilitate goal-directed behaviour (Table 1) [1, 2].

**Table 1.** Motivational techniques for reducing cognitive load and activating consumer behaviour

No	Motivational technique	Short characteristic	Examples of application
1	Cognitive load reduction	Aims to minimise excessive mental effort by simplifying information processing and clarifying behavioural pathways for the user	Clean interface design, clear visual hierarchy, limited use of colours and animations, focused landing pages
2	Content fragmentation	Fragmentation involves breaking complex information into smaller, logically structured units to enhance comprehension and scanning efficiency	Sectioned news articles, modular layouts, step-by-step product descriptions, collapsible content blocks
3	Choice limitation (Hick's Law)	Reducing the number and complexity of options decreases decision time and increases the likelihood of user action	Instagram's core actions (like, comment, share), limited pricing plans, highlighted recommended options
4	Action facilitation (Fitts's Law)	This approach improves behavioural response by optimising the size, placement, and accessibility of interactive elements	Large call-to-action buttons, pop-up menus near the cursor, thumb-friendly mobile navigation
5	Personalisation	Personalisation adapts content and interfaces to individual user preferences, increasing relevance and motivational engagement over time	Customised dashboards, personalised recommendations, adaptive interfaces in apps and websites

The analysed motivational techniques demonstrate that consumer behaviour is strongly influenced by how cognitive effort, choice complexity and informational structure are managed within digital environments. Collectively, these approaches confirm that effective motivational

design does not merely persuade consumers, but strategically aligns cognitive processes with desired behavioural outcomes.

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### ADJUSTMENT OF DEVELOPMENT STRATEGIES BASED ON THEIR IMPLEMENTATION RESULTS IN THE CORPORATE SECTOR OF UKRAINE'S ECONOMY

The contemporary business environment is characterized by unprecedented volatility, intensified global competition, and the pervasive impact of digital transformation. These factors render the static strategic planning models of the past insufficient, creating a critical need for dynamic and adaptive mechanisms for strategic adjustment within corporations, particularly in emerging economies like Ukraine. The ability to systematically correct development strategies based on implementation results has become a pivotal factor for ensuring sustainable competitiveness and long-term viability. This research addresses the identified gap between the theoretical recognition of strategic adaptation necessity and the practical implementation of effective correction mechanisms in the corporate management practices of Ukrainian companies.

The primary objective of this study is to develop a comprehensive theoretical and methodological framework for adjusting corporate development strategies based on the results of their implementation. This involves constructing a conceptual model of the strategic adjustment process, designing a hybrid organizational structure to support it, and formulating a system for evaluating its effectiveness. The research aims to integrate modern digital tools and project management approaches into the strategic adaptation cycle, creating a holistic system tailored to the specific challenges and opportunities of the Ukrainian corporate sector.

The methodological foundation of this research is based on a systematic analysis of recent scientific publications, strategic management theories, and case studies of Ukrainian corporations. The study employs comparative analysis to evaluate existing strategic adjustment models, synthesis to develop a novel conceptual framework, and logical modelling to design the proposed hybrid organizational structure. The research process involved a critical review of over 15 relevant scientific sources published between 2023-2025, focusing on strategic management, digitalization, corporate governance, and project management. The development of the performance measurement system utilized expert evaluation methods and KPI normalization techniques to ensure practical applicability.

The study yielded several significant outcomes. Firstly, a four-stage conceptual model of the strategic adjustment process was developed, integrating monitoring-analytical, evaluation, correction, and implementation components into a cohesive cyclical framework. Secondly, a hybrid organizational structure was designed, effectively combining functional, project, and matrix elements to facilitate agile strategic adaptation. This structure incorporates strategic committees, digital competence centers, cross-functional working groups, and project offices. Thirdly, a comprehensive system for evaluating adjustment effectiveness was formulated, comprising

financial, operational, and innovation metrics. The research demonstrated that the integration of digital tools, particularly AI analytics and business intelligence platforms, can reduce strategic response time by 40-50% and improve forecasting accuracy by 25-35%. The proposed models showed potential to increase resource allocation efficiency by 30-40% through optimized strategic correction processes.

The findings of this research open several promising directions for future scientific inquiry. Subsequent studies should focus on developing industry-specific adaptations of the proposed framework for key sectors of the Ukrainian economy, such as agriculture, IT, and manufacturing. Another important perspective involves creating specialized algorithms for artificial intelligence systems to predict the consequences of strategic adjustments under various macroeconomic scenarios. Further research is needed to explore the integration of sustainability principles and ESG criteria into the strategic correction process. Longitudinal studies assessing the long-term impact of the implemented models on corporate financial performance and market positioning would provide valuable validation of the proposed approaches. Additionally, adapting the framework for small and medium-sized enterprises represents a significant direction for expanding the practical applicability of the research outcomes.

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## SOCIAL AND INFORMATION CIRCULAR BASES FOR PLANNING SUSTAINABLE ECONOMIC DEVELOPMENT

The circular economy is a key tool for achieving sustainable development goals. It is an economic system that seeks to minimise waste and use resources as efficiently as possible. The circular economy offers a radical shift from the traditional linear model ('use-dispose') to a closed loop, where resources are reused and products are designed with durability, repair and recycling in mind. [1].

The circular economy is based on the idea of minimising waste and maximising resource use through reuse, recycling and recovery. Some researchers emphasise the need to implement the circular economy based on the 10R concept, which is more effective than the standard 3R approach. [1].

Key principles of CE include: design for durability and repair: products should be easy to disassemble, repair or upgrade; conservation and restoration of natural capital: efficient use of natural resources, reducing dependence on non-renewable resources, restoring ecosystems and supporting biodiversity; preserving the value of products and materials: waste is used as a resource for new processes (repair, reuse, recycling, composting); innovation and technology: using the latest technologies to create more efficient production processes and stimulate innovation that promotes circularity. [2].

The implementation of circular economy principles is strategically important for Ukraine, especially in the context of post-war reconstruction.

The circular economy stimulates economic growth by creating new opportunities for business and developing innovative technologies. It increases the economy's resilience to external factors and saves money for businesses. [3].

The circular economy promotes social progress and the creation of new jobs in green sectors (recycling, renewable energy sources). This contributes to the development of a skilled workforce.

The transition to circular practices stimulates innovation in production processes and business models [4].

The successful implementation of a circular economy requires comprehensive systemic restructuring, including: the development of a comprehensive legislative framework covering all stages of the product life cycle. Legislative measures need to be aligned with the principles of the circular economy for sustainable development and environmental protection; the creation of a state programme to support businesses transitioning to circular practices. This should include financial and tax incentives, technical support, and training initiatives. It is advisable to implement circular tenders to integrate environmental criteria into public procurement; strengthen cooperation with international organisations (e.g., the OECD) for knowledge sharing, technology transfer, and capacity building. European integration is a powerful driving force; conducting information and education programmes for businesses and the public to raise environmental awareness; digitisation of production processes, implementation of innovative ESG solutions and support for bioeconomic development. [5].

Thus, the successful integration of the circular economy into Ukraine's development strategy is critical to overcoming the consequences of war, ensuring economic growth and achieving environmental stability.

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**BUSINESS SOCIAL RESPONSIBILITY IN ENSURING SUSTAINABLE DEVELOPMENT**

Socially responsible business activities in modern conditions are a defining feature of the sustainable dynamics of the development of socio-economic systems. The implementation of social responsibility helps to ensure competitive advantages in the market. Those enterprises that care about society and the environment, act in accordance with the declared mission, have a better business reputation and public trust.

To ensure a long-term effect, companies need to implement the concept of social responsibility in their sustainable development strategy. Regular reporting on sustainable development based on ESG indicators will positively affect the business reputation of enterprises and increase their competitiveness in the international market.

Social responsibility of business helps to form a positive image, gain trust and increase the competitiveness of enterprises. The organizational and economic mechanism of business social responsibility should be aimed at organizing the interaction of business entities and the state for the development of social responsibility on the basis of state regulatory acts and at the initiative of business structures through the formation of partnership relations between the state, business, and society. The essential characteristics of business social responsibility allow us to consider it as a factor in increasing attractiveness and trust from society in terms of the development of ethical business principles of behavior of economic relations entities and tools for their observance.

International social responsibility standards unify approaches to assessing the social responsibility of business at the national and international levels. Adoption of the provisions of these standards is a voluntary initiative. The provisions of international social responsibility standards at the national level should be reflected in the adoption of regulatory legal acts, according to which each enterprise will form its own approaches to social responsibility of business. The development of its own internal, regulatory documents is a necessary condition for adapting the provisions of international social responsibility standards.

The principles of social responsibility are supported by the Global Organization for Standardization. The standard “ISO 26000. Guidance on social responsibility” helps in the implementation of effective practices of social responsibility, contributing to sustainable development [1].

The Principles for Responsible Investment (PRI) aim to analyze the investment consequences of environmental, social and governance (ESG) factors, as well as support an international network of investor signatories in the processes of making investment decisions and managing assets [2].

For enterprises that follow the principles of social responsibility, it is important to take into account the principles of environmentally friendly production. The main elements of environmental responsibility are: the introduction of a corporate environmental policy, which provides for compliance with environmental legislation, an open environmental policy, a system of environmental principles and standards; environmental audit, which helps to determine the priority areas of the organization's environmental policy; involvement of employees in environmental initiatives; environmental friendliness of suppliers; production of environmentally friendly goods.

An important legislative initiative to stimulate corporate social responsibility is the “Non-financial Reporting Directive”, according to which large companies must report on the management of social and environmental challenges. Due to the lack of standardized rules and requirements in the field of non-financial reporting, the Sustainability Reporting Directive was approved and the EU Corporate Sustainability Reporting Directive (CSRD) was introduced [3]. The CSRD Directive addresses social aspects such as the treatment of employees within the organization, the principles of inclusion, equality and fairness, and value chain management.

Social responsibility reporting is an important tool for monitoring, stimulating the achievement of sustainable development goals, and improving interaction between business, governments and the public. The implementation of the principles of social responsibility requires additional costs for business. The focus on social responsibility improves the results of activity and is an important condition for the functioning of modern enterprises. The activities of enterprises in

the direction of social responsibility will contribute to the stable development of modern socio-economic and environmental systems, the implementation of the concept of sustainable development.

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### **LEADERSHIP POTENTIAL OF A MODERN EDUCATOR IN THE CONDITIONS OF SUSTAINABLE DEVELOPMENT**

In the conditions of modern modernization, socio-political and socio-cultural processes and European integration transformations, the epicenter of qualitative changes in the educational space has become the training of a specialist who must possess not only professional competencies but also operational adaptation capabilities, the ability to quickly and adequately respond to changes in society, make timely independent decisions, implement changes and innovations in their activities, organize teamwork and interpersonal interaction with others, dynamically apply professional knowledge and skills in uncertain situations. And this, in turn, requires the specialist to have leadership qualities.

The problem of leadership has become a subject of scientific interest and research by both domestic and foreign scholars, including P. Bray, M. Brundrett, G. Grace, B. Davies, V. S. Bazhaniuk, M. S. Bihun, O. I. Vasylova, N. T. Honcharuk, N. V. Marakhovska, V. O. Moliako, V. R. Miliayeva, N. V. Mukan, V. P. Nechyporenko, I. H. Sarai, and N. O. Semchenko. Their works reveal the essence of the concept of leadership, emphasize its interpretation, and focus on its organizational functions.

In Ukrainian academic literature, leadership is commonly viewed as a socio-psychological phenomenon (H. M. Honcharova) and as a relationship of dominance and subordination within the system of organizing interaction and managing a group (Ye. Solodovnikov). An analysis of the source base allows us to assert that a leader is an authoritative person to whom a group or team, under certain circumstances, grants the right to make important decisions that correspond to its interests and determine the direction and nature of joint activities.

Leadership in the context of the New Ukrainian School is a key component of an innovative educational model, which envisages the active participation of teachers, students, and all participants in the educational process in the formation and implementation of new ideas, approaches, and teaching methods. An important aspect of leadership in the New Ukrainian School is fostering a culture of cooperation and mutual assistance among participants in the educational process. This creates an atmosphere of mutual trust and support, which contributes to effective learning and the development of each member of the school community.

The leadership potential of a modern teacher presupposes the presence of a number of key competencies. First of all, these are communication skills that enable effective interaction with students, colleagues, and parents. A teacher who possesses these skills is able to create an atmosphere of openness and trust, which is a necessary condition for successful learning. Secondly, emotional intelligence is an important component of leadership. Teachers who understand and

manage their own emotions are better able to support students in their learning process, taking into account their needs and experiences.

In addition, innovativeness and readiness for change are important characteristics of a leader in education. Modern teachers must be open to new teaching methods, technologies, and approaches, which allows them to adapt to a rapidly changing world. The implementation of interactive teaching methods, the use of digital resources, and the activation of students in the learning process contribute to the formation of their autonomy and responsibility.

It should be noted that the formation of teachers' leadership potential occurs through continuous professional development. Participation in trainings, seminars, and professional development courses allows teachers not only to improve their knowledge but also to exchange experience with colleagues. Teachers who demonstrate a high level of leadership are able to motivate students to learn, develop their critical thinking, and foster social responsibility. They cultivate in young people an awareness of their role in society and contribute to the development of environmental consciousness and an active civic position.

However, in the modern world, teachers face numerous challenges. Technological changes, social transformations, and globalization require flexibility and adaptability from them. Teachers must be ready to implement new technologies in the educational process, as well as to work in conditions of diversity and multiculturalism. In addition, a teacher of the New Ukrainian School must be a public figure who is able to inspire, guide, and motivate, which is especially important in today's dynamic world.

Thus, the leadership potential of a modern teacher is an important element in ensuring the sustainable development of education. Teachers who possess the necessary leadership qualities are able not only to teach but also to inspire students, forming active and conscious citizens ready to face the challenges of the future. The development of these qualities is the key to successful education that meets the demands of the modern world.

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## **MAIN REASONS FOR ENSURING THE PROTECTION OF CONSTITUTIONAL HUMAN RIGHTS**

The protection of constitutional human rights is necessary primarily because it is these rights that fix the basic value of human dignity and the limits of permissible state interference in private life. Constitutional guarantees create a foundation that does not depend on the political situation, changes of governments or temporary public sentiment. Without real protection, constitutional norms remain declarations, and a person actually loses the ability to foresee the consequences of decisions of government bodies and protect himself from arbitrariness. In such a situation, the risk of inequality and selective application of rules increases, when the rights of some are recognized, while the rights of others are ignored [1-2]. Therefore, the need to ensure the protection of constitutional rights arises from the need to transform formal guarantees into a real mechanism that works for each person. The second key reason is to maintain the legitimacy of state power and citizens' trust in the rule of law. When people see that constitutional rights operate not only on paper, they are convinced of the justice of state institutions and are willing to act within the law, rather than looking for informal ways to solve problems. If rights are systematically violated, social

tension increases, legal nihilism spreads, and social conflicts take on more acute forms. The protection of rights also acts as a safeguard against the concentration of power and abuses, as it requires accountability, reasoned decisions, and effective appeal procedures. As a result, a state that guarantees constitutional rights gains a more stable social contract in which citizens recognize the rules not out of fear, but out of trust and a sense of justice. Constitutional rights define minimum standards of equality, non-discrimination, and respect for the individual, which is especially important for groups that may be vulnerable due to social status, health, age, or other circumstances. When rights protection works properly, social contradictions receive a civilized channel for resolution through appeals, mediation, administrative procedures, and judicial control. Therefore, this inherently reduces the likelihood of lynching, radicalization, and conflicts that arise when people do not see legitimate ways to restore justice. In addition, the reality of legal protection forms a culture of mutual respect, in which the freedom of one person is consistent with the freedom of another, and not opposed to it. That is why ensuring the protection of rights is not only a legal task, but also a condition for social peace. We believe that stable guarantees of rights reduce risks for economic activity, increase the predictability of decisions and contribute to investment confidence, since any subject sees the presence of rules and mechanisms for their protection. The protection of rights also determines the quality of public policy, because it forces state bodies to justify decisions, act proportionately and take into account the consequences for the person, which increases the overall efficiency of management. It is especially important that compliance with constitutional rights supports the international reputation of the state, facilitates cooperation with partners and reduces the risks of external pressure associated with violations of rights. As a result, the protection of human rights becomes not an additional option, but a strategic necessity, without which neither stable democracy nor sustainable social and security development are possible.

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#### THE IMPORTANCE OF FAIR VALUE IN ASSET VALUATION: INTERNATIONAL EXPERIENCE AND PROSPECTS FOR SUSTAINABLE DEVELOPMENT

In the context of global integration and increasing requirements for transparency of financial information, the concept of fair value has become a key element of modern financial reporting. Fair value ensures that asset valuation reflects current market conditions and provides users of financial statements with relevant and comparable information for decision-making. According to IFRS, particularly IFRS 13 Fair Value Measurement, fair value represents the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction under current market conditions [1, p. 14]. The widespread adoption of fair value principles in international practice enhances the reliability and economic relevance of financial statements, which is vital for ensuring sustainable development and strengthening corporate governance.

Fair value measurement plays an increasingly significant role within the modern economic environment, where market fluctuations, geopolitical factors and technological transformation demand accurate and timely financial information. The transition from traditional historical cost

models to fair value measurement provides a more realistic representation of an enterprise's financial position. This approach allows stakeholders to assess asset quality, liquidity and associated risks more effectively [1, p. 32].

Countries of the European Union, the United States and other developed economies have integrated fair value measurement deeply into their accounting systems. For example, the EU's adoption of IFRS has standardized asset valuation practices across member states, promoting consistency and comparability of financial reporting [2, p. 5]. In the United States, fair value measurement under ASC 820 parallels IFRS 13 and supports global harmonization of reporting principles. Such alignment contributes to reducing information asymmetry in capital markets and enhances investor confidence.

Fair value has a direct impact on sustainable development, particularly through improving the transparency of corporate reporting and promoting responsible resource allocation. Accurate valuation of financial and non-financial assets allows companies to better assess the long-term economic consequences of their strategic decisions, including investments in environmental and social initiatives. Additionally, fair value measurement supports effective risk management by capturing market-based estimates of asset impairment, volatility and exposure to financial risks [3, p. 18].

Moreover, fair value plays an important role in strengthening corporate governance and accountability. Transparent disclosure requirements under IFRS 13 encourage enterprises to implement high-quality internal control mechanisms and maintain responsible communication with stakeholders. In this regard, fair value supports both financial sustainability and social responsibility, which are key pillars of sustainable development.

The application of fair value to intangible assets—such as intellectual property, software and brand value—is now widely practiced in high-technology sectors. These assets often serve as strategic drivers of innovation and competitive advantage. Their accurate valuation under fair value principles provides stakeholders with a deeper understanding of a company's long-term potential and its contribution to sustainable value creation [2, p. 23].

Despite its benefits, fair value measurement also faces challenges. These include the subjectivity of valuation techniques in inactive markets, reliance on professional judgment and increased volatility in financial statements. Nevertheless, international experience demonstrates that robust disclosure practices and the use of standardized valuation models effectively mitigate these risks. Global trends indicate that the role of fair value will continue to expand, particularly in connection with ESG reporting and integrated reporting frameworks.

Fair value measurement has become a fundamental component of modern financial reporting, contributing significantly to the transparency, comparability and relevance of asset valuation. International experience shows that fair value enhances the quality of financial statements, supports effective risk management and strengthens investor trust—key factors for achieving sustainable development. The integration of IFRS 13 principles into global accounting practice promotes harmonization and improves the analytical value of corporate reporting. For Ukraine, the adoption of advanced international approaches to fair value measurement represents a strategic direction for strengthening financial stability, enhancing competitiveness and supporting long-term sustainable development.

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## REGIONS OF UKRAINE

The issue of sustainable tourism development in the regions of Ukraine is gaining increasing importance, as tourism is becoming a key tool for socio-economic recovery and strengthening of regions. In the context of modern challenges associated with war, changing tourist flows and the need to preserve natural resources, there is a need to form an effective planning system for sustainable development of the tourism industry. It is on the quality of such planning that the balanced use of resources, the competitiveness of regions and the well-being of local communities depend.

Traveling in Ukraine today is not only a way of relaxation, but also a means of physical recovery and psychological relief, both for our defenders and their families, and for civilians. And it is also a way to support the economy of the country, which today works exclusively for our defense. An analysis of the development of tourism in the regions of Ukraine shows a significant unevenness of tourist activity and tax revenues, with the highest indicators demonstrated by regions with developed infrastructure and significant tourist flows. Martial law has led to a change in the population's behavior regarding travel, which has led to a reduction in tourist trips and a decrease in tourist tax revenues [1].

Sustainable tourism development is a modern concept that ensures a harmonious combination of economic interests, social needs and environmental requirements [2]. At the heart of this concept is the rational use of natural and cultural resources, preservation of the environment for future generations, as well as improving the quality of life of local communities.

Monitoring sustainability indicators allows assessing the compliance of tourism activities with the requirements of balanced development, covering economic, social and environmental aspects. Their comprehensive analysis allows identifying positive trends, risks and forming effective mechanisms of regional policy. Socio-economic indicators simultaneously reflect the impact of tourism on the local economy and the well-being of the population, which are key factors of sustainability. Indicators of sustainable tourism development are an important tool for assessing and monitoring the impact of tourism on the environment, economy and society. They allow tracking progress in achieving sustainable goals and help determine how tourism complies with the principles of sustainable development [3].

To analyze the indicators of sustainable tourism development, it is important to study the relationship between the economic results of tourism activities, the ecological state and social conditions of the region. Awareness of these mutual influences is a prerequisite for the formation of effective regional policy, which increases the competitiveness of the territory and contributes to the preservation of its natural and cultural heritage.

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## COMPARISON OF NATIONAL AND GLOBAL INDICATORS USED TO DEFINE THE THIRD SUSTAINABLE DEVELOPMENT GOAL “GOOD HEALTH AND WELL-BEING”

In September 2015, all 193 Member States of the United Nations adopted a plan for achieving a better future for all — are the 17 Sustainable Development Goals (SDGs) which clearly define the world we want — applying to all nations and leaving no one behind.

Modern medicine is a key factor in sustainable development, as it ensures the health and well-being of people (the social dimension), leading to productive work and economic growth, while introducing resource-efficient technologies (the environmental dimension), improving the quality of life, extending life expectancy and promoting equality, which together form the basis for the harmonious and long-term development of society, meeting the needs of the present without compromising the well-being of future generations.[1]. So let's analyze sustainable 3 «Good health and well-being». Ensure healthy lives and promote well-being for all at all ages.

For each indicator in the national framework, the government set targets that Ukraine intends to achieve by 2030. In this approach, a country's progress is determined by indices of current and projected status. The global indicator framework for Goal 3 – Good Health and Well-being – includes 28 indicators. Ukraine adapted it to form the national framework of 16 indicators. [2]. The comparison table is given below.

**Table 1.** Comparison of global and nationalized indicators [2].

	<i>Global Indicators Sustainable Development Goal</i>	<i>National Indicators Sustainable Development Goal</i>
Similar to global	3.1.1. Maternal mortality ratio	3.1.1. Number of cases of maternal mortality per 100,000 live births
	3.2.1. Under-5 mortality rate	3.2.1. Mortality of children under 5 years of age, cases per 1,000 live births
	3.3.1. Number of new HIV infections per 1,000 uninfected individuals, by sex, age, and key populations	3.3.1. Number of patients diagnosed with HIV infection for the first time, per 100,000 population
	3.3.2. Tuberculosis cases per 100,000 population	3.3.2. Number of cases with a first-time diagnosis of active tuberculosis per 100,000 population
	3.6.1. Death rate due to road traffic accidents injuries	3.6.1. Number of the road traffic deaths per 100,000 persons
	3.7.2. Adolescent birth rate (ages 10-14 years; ages 15-19 years) per 1,000 women in that age group	5.5.1. Fertility rate among women aged under 20, per 1,000 women 15-19
	3.a.1. Age-standardized prevalence of current tobacco use among persons aged 15 years and older	3.8.1. Share of women aged 16-29 who smoke, % 3.8.2. Share of men aged 16-29 who smoke, %
	3.b.1. Proportion of the population with access to affordable medicines and vaccines on a sustainable basis	3.7.1. Immunization coverage under the national immunization programme (as prescribed), %
Close to global	3.4.1. Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease	3.4.1./3.4.2. Number of deaths attributed to cerebrovascular disease at the age of 30-59 per 100,000 men/women
		3.4.3./3.4.4. Number of deaths attributed to malignant breast tumours / cervical tumours at the the age of 30-59 per 100,000 women of appropriate age
		3.5.1./3.5.2 Probability of dying at the age 20-64 men/women
		3.5.2 Number of people injured in road traffic accidents per 100,000 persons
		3.9.1 Share of expenditures of the population in

Differ		total spending on health, %
	3.1.2 Proportion of births attended by skilled health personnel	
	3.2.2 Neonatal mortality rate	
	3.3.3 Malaria incidence per 1,000 population	
	3.3.4 Hepatitis B incidence per 100,000 population	
	3.3.5 Number of people requiring interventions against neglected tropical diseases	
	3.4.2 Suicide mortality rate	
	3.5.1 Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	
	3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol	
	3.7.1 Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods	
	3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	
	3.8.2 Proportion of population with large household expenditures on health as a share of total household expenditure or income	
	3.9.1 Mortality rate attributed to household and ambient air pollution	
	3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)	
	3.9.3 Mortality rate attributed to unintentional poisoning	
	3.b.2 Total net official development assistance to medical research and basic health sectors	
	3.b.3 Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis	
	3.c.1 Health worker density and distribution	
	3.d.1 International Health Regulations (IHR) capacity and health emergency preparedness	
3.d.2 Percentage of bloodstream infections due to selected antimicrobial-resistant organisms		

Ukraine does not monitor 19 indicators from the global SDG system. These include the share of births attended by qualified personnel, neonatal mortality (newborns up to 28 days), hepatitis B, suicide mortality, and others. The approach chosen by Ukraine to nationalize SDG indicators sometimes makes it difficult to compare Ukraine's achievements with those of other countries.

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## **OMNICHANNEL RETAILING: THEORETICAL APPROACHES AND SELECTED PRACTICAL IMPLEMENTATION ASPECTS**

The modern world is in the phase of active implementation of digitalization of most processes, including cloud technologies, which is also associated with the introduction of quarantine measures in most countries. Over the past decade, the average annual growth of the cloud services market has expanded by about 50% to more than \$ 220 billion. This figure is projected to exceed \$ 500 billion in the near future. Currently, a large number of cloud service companies are concentrated in the market [1].

The development of the retail sector is undergoing a phase of large-scale socio-economic transformation driven by rapid digitalization, the evolution of consumer preferences, and the need to adapt business processes to the conditions of global economic competition. In the context of intensifying market rivalry and growing demand for flexibility and personalization, the ability of companies to ensure a coherent and uninterrupted customer experience becomes a critical determinant not only of competitive sustainability but also of the formation of new employment formats, the modernization of work organization, and the enhancement of human capital.

The concept of omnichannel marketing has emerged as the next stage in the evolution of single-channel and traditional marketing models. The extensive use of Internet technologies has led to the division of the shopping environment into two segments: physical (offline) and digital (online). Over the past three decades, the rapid growth of online commerce has significantly reshaped the retail landscape: competition between physical and electronic channels has intensified, online retailers have increasingly adopted aggressive pricing strategies, and a considerable share of consumers has shifted toward online purchasing. These developments stimulated the search for effective combinations of traditional and electronic retailing and led to the emergence of multichannel sales models.

A review of scholarly sources indicates that there is still no universally accepted definition of “omnichannel.” The literature employs various conceptual approaches – goal-oriented, communication-based, brand-oriented, and systemic. Accordingly, omnichannelity is interpreted as [2] :

a sales model integrating multiple retail formats and business-process automation systems, thereby minimizing risks and expanding consumer opportunities;

an instrument of integrated interaction, combining all channels of information exchange and ensuring their substitutability;

the highest form of channel integration, uniting communication and sales processes into a single environment;

a distribution strategy aimed at maximizing customer satisfaction and attracting new consumers;

a comprehensive sales format enabling customers to purchase goods through any convenient channel and to choose among various payment methods;

a company development strategy that ensures the consistency of design, service, communication, and customer support across all touchpoints;

a brand-oriented approach in which loyalty is directed toward the brand itself rather than any

specific channel;

an integrated marketing and distribution system that enables continuity of the purchasing process during transitions between channels and facilitates the comprehensive implementation of marketing instruments.

Omnichannel marketing is based on the automation of business processes and the application of modern information technologies that ensure synchronization across all interaction channels. Its strategic foundation includes the following principles [2]:

a unified product assortment and loyalty programs across all channels;

the ability to choose among various payment methods (cash, bank card, electronic wallet);

the development of an efficient logistics infrastructure;

the formation and use of customer databases to personalize offers and predict consumer behavior;

consumer choice of the most convenient delivery method (courier delivery, parcel locker, pick-up point, etc.) and flexible return mechanisms.

The omnichannel model ensures a seamless transition between touchpoints – website, mobile application, physical store, or online store – without information loss and with maximum personalization of the customer experience.

Information and communication technologies have enabled consumers to search for product information in one channel, clarify it in another, and complete the purchase in a third. This has transformed the organizational approaches of retail enterprises and contributed to the development of an integrated omnichannel system that encompasses offline stores, online platforms, television retailing, self-service terminals, vending machines, catalog sales, mobile applications, and social networks.

Thus, omnichannel marketing represents a logical stage in the evolution of modern retailing, reflecting changes in consumer behavior and technological capabilities. Its essence lies in integrating all sales and communication channels into a unified system that provides a continuous, personalized, and convenient purchasing experience. Companies that implement omnichannel strategies obtain competitive advantages through increased customer loyalty, improved business-process efficiency, and strengthened brand positioning.

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### FROM WAR ECONOMY TO SUSTAINABLE DEVELOPMENT: SYSTEMIC LESSONS FROM THE MARSHALL PLAN

War is one of the most significant destabilizing factors in the evolution and development of economic systems, destroying the productive base, social infrastructure, institutional ties and human capital. In the post-war period, the state faces the difficult task of not only rebuilding the destroyed economy, but also forming a new development trajectory that can ensure long-term stability, social cohesion and environmental balance. Under these conditions, the concept of sustainable development becomes particularly relevant.

The long-standing historical experience of the Marshall Plan is a unique example of a systematic approach to post-war reconstruction, combining financial assistance, institutional reforms and international coordination. It is this experience that allows us to trace the transition from a war economy to a model of economic growth focused on long-term development.

The post-war reconstruction of Ukraine will take place in conditions of massive economic, social and institutional losses, which in their depth exceed the classic post-war challenges of Western European countries in the mid-20th century. At the same time, the experience of the Marshall Plan allows us to systematically identify the main problems that may hinder the transition from a war economy to sustainable development in the Ukrainian context.

One of the key problems is the deep structural deformation of the national economy caused by prolonged military action. Ukraine's war economy is characterized by the dominance of defense spending, the destruction of production chains, a reduction in investment in civilian industries and the growing role of state redistribution of resources. There is a risk that in the post-war period there will be an inertial reproduction of the military economic model, when resources are directed mainly towards physical reconstruction without a profound modernization of the production structure. The lessons of the Marshall Plan show that successful reconstruction is only possible if the economy is reoriented towards innovative, export-oriented and high-tech sectors [1]. For Ukraine, this means moving away from raw material specialization, which has historically increased the economy's vulnerability to external shocks, and forming a new industrial policy in line with sustainable development.

Unlike the recipient countries of the Marshall Plan, Ukraine currently faces the problem of insufficient institutional capacity, which manifests itself in fragmented public administration, corruption risks and limited trust on the part of society and international partners. Institutional theory emphasizes that formal rules without effective mechanisms for their implementation cannot ensure long-term economic growth [2]. In this context, the key challenge for Ukraine is to align large-scale international financial assistance with real institutional reform, rather than its formal imitation. The Marshall Plan demonstrates that conditional aid, combined with international monitoring and coordination, became a factor in the institutional foundation for European economies. For Ukraine, a similar mechanism could play the role of an external catalyst for reform, but only if there is political will and public support.

A significant problem is large-scale social and demographic losses, including population decline, forced migration, loss of human capital and growing inequality. In the post-war period, these factors can limit economic growth potential and complicate the implementation of sustainable development strategies. The experience of the Marshall Plan shows that the social dimension of recovery – employment, income, access to basic services – was critical to stabilizing societies and legitimizing reforms. For Ukraine, the challenge lies in combining physical reconstruction with policies to rebuild human capital (through investment in education, health care, and migrant return programmers).

Unlike post-war Western Europe, which received a significant portion of its aid in the form of grants, Ukraine faces the risk of excessive debt dependence. The growth of public debt could create long-term fiscal constraints and reduce the scope for implementing sustainable development policies. The lesson of the Marshall Plan is that financial assistance was not only large-scale but also structurally geared towards investment rather than current consumption. It is critical for Ukraine to ensure that international resources are used as a tool for transformation rather than temporary stabilization.

Military action causes significant damage to the environment, creating additional challenges for recovery and raising questions about renewable energy, effective infrastructure and the circular economy.

Thus, the main problems of Ukraine's post-war development (structural deformation of the economy, institutional weakness, socio-demographic losses, financial constraints and environmental challenges) are systemic in nature. The experience of the Marshall Plan shows that they can only be

overcome through a comprehensive approach that combines international assistance, domestic reforms and a strategic focus on sustainable development.

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### **THE INTERPLAY BETWEEN FINANCIAL INCLUSION AND SUSTAINABLE DEVELOPMENT IN MANAGING THE STATE'S FINANCIAL SECURITY**

The management of a state's financial security entails attaining, safeguarding, and maintaining a set of value-based benchmarks, among which financial inclusion occupies a prominent place. In light of critical realism, the latter is appropriately conceptualised at the empirical level as the degree to which the potential of the financial system is utilised in the pursuit of private financial interests. Accordingly, ensuring financial inclusion presupposes the creation of adequate conditions for the development and expansion of the network of financial and credit institutions (not only in geographical terms, but also in the communication dimension), and the promotion of an appropriate culture of financial services consumption (including the establishment of consumer protection mechanisms). As a result, the potential outreach of financial institutions is transformed into a tangible scale of engagement of households and businesses in the systematic use of the instruments offered by the financial infrastructure to meet their economic needs.

The foregoing demonstrates the long-term nature of financial inclusion's influence on the socio-economic parameters of a country, thereby aligning this category with the concept of sustainable development, the attainment of which yields positive strategic effects. Financial inclusion is considered an important prerequisite for achieving several of these goals, as it is expected to advance the asset-based and resource development of low-income population groups [1, p. 3244]. It is worth agreeing with P. Ozili's assertion that, beyond its unquestionably significant economic dimension, inclusion can enhance social trust in financial institutions, particularly by preventing price-based, gender-based, age-based, and other forms of discrimination [2, p. 187-188]. Consequently, measures aimed at strengthening financial inclusion should not prioritise the commercial outcomes of financial services at the expense of clients' material well-being.

Within the scientific discourse, substantial expectations are placed on financial inclusion as a catalyst for achieving the Sustainable Development Goals (SDGs), with its digital form explicitly identified as one of the stages in attaining 13 of the 17 SDGs by 2030 [3, p. 4]. The instruments and outcomes of financial inclusion's influence on particular goals are presented in Table 1. The evidence indicates that inclusion can notably expand the financial capabilities of the population, foster human capital development, and reduce wealth inequality. The core instruments are directed towards creating conditions for innovative development, facilitating the "green transition", and enhancing the resilience of households, businesses, and local communities to socio-economic and climate-related risks.

**Table 1.** Impact of Financial Inclusion on the Attainment of Selected SDGs

Goals	Instruments of Influence	Outcomes of Influence
Goals 1, 2 & 10	Access to basic services; microcredit; social transfers; income insurance; microsavings	Expansion of self-employment opportunities; enhanced access to financial resources; levelling of economic opportunities
Goals 3 & 4	Health insurance; education loans; targeted savings	Reduction of financial barriers to healthcare and education; strengthening of human capital.
Goal 5	Financial products and financial literacy programmes for women entrepreneurs	Increased economic autonomy of women; reduction of the gender gap in access to capital
Goals 7 & 13	Lending for energy-efficient solutions; climate and agricultural insurance; green investment instruments	Acceleration of the “green transition”; improved energy efficiency of households and SMEs
Goal 8	Lending to SMEs and the self-employed; access to social investment	Labour market stimulation; support for social entrepreneurship
Goal 9	Crowdfunding; P2P lending; development of the FinTech ecosystem	Strengthening of innovative businesses; modernisation of digital infrastructure
Goal 11	Mortgage lending; financial instruments for socially significant urban projects	Improved access to housing; enhanced community resilience and increased effectiveness of municipal governance

Source: compiled by the author based on [1, p. 3268-3270; 3, p. 6].

Thus, financial inclusion constitutes a systemic driver of sustainable development, while simultaneously preserving and strengthening its role as a value-oriented benchmark in managing the state’s financial security. By establishing the prerequisites for conscious and rational use of financial resources, inclusion enhances the adaptability of the financial system and supports progress towards long-term national economic growth.

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#### THEORY OF CONSUMER INFLUENCE IN NEUROMARKETING

The level of popularity of goods in the consumer market, the volume of their sales, the image of the enterprise and its ability to maintain competitiveness directly depend on the effectiveness of the organization of the product presentation system. Modern market conditions require business entities to have much more complex and multi-level interaction with consumers than was previously the case. If in the past it was enough to focus only on the functional characteristics or visually attractive features of the product, today this approach is no longer enough. The reason is the profound transformations in consumer behavior, the growth of their requirements for the quality and authenticity of products.

It is important to note that the general information space in the field of marketing communications is oversaturated. The constant flow of advertising messages, accompanied by a high intensity of visual and audio stimuli, leads to the phenomenon of sensory fatigue in consumers. As a result, the effectiveness of traditional advertising tools decreases. This situation actualizes the search for innovative approaches that would allow for a more in-depth study of the cognitive and emotional reactions of the target audience. [1]

One of the promising areas in this context is neuromarketing. Unlike classical tools that record mainly the conscious level of communication of an individual, neuromarketing is aimed at reconstructing latent cognitive and affective mechanisms that form the basis of the motivational behavior of an economic entity. [2] In this way, it opens up the possibility of identifying hidden structures of consumer consciousness, in particular, automated brain reactions to symbolic and sensory stimuli. [3]

Its value lies in the study of subconscious reactions, which allows for the formation of a holistic picture of the factors that determine customer decision-making [4]. This creates conditions for the formation of marketing communications, products and customer experiences that resonate more with consumer needs [2].

In the applied dimension, neuromarketing research opens up broad prospects for business practice, as it allows us to trace which sensory channels dominate in the process of perceiving a marketing stimulus. At the same time, the modern socio-economic context, in particular the restrictions associated with pandemic conditions and the transition to remote communication formats, significantly reduce the spectrum of sensory interaction, concentrating it mostly within the visual and auditory channels.

In the context of modern economic dynamics, neuromarketing appears as an interdisciplinary toolkit that combines the methodology of cognitive sciences, psychology and communication technologies with market practices.

Today, neuromarketing appears as an innovative methodological toolkit that provides the opportunity for deeper research into the cognitive and emotional mechanisms of consumer behavior

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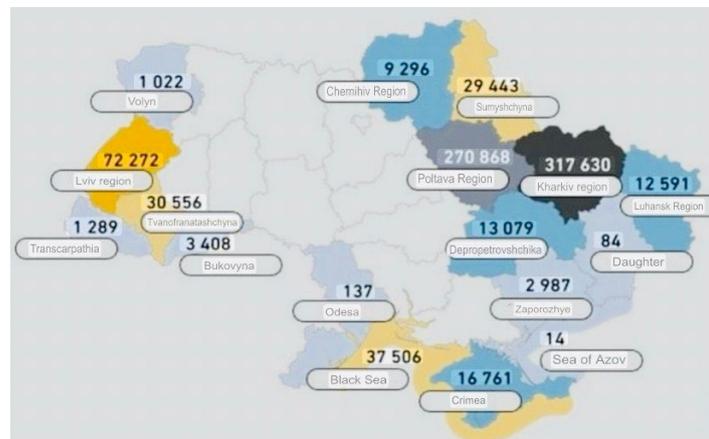
#### UKRAINE’S ENERGY SYSTEM IN WAR CONDITIONS

The gas sector is an important component of the country’s energy system. Despite the war, it continues to function, providing citizens and businesses with a stable supply of gas. Ukraine has significant reserves of natural gas, which, according to geological surveys, can reach about 1.3 trillion cubic meters. However, their extraction is complicated by the geological features of

different regions. The largest natural gas deposits are located in the Dnieper-Donetsk Basin, in particular in the Kharkiv and Poltava regions, which are strategically important for the country's energy independence [1]

Despite the difficult situation that has developed as a result of the war, Ukraine continues to work to ensure gas supplies to the population and the economy. One of the key tasks of the government is to pump sufficient volumes of gas into underground storage facilities to prepare for the upcoming winter period. This task is particularly difficult in the current conditions of high energy prices, but at present, about 9.5 billion cubic meters of gas are stored in Ukrainian underground storage facilities. This volume is sufficient to meet the country's needs for the upcoming heating season and to ensure uninterrupted gas supplies to Ukrainian citizens. [2]

Ukraine is moving confidently towards achieving energy independence, despite the challenges caused by the war. The measures taken and the resilience of the energy sector demonstrate the country's ability to adapt to new conditions and succeed in meeting its energy needs, which is an important step towards energy security and sustainable development. (Figure 1) [3]



**Figure 1.** Distribution of natural gas reserves by administrative regions of Ukraine, million cubic meters [3]

A significant problem for Ukraine in wartime is the destruction of critical infrastructure, which is being targeted by the occupying forces. As a result of active hostilities, more than a thousand settlements were left without access to gas supply. Gas networks were either completely destroyed or significantly damaged, which makes it impossible to quickly restore supply.

Despite this, gas transit routes generally did not suffer significant damage, which allows them to maintain their functionality.

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## **SUSTAINABLE DEVELOPMENT AND ESG ORIENTATION IN SHAPING THE COMPETITIVE PROFILES OF GLOBAL AIRLINES**

Over the past decade, the global air transportation market has undergone multidirectional transformations driven not only by globalization and digitalization trends but also by increasing demands for environmental responsibility and the integration of sustainable development principles. The pandemic crisis acted as a catalyst for structural changes, exposing the vulnerability of traditional business models while stimulating the search for environmentally balanced and resource-efficient managerial solutions. In the post-pandemic recovery phase, when competition among airlines intensified significantly, in-depth analytical diagnostics of competitive profiles – including assessments of environmental performance, resilience, and ESG orientation – became critically important.

Ukrainian researchers emphasize that contemporary competition in the aviation sector is increasingly shaped by sustainable development trends: the decarbonization of transport systems, implementation of energy-efficient technologies, development of environmentally friendly hubs, expansion of SAF (sustainable aviation fuel), and integration of aviation into broader multimodal ecosystems. Competitiveness indicators are no longer limited to classical market variables – they encompass airlines' climate strategies, their ability to reduce CO<sub>2</sub> emissions, the effectiveness of noise and resource management programs, transparency of ESG reporting, and environmental innovativeness. Digitalization, integration of ground and air logistics, enhanced cyber-resilience, and the development of partnerships complement the environmental dimension, forming a system of sustainable competitive advantages.

The analytical diagnostics of competitive profiles of leading global airlines were based on a complex set of structural, technological, and environmental parameters, as well as an evaluation of their sustainability and climate-neutrality strategies. The main objectives of the study included summarizing theoretical approaches to assessing competitiveness with consideration of ecological resilience, developing a relevant system of indicators, and creating an integrated methodology for calculating competitive positions that incorporates ESG metrics.

The analytical database, drawn from financial and ESG reports for 2020–2024, made it possible to trace how changes in environmental policies and investments in sustainability affected companies' market positions during both crisis and more stable periods. The most active in implementing environmental innovations proved to be Delta Air Lines, Lufthansa, easyJet, JetBlue, and United Airlines, which invest in fleet modernization, adopt SAF technologies, and reduce the resource intensity of operations. Meanwhile, the business models of low-cost carriers and Qantas – focused on cost minimization and direct routes – show significantly lower involvement in the development of intermodal environmental solutions.

The cost assessment included the analysis of fuel share, CASM, and the ecological efficiency of fuel strategies. Research on digitalization and cyber-resilience considered the number of implemented AI solutions, as digital technologies are key tools for emission optimization, energy-efficiency improvement, and the implementation of “green” transformation. Partnership networks were viewed as instruments for enhancing transport system resilience, particularly through the development of multimodal solutions and reduction of the carbon footprint.

The results of data normalization, calculations of entropy, divergence, and weighting coefficients demonstrated that in 2020, digital technologies and safety blocks were the most significant, while in 2024 the influence of multimodal networks and environmental innovations increased notably — aligning with the sector's transition toward more sustainable development models. Financial security and operational cost blocks traditionally showed the lowest

differentiating ability, as most airlines follow similar resource-saving principles.

According to the integrated competitiveness index for 2020, the leaders were American Airlines and Qantas, with Air Canada, Lufthansa, easyJet, Wizz Air, and JetBlue also achieving high values. In 2024, United Airlines significantly improved its position due to strengthened environmental policy, increased investment in sustainability, digital transformation, and higher operational efficiency. easyJet, Wizz Air, JetBlue, Delta, and Ryanair also achieved high scores. Meanwhile, Lufthansa's position declined due to high CO<sub>2</sub> emissions, low profitability, and a lower load factor.

Overall, the results indicate that sustainable development, combined with technological and digital tools, is becoming the leading factor in the competitiveness of airlines, shaping a new logic for the functioning of the global aviation industry. The growing role of environmental innovations, decarbonization strategies, and multimodal solutions highlights the shift from traditional market rivalry to a model in which the primary competitive resource is an environmentally responsible and technologically resilient aviation ecosystem.

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### **HUMAN RESOURCE SUPPORT FOR THE IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT PRINCIPLES UNDER CONDITIONS OF A SIGNIFICANT WAR THREAT**

In the modern world, where political conflicts, economic fluctuations, and social crises have become the usual backdrop of global processes, adherence to the principles of sustainable development is transforming from a recommendation into an urgent necessity. The instability inherent in almost every country demonstrates that traditional governance models no longer guarantee long-term balance. Sustainable development, based on a harmonious combination of economic, social, and environmental priorities, is the tool that allows states and enterprises to build resilient mechanisms of adaptation.

Current risks highlight the importance of rational resource use, maintaining social cohesion, and implementing environmentally responsible technologies. The principles of sustainable development aim for long-term outcomes; therefore, their observance makes it possible not only to reduce vulnerability to global shocks but also to create a foundation for stable economic growth. Countries that invest in the "green" economy, education, inclusive social programs, and energy efficiency achieve a significantly higher level of resilience to external shocks. The implementation of sustainable development principles is a strategic path that ensures the ability of society and the economy to recover, minimize risks, and shape a future that meets the needs of both present and future generations.

In today's world, the competition among countries for skilled personnel is becoming one of the key factors of economic and social dynamics. Under such conditions, human resource support for the implementation of sustainable development principles acquires both short-term and strategic significance. In the near future, enterprises and governments must focus on forming a competent workforce capable of implementing "green" technologies, using resources rationally, and adapting to labor market transformations. A high professional level of employees enables rapid responses to challenges, supporting the stability of management systems and the efficiency of economic processes.

In the long-term dimension, human resource support for sustainable development involves investing in human capital—education, continuous learning, leadership development, and innovative thinking. Countries that create conditions for retaining and attracting talented professionals gain a competitive advantage by forming a strong foundation for economic resilience. An important aspect is also the formation of a corporate culture of responsibility and environmental awareness, which integrates sustainable development values into the daily activities of

organizations. Effective human resource policy is at the core of the successful implementation of sustainable development principles, ensuring a balance between current needs and long-term goals amid global competition for human potential.

War as a global threat significantly transforms labor markets not only in Ukraine but also in many EU countries [1]. Mass population displacement—where according to limited but plausible data, at least 5 million people have already received refuge within EU territory—changes in employment structures, and labor redistribution create a situation in which traditional development models no longer work. For Ukraine, this means the loss of part of its skilled workforce (the first wave of refugees in February–March 2022 included approximately 1.2 million working-age women with higher or vocational education and experience in complex industrial environments), increased pressure on social systems, and the urgent need to restore labor potential. At the same time, European countries face shifts in labor market balance: the arrival of large numbers of Ukrainian workers provides additional resources as well as integration challenges [2].

In the context of sustainable development, war paradoxically generates not only risks but also new opportunities. On one hand, social disparities increase, planning of long-term environmental and economic programs becomes more complex, and part of the resources is redirected to defense needs. On the other hand, there is a stimulus for labor market modernization, the development of reskilling systems, the introduction of innovative approaches to employment, and the strengthening of social resilience. For the EU, this is a chance to compensate for labor shortages, and for Ukraine—a possibility to redirect labor flows and develop new competencies necessary for post-war recovery. The impact of war on labor markets is complex and ambiguous, yet it is precisely under conditions of instability that the foundation is formed for rethinking sustainable development strategies and strengthening human capital at the interstate level.

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#### **DIGITAL TECHNOLOGIES AS A FACTOR IN IMPROVING THE DIGITAL COMPETENCE OF SPECIAL EDUCATION PROFESSIONALS**

With the active integration of digital technologies into the educational process, the opportunities for special education teachers to develop individualised learning for children with special educational needs are expanding. One of the most challenging categories of students are children with multiple disabilities who need support and a step-by-step organisation of learning in a distance education format. Digital technologies open up the prospect for teachers to create their own teaching materials for each student's needs [1].

There are many digital platforms and constructors (Canva, Genially, Book Creator, Nearpod, LearningApps, Kahoot, Quizizz, Padlet, Wordwall) that allow you to create new learning conditions

for such children, ensuring accessibility, increasing motivation and support at different levels of child development [2]. With the help of these platforms, it is possible to develop interesting teaching materials for the comprehensive correction of disorders in children. The most convenient platform to use is Canva, as it has a large library of images and tools, stored in one place and easily accessible to teachers.

Let's consider what teaching materials can be generated for children with various disorders in the CANVA digital constructor:

Disabilities in the CANVA digital constructor:

1. Children with varying degrees of intellectual disabilities:

– visual aids for cognitive development: attention, memory, thinking, speech, imagination (cards for recognising objects; matching cards ‘find the same’, ‘find the differences’; ‘remember and name’ cards; cards for recreating storylines; ‘odd one out’ cards; series of pictures for recreating sequences; story pictures for description; visual diagrams and mini daily schedules, templates for drawing, etc.);

– simplified teaching materials: adapted lecture notes, vocabulary cards, informational posters, etc.

2. Children with autism spectrum disorders:

– visual aids for organising and structuring learning aimed at comprehensive developmental correction: communication, social interaction, behavioural regulation, cognitive processes and speech (visualisation of social stories, emotion cards, behaviour rule cards, visual schedules and instructions, etc.).

3. Children with speech disorders:

– visual aids for speech development and correction (articulation cards, speech therapy sound charts, sound automation cards, phonemic hearing development cards, story cards, interactive visual tracks for breathing development, etc.);

4. Children with emotional and volitional disorders:

– Visual aids for the development and correction of emotional and volitional regulation (emotion cards, stress management algorithms, mood diaries, art therapy cards, planning cards, visual behaviour scenarios, etc.).

The CANVA platform features artificial intelligence, and templates can be used to create cards in the form of interactive games, for example, for memory development or colour learning. Artificial intelligence writes the code and ready-made material independently in one minute, which saves the teacher time on creating material. You can also use the ‘prompt’ function to set the level of difficulty of the task or presentation of the teaching material.

In conclusion, modern digital technologies significantly expand the digital competence of modern special education specialists, increase the effectiveness of the correctional and developmental process, and expand the educational opportunities for children with special educational needs.

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## **IMPACT FACTORS AND EVALUATION INDICATORS FOR THE EFFECTIVENESS OF TRANSPORT COMPANIES**

A complex of external and internal factors that determine the conditions of operation, the level of resource utilisation and the ability of the enterprise to ensure competitiveness in a dynamic environment influences the performance of transport enterprises. The transport industry is characterised by a high degree of dependence on external factors, as its activities are linked to the state of infrastructure, government regulation, market conditions, fuel costs, technological changes and military and political risks. Understanding the nature of such influences is a necessary prerequisite for effective performance management and ensuring the stability of the enterprise's operations.

It is advisable to classify influencing factors according to their origin, nature of influence, level of controllability, sphere of occurrence, and duration. External factors are formed outside the enterprise and are largely uncontrollable, but they determine the general conditions for the development of the transport market. Internal factors depend on management decisions, organisational culture and resource potential and determine the actual level of efficiency of the carrier's activities [1].

Among the external factors, economic conditions that shape the demand for transport services and the financial capabilities of customers play a key role. The state of the national economy, the level of inflation, exchange rate fluctuations, and the availability of financing directly affect the volume of transport and the income of enterprises. Fuel prices are particularly important for the transport industry, as they account for a significant share of transport costs and determine tariff levels and financial results. Market competition, seasonality of freight flows, the availability of alternative routes and changes in logistics chains are also important. In particular, technological factors are related to the processes of digitalisation and innovative development of the transport industry. The use of GPS monitoring systems, electronic document management, digital logistics platforms and analytical route management tools helps to reduce costs, optimise mileage, increase the transparency of operations and improve customer service quality. Social factors include the state of the labour market, the level of staff qualifications, occupational safety, and staff stability. The shortage of professional drivers and the growing requirements for their training significantly affect the development opportunities of transport companies. Infrastructure conditions, in particular the state of the road network, the capacity of transport hubs and the availability of logistics centres, determine the duration of transport, the level of operating costs and the quality of service. Inadequate infrastructure development leads to increased downtime, repair costs and reduced performance.

Internal factors are formed within the enterprise and form the basis for performance management. These include resource potential, the technical condition of the vehicle fleet, the organisation of logistics processes, the management structure, staffing and the level of innovation. The efficient use of material, financial and labour resources determines the enterprise's ability to maintain its competitive position. The technical condition and level of modernisation of vehicles directly affect the smooth operation, number of downtimes, fuel consumption and safety of transport.

It is advisable to evaluate the performance of transport enterprises based on a system of interrelated indicators covering the production, financial, logistical, quality and resource aspects of their activities. Production indicators reflect the volume and intensity of transport, the level of vehicle fleet utilisation and the technical readiness of transport. Financial indicators characterise profitability, financial stability, liquidity and capital efficiency. Logistical indicators allow for the assessment of delivery speed and reliability, route optimisation and vehicle load levels. Quality

indicators reflect the timeliness of transportation, cargo safety, and customer satisfaction, while resource indicators characterize fuel efficiency, labor productivity, and return on investment [2].

Thus, the performance of a transport company is a complex result of the interaction of external and internal factors and is manifested through a system of quantitative and qualitative indicators. Adaptation to external conditions, increased resource efficiency, modernisation of the vehicle fleet, development of human resources and the introduction of innovative logistics solutions are key conditions for ensuring the stable operation and sustainable development of transport companies in the current industry transformations.

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### FINANCIAL LEASING: ESSENCE AND ADVANTAGES

According to Ukrainian legislation, financial leasing is a business transaction carried out by an individual or legal entity. It involves the transfer to the lessee of property that is the main asset purchased or manufactured by the lessor, as well as the transfer of all risks and rewards associated with the right to use and own the leased object. At the same time, the Tax Code of Ukraine offers a broader definition of this term [1]. According to it, financial leasing is considered as a business transaction of a business entity, which includes the acquisition by the lessor of tangible assets at the request of the lessee with the subsequent transfer of the right to use these tangible assets [1]. Moreover, the term of use must be no less than the period of their full depreciation, with the mandatory subsequent transfer of ownership of such tangible assets to the lessee. The lessee covers all risks associated with possible damage or loss of the leased property, as well as the costs of current and capital repairs of the leased property and all types of civil liability that may arise from its use.

Financial leasing expands the potential of enterprises in financing through the possibility of concluding contracts with non-residents, thus opening up prospects for international cooperation and expanding economic ties. International financial leasing is characterized by a number of advantages that make it attractive compared to other types of leasing or rental operations. According to the classification proposed by Rohach O.I. [2], these advantages can be divided into financial, investment, organizational and operational and service aspects. The most significant among them are financial and investment advantages, which determine the key value of this type of cooperation.

The advantages of financial leasing for users are the following points:

- simultaneous acquisition of equipment and its financing;
- optimal ratio of the enterprise's own and borrowed working capital;
- prompt response to market conditions and rapid rental of additional equipment and changes in production technology;
- stability of leasing payments.

The investment advantages of financial leasing are unconditional, because:

- since the leasing object at one time also acts as collateral for the lease transaction, it is more profitable and faster for the enterprise to obtain it for leasing than credit resources for its purchase;

- leasing significantly accelerates capital turnover, since it immediately fully meets the need for a certain resource and does not require the use of a significant portion of its own funds, as when providing a loan by a bank;
- reduces the risk of non-return of funds, because the lessor retains ownership of the investment resource;
- leasing opens a window of opportunity for the rational use of financial resources and redirecting them to finance other urgent tasks.

Generation of innovative resources through international financial leasing, according to Rohach O.I. [3], gives domestic enterprises the following advantages:

- the domestic manufacturer of equipment used for leasing increases the level of representativeness of its products and has a guaranteed market for its sale;
- effective use of the leasing object gives a certain profit, which is a source of coverage of leasing payments to the lessor;
- the lessee, in turn, increases innovation, competitiveness, uses financial resources more rationally.

It is international financial leasing, in our opinion, that will provide an innovative impetus to building the financial potential of Ukrainian enterprises in the post-war period.

Financial leasing, despite its numerous advantages for both parties to the transaction - the lessor and the lessee, also has certain disadvantages that should be taken into account. First of all, its implementation requires the lessor to have significant start-up capital or a stable and reliable source of financing. For the lessee, the effect of inflationary processes may be a disadvantage, when the value of the leased property, which he expects to buy back at the end of the lease term, increases. In addition, financial leasing transactions themselves are often accompanied by a high level of complexity, which includes both the development of an agreed system of cooperation between the parties and the definition of the terms of the agreement, as well as the careful preparation of documentation for its execution. The effectiveness of leasing is justified only if this form of financing brings equal benefits to both the lessor and the lessee. It is this fundamental condition that underlies the process of forming a leasing agreement, where the distribution of risks between the parties and the extent of their responsibility for possible consequences are clearly defined.

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### **FEATURES OF INTERNAL AUDIT ORGANIZATION IN BANKS**

Internal audit in commercial banks is carried out by a specially established internal audit unit created in accordance with the regulatory acts of the National Bank of Ukraine. This unit is established for the purpose of assessing and improving the internal control system of a commercial bank at minimal cost.

Internal audit is conducted through the examination of the accounting system, as well as financial and operational information related to the bank's activities. In this process, the bank's assets (resources) that are expected to generate future economic benefits and lead to an increase in the bank's capital are reviewed [1].

The organizational structure and requirements for the internal audit unit are regulated by a special internal Regulation developed by the commercial bank, taking into account the requirements of the National Bank of Ukraine and the specific nature of the bank's operations.

The internal audit unit is assigned the following tasks: ensuring the adequacy of the bank's internal control system and operating procedures; ensuring strict compliance with current legislation of Ukraine, regulatory acts of the National Bank of Ukraine, the bank's charter and internal regulations, as well as the performance of settlement and cash, credit, deposit, savings, foreign exchange, securities and other operations within the scope of licenses granted by the National Bank of Ukraine; supporting the organization and methodology of accounting in order to ensure the timely formation of management information; implementing an effective, reliable and comprehensive management information system for the timely identification and elimination of deficiencies and violations in banking operations; timely identification of deficiencies and violations in the activities of structural units and the development of optimal solutions for their elimination and for removing the causes of such deficiencies in the course of the bank's operations; reviewing and providing recommendations on compliance with effective risk management requirements in banking activities; establishing and maintaining cooperation with external auditors, supervisory authorities and prudential supervision bodies in order to promote the effective operation of the bank; and providing the Bank's Supervisory Board and Management Board with conclusions on the results of the work performed and recommendations for improving the existing internal control system [2].

The bank's management is obliged to respond promptly to the recommendations of the internal audit unit. Within the scope of the powers granted, the activities of the bank's internal audit unit are considered unique [3].

The procedure for conducting internal audits and documenting the results of inspections of the bank's structural units is carried out by the internal audit unit on the basis of an audit plan (schedule) for the current year, agreed with the Bank's Supervisory Board and approved by the Bank's Management Board. The scope of the internal audit program must be sufficient to accomplish the audit objectives. The frequency of audit procedures should be determined by risk assessments inherent in each area of audit focus [4].

When conducting internal audits of the bank's units, the following audit stages should be envisaged: obtaining complete information about the unit; preparing and implementing the internal audit work plan; conducting materiality testing; conducting unscheduled thematic audits; and preparing an audit report (opinion) or providing substantiated information on deficiencies in the control structure of the audited unit.

Deficiencies identified during the audit of the bank should be reflected in the audit opinion, which also contains recommendations for improving the bank's activities. The opinion is prepared in accordance with auditing standards and methodological approaches and is signed by the head of the bank's internal audit unit.

The National Bank of Ukraine conducts thorough inspections of the activities of internal audit units in commercial banks. Based on the analysis of reports and inspection materials, the National Bank of Ukraine may, if necessary, send the bank a letter requiring the internal audit system to be brought into compliance with current legislation of Ukraine. In the event of failure to eliminate the identified deficiencies within the time limits, the National Bank of Ukraine may impose sanctions in accordance with the procedure established by current legislation of Ukraine.

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### **THE ILLUSION OF CHOICE IN INDUSTRIAL MARKETING: THE ROLE OF ARTIFICIAL INTELLIGENCE ALGORITHMS**

Business-to-business (B2B) industrial marketing has traditionally been viewed as a field of rational choice, where decisions are made based on technical parameters, cost, and quality. However, with the development of digital technologies, the decision-making process in industrial marketing is increasingly influenced by artificial intelligence algorithms. Tools such as recommendation systems, CRM analytics, or automated sales platforms form the information field within which the selection of suppliers and partners takes place. This creates the illusion of choice phenomenon, where a company believes it is acting independently, even though its decision is partly driven by algorithmic cues.

According to research [1], companies that have implemented AI tools in B2B marketing are seven times more likely to achieve their goals than those that do not use them. Generative AI improves the quality of marketing results by 40% and reduces task completion time by 25% [2]. This demonstrates that algorithms significantly affect the effectiveness of industrial marketing, while at the same time changing the mechanisms of choice.

AI-powered CRM systems, such as Salesforce Einstein, use predictive analytics to determine the moment of contact with the customer. The user gets a sense of autonomy, although in reality they are acting on the recommendation of the algorithm. 46% of marketers who have high confidence in their data strategy note an increase in revenue, while among those who are less confident, only 15% [3]. This indicates the key role of algorithms in shaping competitive advantages. However, only 29% of B2B companies have actually integrated AI, although 64% recognize its strategic value, which indicates a partial loss of control over the decision-making process [4].

Artificial intelligence algorithms have become a key tool in industrial marketing, providing speed, accuracy and personalization of interaction with customers. However, their hidden action shapes a new reality in which choice becomes limited by the framework of algorithmic recommendations. Thus, the illusion of choice turns into a systemic risk of the digital age.

The optimal path for industrial enterprises is a combination of innovation and ethics, transparency of algorithms and development of digital competence of marketers. Only conscious control over AI will allow to maintain a balance between the efficiency of technologies and the autonomy of human decisions.

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## **INNOVATIVE DEVELOPMENT OF AGRICULTURAL ENTERPRISES AS A BASIS FOR ENSURING SUSTAINABLE DEVELOPMENT OF RURAL AREAS**

Implementation of innovative activities by agricultural enterprises creates the prerequisites for stable and sustainable development of the agricultural sector of the economy.

The innovative type of economic development is the foundation that determines the economic power of the country and its prospects in the world market. Innovative development should be understood as a complex economic process of reproducing a socially necessary product that ensures human life at a new and higher qualitative level of development of productive forces and production relationships between its participants.

The innovative development model, as an economic system, is focused on creating economic, organizational, legal, and social conditions that ensure the effective reproduction, development, and use of the country's scientific and technical potential, the introduction of domestic environmentally safe, innovative resource-saving technologies.

Innovative development of agriculture can be interpreted as a set of relevant organizational, economic and technical and technological measures aimed at implementing innovative processes and accelerating the scientific and technical development of agricultural production, which is based on the introduction of progressive technical, technological, organizational, economic and managerial solutions to increase and improve the quality of agricultural products, increase the efficiency and competitiveness of its production [1].

Innovative development of agriculture is based on the introduction of progressive technical, technological, organizational, economic and managerial solutions aimed at improving the quality of products, increasing the efficiency and competitiveness of production.

The essence of innovative development of various branches of the national economy does not contain fundamental differences. However, in agriculture, the nature and main directions of this process are significantly different.

The following main features of the innovative process in agricultural production can be distinguished:

- 1) the diversity of agricultural products and products of their processing, a significant difference in the technologies of their production;
- 2) significant differentiation of individual regions of the country in terms of agro-technological conditions of production;
- 3) the dependence of technologies used in agriculture on natural conditions;
- 4) the dispersion of agricultural production over a large territory;
- 5) a large difference in the periods of production of individual types of agricultural products;
- 6) the isolation of agricultural producers from scientific institutions engaged in the production of scientific and technical products;
- 7) the absence of an organizational and economic mechanism for transferring scientific achievements to agricultural producers.

The innovation process in agriculture is associated with organizational, economic, technical and technological renewal aimed at improving agro-industrial production, increasing efficiency and competitiveness based on the use of achievements of science, technology, advanced domestic and world experience.

It should be noted that the level of development of innovation processes in modern conditions forms the basis of economic growth.

It is scientifically substantiated and proven by practice that only the transition to an innovative model of development can organically combine quantitative growth with improved qualitative indicators.

Innovative activity is one of the main conditions for the production of competitive products and is the main factor in the effective functioning of enterprises and the development of the agricultural sector of the economy of Ukraine. The driving force of economic growth is the development of innovative high-performance technologies that are able to ensure world standards of product quality and profitability of agriculture.

Therefore, it is possible to ensure stable, competitive and sustainable development of agriculture in the context of accelerating globalization and integration processes only if this development is carried out on the basis of an innovative model.

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### **THE ROLE OF SOCIAL AND INFORMATION FACTORS IN THE STRATEGIC PLANNING OF SUSTAINABLE TERRITORIAL DEVELOPMENT**

In the context of contemporary global challenges, including climate change, accelerated urbanization, and growing social inequality, strategic planning for sustainable territorial development has gained critical importance. According to the United Nations Sustainable Development Goals (SDGs), sustainable development requires a balanced integration of economic growth, social equity, and environmental protection in order to secure the well-being of both present and future generations. Within this framework, strategic territorial planning represents a long-term, multidimensional process that integrates a wide range of influencing factors. Among them, social factors – such as public participation, social cohesion, and cultural norms – and information-related factors – including data availability, digital technologies, and geographic information systems (GIS) – play a catalytic role in enhancing planning effectiveness and adaptability to local conditions.

Social factors constitute the human dimension of strategic planning and are fundamental to its legitimacy and feasibility. Public participation ensures inclusiveness by incorporating local knowledge, needs, and values into decision-making processes. Empirical research demonstrates that insufficient social integration often leads to conflicts, reduced public trust, and inefficiencies during plan implementation. Cultural characteristics, traditions, and social capital further shape the capacity of territories to adapt development strategies to their specific socio-spatial contexts. In the European context, the literature emphasizes that the integration of social priorities into strategic planning is essential for effective climate adaptation and green transformation.

Education and public awareness-raising initiatives enhance societal readiness for change, transforming communities from passive recipients into active co-creators of territorial development strategies. In parallel, information factors provide the instrumental basis for evidence-based planning. In the era of digitalization, big data analytics, geographic information systems (GIS), and artificial intelligence (AI) enable the simulation and assessment of alternative territorial development scenarios with increasing accuracy. These technologies facilitate the systematic collection, analysis, and visualization of demographic, environmental, and economic data, which is essential for risk assessment and strategic forecasting. For example, GIS-based spatial analysis allows planners to evaluate the environmental impacts of urban expansion, thereby supporting informed decisions regarding green infrastructure and sustainable transport networks.

Moreover, digital platforms and open data initiatives enhance transparency and improve coordination among stakeholders by ensuring broader access to planning-related information. The integration of social and information factors produces a synergistic effect in strategic territorial

planning. Social data derived from surveys, participatory workshops, and focus groups enrich quantitative information models, increasing their sensitivity to human needs and social dynamics. In the context of sustainable urban development, AI-driven tools can analyze social media and community feedback to capture public sentiment, enabling real-time adjustments to planning strategies. This integrative approach promotes comprehensive territorial strategies that address economic, social, and environmental interdependencies in a coherent manner.

In the Ukrainian context, where regional disparities and uneven development remain significant challenges, the integration of social and information factors can reinforce decentralization processes and support the sustainable development of both rural and urban territories. Digital platforms for community monitoring and participatory governance offer new opportunities to strengthen local decision-making. However, persistent barriers remain, including the digital divide, which limits access to information for vulnerable groups, and social tensions that may hinder plan implementation. Addressing these challenges requires the establishment of institutional mechanisms for participatory planning, in which social considerations are systematically embedded within information systems. Recent research highlights the need for strategic management approaches oriented toward global challenges, with a socio-informational paradigm serving as a conceptual foundation.

At the regional level, social development priorities must be aligned with the SDGs in order to maintain a balance between economic competitiveness and social stability.

#### Conclusions

Social and information factors represent indispensable components of strategic planning for sustainable territorial development. Their integration enhances inclusiveness, analytical rigor, and adaptive capacity, generating a synergistic effect in which human capital is effectively combined with digital technologies to build resilient territorial systems. Future research should focus on the development of hybrid planning models that account for local specificities while responding to global challenges, thereby improving the effectiveness of territorial governance in an increasingly interconnected world.

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### **DISCLOSURE OF NON-FINANCIAL INFORMATION IN FINANCIAL STATEMENTS AS A FACTOR OF SUSTAINABLE DEVELOPMENT**

In the current conditions of globalization and increasing environmental and social challenges, the issue of sustainable development is becoming particularly relevant. Traditional financial reporting, focused on reflecting economic results, is no longer able to fully satisfy the needs of stakeholders who seek to receive comprehensive information about the impact of business on the environment, society and the corporate governance system. That is why the disclosure of non-financial information in financial reporting is becoming a key tool for ensuring the sustainable development of enterprises and the economy as a whole.

Non-financial information covers environmental, social and management aspects of the enterprise's activities, which allows us to assess not only its economic results, but also the quality of interaction with the environment and society. In modern conditions, investors and other stakeholders are increasingly focused on ESG indicators, which reflect the level of business responsibility and its ability to manage risks. Enterprises that actively disclose such data demonstrate openness, increase their investment attractiveness and build trust with partners.

In international practice, the disclosure of non-financial information is regulated by a number of standards that ensure the unification of approaches to the formation of non-financial reporting, increase its comparability and reliability. For Ukrainian enterprises, adaptation to such requirements is an important step on the path to European integration and entry into international capital markets.

The introduction of non-financial reporting helps to strengthen the reputation of the enterprise and increase its competitiveness.

Of particular importance in the structure of non-financial information are environmental indicators that reflect the impact of the enterprise on natural resources, the level of emissions, waste management and the implementation of environmental innovations. In the context of the global fight against climate change, such data become critically important for assessing the environmental sustainability of the business. Enterprises that actively implement environmental programs and disclose relevant information gain access to «green» investments and preferential financing, which contributes to their sustainable development.

In turn, the social aspects of non-financial information cover issues of labor protection, social protection, gender equality, professional development of personnel and interaction with the community. In modern conditions, social sustainability is becoming an important factor of competitiveness, since enterprises with high social standards have a better reputation, lower personnel risks and higher labor productivity.

The management aspects of non-financial information concern the corporate governance structure, risk control system, compliance with ethical standards and anti-corruption policy. Enterprises that disclose such data demonstrate responsibility and long-term orientation, which positively affects their market value.

Integrated reporting aims to provide a more comprehensive view of the company, including both financial and non-financial factors that affect its overall value. Sustainability reporting focuses on environmental, social and governance indicators and reflects only a part of the company's activities – those related to sustainable development [1].

However, the implementation of non-financial reporting is accompanied by certain difficulties, including the lack of unified methodological approaches, the complexity of data collection, the need for staff training and additional costs for auditing non-financial information. Enterprises that are the first to adapt to new requirements gain strategic advantages and strengthen their positions in the market.

It is important to realize the value of adhering to sustainable development goals in the post-war reconstruction of our country. Strategic planning of reconstruction must meet high international standards, because investors will carefully monitor the use of their invested funds. In this context, it is important to provide them with both a detailed financial report that thoroughly justifies every penny used, and a non-financial report that will demonstrate to them the effectiveness of their investments in social, environmental and management aspects [2, p. 130].

Therefore, the disclosure of non-financial information in financial reporting is an important factor in ensuring the sustainable development of enterprises. It contributes to increasing transparency, strengthening stakeholder trust, improving corporate governance and forming long-term competitive advantages. In modern conditions, non-financial reporting is becoming an integral element of an effective business strategy, and its implementation is a necessary condition for the sustainable development of the economy and society.

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## **SOCIAL AND ECONOMIC CONSEQUENCES OF THE CIRCULATION OF COUNTERFEIT PRODUCTS FOR THE SUSTAINABILITY OF THE MARKET SYSTEM**

The circulation of counterfeit and counterfeit products is one of the key threats to the stability of market systems, as it negatively affects legal business, fiscal stability, the competitive environment and the security of citizens. For Ukraine, which is moving towards European integration and operates in a war economy, this issue is of particular importance. Counterfeiting is associated with the violation of intellectual property rights, while counterfeiting is associated with non-compliance with quality and safety requirements. Both phenomena pose serious risks, and counterfeiting additionally fuels the activities of organized crime as an element of transnational criminal schemes [1].

The social consequences of the spread of counterfeit products include a decrease in consumer confidence in the market, increased health risks, increased social tension and a deterioration in the quality of life. Large-scale detected cases of counterfeit food products – in particular, the seizure of over 15 thousand packages of counterfeit food products in Mykolaiv and Kherson regions – demonstrate that counterfeits often find their way directly into retail chains and online sales channels, misleading consumers [3]. Counterfeit alcohol and tobacco are particularly dangerous: in Kharkiv, law enforcement officers seized counterfeit goods worth over 8 million UAH, which posed a direct threat to public health [4].

The economic consequences include large-scale losses to the state budget due to tax evasion, underpayment of customs payments, shadowing of business and reduced investment. According to OECD and EUIPO estimates, in 2021 the global volume of counterfeit trade amounted to 467 billion US dollars, or 2,3 % of world trade. In the EU, the share of counterfeit imports reached 4,7 % [2]. In Ukrainian conditions, these trends are deepening due to the activity of underground producers: in Kyiv alone, almost 13,900 liters of counterfeit alcohol worth over 1,6 million UAH were seized, and underground workshops producing thousands of liters of surrogate alcohol have been repeatedly discovered in different regions of the country [5, 6]. The scale of the problem is also confirmed by the fact that in six months the Bureau of Economic Security seized 375 tons of alcoholic liquids and 150 thousand counterfeit excise stamps, which indicates the industrial nature of counterfeit production in Ukraine [7]. Of particular concern is the counterfeiting of agrochemicals. The exposure of a group that manufactured over 400 tons of counterfeit pesticides and supplied them to both Ukrainian farms and EU countries demonstrates the systemic nature of the threat to Ukraine's agribusiness and export reputation [8]. The spread of such goods causes economic losses to farmers, reduces yields, and calls into question the safety of products exported to European markets.

In times of war, the circulation of counterfeit products poses a double risk: in addition to economic losses, it can act as a channel for financing criminal groups, which poses a threat to national security. Therefore, the phenomenon should be considered not only as a violation of trade rules, but also as a factor affecting fiscal security, investment attractiveness, the stability of the competitive environment, and Ukraine's fulfillment of its European integration obligations.

Maintaining the stability of the market system requires systematic counteraction to counterfeiting: digitalization of customs and tax procedures, development of industry certification, strengthening control over intellectual property rights, formation of a culture of responsible consumption and strengthening interagency cooperation. Harmonization of national legislation with European standards, implementation of risk-based approaches and modernization of control institutions will minimize social and economic losses and strengthen the market stability of Ukraine.

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## **ENSURING SUSTAINABLE DEVELOPMENT THROUGH IMPROVING NATIONAL SECURITY**

In today's world, sustainable development is increasingly seen not as an abstract concept, but as a practical model for the survival and recovery of national economies [1]. For Ukraine, this issue is particularly acute due to the prolonged period of economic instability caused by military actions, the destruction of production and social infrastructure, a reduction in investment flows, and an increase in the fiscal burden on the state budget. In such conditions, financial mechanisms become a key tool for achieving sustainable development goals, ensuring the redistribution of limited resources and supporting critically important areas of socio-economic development [2].

The economic instability that accompanies a period of war significantly changes the priorities of the state's financial policy. On the one hand, there is a need to concentrate financial resources on defense and humanitarian goals, while on the other hand, there is a continuing need to support the basic principles of sustainable development, in particular social justice, economic viability, and environmental responsibility. In this context, financial mechanisms serve to balance short-term anti-crisis measures and long-term strategic development goals.

In a war economy, budget policy becomes particularly important as the main instrument of state influence on sustainable development processes. The redistribution of budget expenditures, the growing role of international financial assistance and grant financing, as well as increased transparency in the use of funds are becoming decisive factors in financial stability. Ukraine is characterized by a combination of internal budget resources and external sources of financing, which forms a new model of financial support for sustainable development in crisis conditions.

Tax policy is also undergoing significant transformations in conditions of economic instability. On the one hand, the state is forced to seek additional sources of budget revenue, while on the other hand, excessive tax pressure may hinder the recovery of entrepreneurial activity. In this regard, tax incentives aimed at supporting small and medium-sized businesses, innovative and socially significant projects are seen as an important financial mechanism for ensuring sustainable development in the post-war period.

The investment component of financial mechanisms is particularly relevant in the context of Ukraine's post-war economic recovery. The high level of risks associated with the security situation and macroeconomic instability limits the inflow of private capital, which necessitates active state participation in stimulating investment processes. State guarantees, preferential lending, the

development of public-private partnership mechanisms, and the introduction of green finance instruments create the conditions for the implementation of projects focused on long-term development and structural modernization of the economy.

An important aspect of financial support for sustainable development is the integration of environmental considerations into state financial policy. For Ukraine, which has suffered significant environmental damage as a result of military action, the issue of environmental restoration and the introduction of environmentally friendly technologies is becoming a component of national security [3]. In this context, financial mechanisms should contribute not only to eliminating the consequences of destruction, but also to forming a new model of economic development focused on resource efficiency and reducing environmental risks.

At the same time, the effectiveness of financial mechanisms for ensuring sustainable development in conditions of economic instability largely depends on the institutional environment. Insufficient coordination between government agencies, limited trust on the part of business and the population, and weak mechanisms for evaluating the effectiveness of financial programs reduce the potential for their practical implementation. Overcoming these problems is a necessary condition for the formation of a financially sustainable model of post-war development.

Thus, financial mechanisms for stimulating sustainable development in conditions of economic instability play a decisive role in ensuring the adaptation of the economy to the challenges of war and laying the foundations for Ukraine's post-war recovery. Their further improvement should be based on a combination of anti-crisis instruments and long-term strategic priorities, which will ensure balanced socio-economic development even in conditions of limited financial resources and increased risks.

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### **COST OPTIMIZATION IN THE PROCESS OF IMPLEMENTING THE ENTERPRISE'S MINERAL FERTILIZER PROCUREMENT STRATEGY IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT**

Because of high cost of mineral fertilizers their purchase expenses occupy one of the largest share in the structure of material costs of crop growing production and therefore this type of inputs significantly affects cost of money in supply. The above mentioned fact necessitates determining strategic areas of minimizing cost of mineral fertilizers procurement by agricultural enterprises in the context of sustainable development.

Since increasing profits in crop production by increasing crop yields through the application of larger amounts of mineral fertilizers is possible only until scientifically substantiated standards for the application of the latter are achieved, the potential for increasing crop production profitability can be to optimize the costs of purchasing and storing mineral fertilizers by minimizing these types of costs. Therefore, we consider this to be the goal of strategic management of mineral fertilizers procurement in the context of agricultural enterprises' sustainable development. In this case, the goals of strategic management of mineral fertilizers purchases, from our point of view, are

to meet the needs of an agricultural enterprise in nitrogen, phosphate and potash fertilizers; to minimize costs in the process of purchasing and storing nitrogen, phosphate and potash fertilizers.

Tactical goals of strategic management of mineral fertilizers purchases in the context of agricultural enterprises' sustainable development, in our opinion, can be seen in:

- determining the need for nitrogen, phosphate and potash fertilizers;
- ensuring storage of mineral fertilizers in our own warehouses, minimizing storage costs;
- ensuring storage of mineral fertilizers on a paid basis in other business entities' warehouses, minimizing storage costs;
- increasing the storage volumes of mineral fertilizers (taking into account the warranty period of storage of nitrogen, phosphorus and potash fertilizers), purchasing them during the period of lowest prices.

Strategic area of minimizing cost of mineral fertilizers procurement by agricultural enterprises, from our point of view, is the purchase for future use during the period of the lowest prices and their storage on own warehouses or on warehouses of other market participants. This will ensure savings in the purchase of fertilizers and reducing disparities between the prices of fertilizers and crop growing products.

Procurement of mineral fertilizers can be carried out according to various strategies, including those based on regional, single, modular source of supply, circumspection, additional reserve, just-in-time delivery, etc.

Taking into account the peculiarities of the influence of the agricultural sector on the agricultural enterprises procurement of material and technical resources [1, p. 11], we consider that minimizing the costs of purchasing and storing mineral fertilizers can be achieved as a result of implementing a strategy of identification of limiting factors and control. In accordance with the content of this strategy, it is necessary to determine the limitations. For agricultural enterprises, it is advisable, in our opinion, to choose such limitations for the procurement of mineral fertilizers:

- purchase price of nitrogen, phosphorus and potash fertilizers;
- area of own warehouses for mineral fertilizers storage;
- cost of mineral fertilizers storage on own warehouses or on warehouses of other market participants;
- warranty period of mineral fertilizers storage, in particular nitrogen, phosphorus and potash fertilizers.

Taking into account the availability of our own warehouse space for storing mineral fertilizers, it is possible to provide:

- storage of mineral fertilizers at the expense of own warehouses;
- storage of mineral fertilizers at the expense of warehouses of business entities offering mineral fertilizer storage services;
- storage of mineral fertilizers at the expense of both own warehouses and warehouses of business entities offering mineral fertilizer storage services.

Thus seasonality of agricultural production leads to price fluctuations of nitrogen fertilizer group during the year. For sustainable development and in order to minimize the cost of fertilizer procurement and reduce price disparities of fertilizers and crop growing production agricultural enterprises should purchase fertilizers for future use during the period of the lowest prices and store on own warehouses or use the services of other market participants warehouses.

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## **THE ROLE OF BRANDING IN SUSTAINABLE DEVELOPMENT**

The global agenda is increasingly focused on sustainability, driven by climate change, resource depletion, and social inequity. For businesses, this shift necessitates a transition from traditional profit-centric models to systems that integrate Environmental, Social, and Governance (ESG) criteria. This context places the concept of sustainable branding – the strategic creation and management of a brand based on verifiable sustainability practices – at the forefront of corporate responsibility and competitive advantage.

Traditional branding focused on the functional and emotional benefits of a product. In the sustainability era, the concept evolves into a purpose-driven identity, where the brand's core mission aligns with societal or environmental betterment. This shift moves the brand from a promise of quality to a promise of integrity and positive impact.

Branding's primary role is often internal: translating sustainability commitments into the corporate culture. A strong sustainable brand ensures that ESG principles are integrated into supply chain decisions, product design, employee behavior, and governance structures. This prevents greenwashing by ensuring that external claims are supported by authentic internal operations.

Sustainable branding relies on radical transparency [1]. Brands must clearly articulate their sustainability journey – including successes and failures – to consumers, investors, and regulators. Transparency builds the trust necessary for a sustainable brand to be perceived as authentic, directly mitigating the risk of greenwashing. Effective communication mechanisms include: life cycle assessments, impact reporting and digital traceability. Life cycle assessments (LCAs) help with detailing a product's environmental impact from raw material extraction, production, distribution, use, and disposal or recovery. Brands like Patagonia use LCAs to justify material choices and provide consumers with quantifiable data on their purchases.

Impact Reporting linking brand performance directly to specific sustainable development goals. Shifting from purely financial annual reports to integrated reports that link brand performance directly to specific Sustainable development goals (SDGs) [2]. This involves defining Key performance indicators (KPIs) related to carbon footprint, water usage, social equity, and governance.

Digital Traceability utilizing technologies e.g., blockchain to verify ethical sourcing and production. Utilizing distributed ledger technologies like blockchain to verify ethical sourcing, labor conditions, and production origins [3]. This immutable record assures stakeholders that the brand's supply chain integrity is verifiable and not merely a claim.

Fostering Brand-Consumer Co-creation encouraging consumers to participate in the brand's sustainability goals for example product return and recycling programs, repair initiatives. This active engagement strengthens the consumer-brand bond and promotes a circular economy mindset.

The integration of branding and sustainability faces significant obstacles, prompting new avenues for research. The principal challenge is greenwashing – the deceptive use of marketing to promote a false or misleading perception of environmental or social soundness without substantive operational change. This practice erodes consumer trust in the entire sustainable goods market. The lack of standardized terminology and regulatory oversight allows brands to use vague terms (eco-friendly, natural) that are difficult to substantiate. Academic research must focus on developing robust, legally enforceable metrics and audit standards to ensure the integrity of brand sustainability claims and protect consumers.

Current branding strategies are typically built on the principle of continuous growth and consumption. Sustainable development, however, necessitates a discussion around resource limits and circularity. Reconciling the goal of perpetual revenue growth with the necessity of reducing material throughput.

Branding is an indispensable force in the pursuit of sustainable development. It provides the necessary framework to translate abstract goals into concrete, marketable, and internalizable actions. By championing integrity, transparency, and purpose, sustainable branding transforms market dynamics, drives consumer choices, and ultimately, helps build a more equitable and environmentally sound future.

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### RECREATIONAL ACTIVITIES AS A FACTOR IN THE DEVELOPMENT OF TOURIST DESTINATIONS

During the economic crisis, the issue of rational use of tourism resources has become quite acute for society. Almost all of them are used spontaneously, unplanned, unregulated, without taking into account permissible loads. As a result, under the influence of anthropogenic loads and natural conditions, tourist facilities and territories gradually lose their original attractiveness and valuable recreational properties. The resource base for tourism and recreational activities is the natural and historical and cultural objects of a certain territory. One of such locations may be the territory of a nature reserve fund.

The main types of recreational and tourist activities on the territory of the nature reserve fund can be: health improvement; rest; excursion activities; amateur and sport fishing; various types of tourism: children's, youth, family, socially inclusive, educational, sports, religious, ecological, rural (green), extreme, etc. Various aspects of the topic of recreational activities have been covered in the works of domestic and foreign scientists. Thus, "today the tourism industry and the recreation sector are actively developing, which are becoming increasingly important for the economic development of Ukraine. The development of tourist and recreational zones has a positive impact on the economic growth of regions, in particular, the activities of health and cultural institutions are improving, and the percentage of small and medium-sized enterprises in regions with rich tourism potential is increasing" [1, p. 5284].

Recreational activities on the territory of the nature reserve fund of Ukraine are regulated by such basic documents as: the Law of Ukraine "On Tourism", the Law of Ukraine "On the Nature Reserve Fund of Ukraine", the Regulations on Recreational Activities within the Territories and Objects of the Nature Reserve Fund of Ukraine, which ensures the proper organization of recreation and tourism within the nature reserve fund of Ukraine and other regulatory documents. Thus, the Law of Ukraine "On Tourism" defines the principles of organizing tourism as a socio-economic activity, helps to interact with tourists and the tourism business accordingly [2]; the Law of Ukraine "On the Nature Reserve Fund of Ukraine" defines the possibilities and restrictions for organizing recreation and tourism depending on the categories of territories and objects of the nature reserve fund of Ukraine [3]. For example, tourism is prohibited in nature reserves and protected areas of national natural, biosphere reserves and regional landscape parks.

Among the main conditions for the development of recreation and tourism in the territory of the nature reserve fund of Ukraine is the minimization of the negative impact of vacationers on natural complexes and historical and cultural objects. Recreational and tourist use of territories and objects of the nature reserve fund of Ukraine is possible provided that an appropriate system of

management and economic measures is developed, taking into account the established regime of protection and use of resources located in these territories.

Usually, when developing management decisions and tourism development projects, the main factor is demand, on the basis of which plans for increasing the recreational capacity of the territory and regulatory legal acts are created. But in the territories of the nature reserve fund, the leading role is given to environmental protection tasks. Therefore, the main condition for ensuring a balance between social and environmental interests is the regulation of recreational load.

Currently, *recreational activities have a significant impact on the development of tourist destinations, in particular, on the territory of which there are objects of the nature reserve fund, in particular nature reserves and parks.* Being an important element of the natural resource potential, nature reserves and parks not only ensure the implementation of environmental protection functions, but also become a key element in the development of tourism in Ukraine.

Recreational activities at *the objects of the nature reserve fund* have a specific structure, based on the balance of environmental and economic interests. At the same time, properly organized recreational and tourist activities can become an important component of environmental protection and socio-economic development of the destination, will contribute to the growth of environmental awareness of citizens by involving them in natural and cultural values. Therefore, in order to develop tourist destinations and preserve the nature reserve fund of Ukraine, it is important to carry out constant monitoring *of the objects of the nature reserve fund, in particular, determining the norms of recreational load on the territory, conducting an analysis of anthropogenic load, assessing the development of infrastructure and developing an effective strategy for territory management.*

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### BARRIER-FREE INFRASTRUCTURE OF THE RESORT AREA OF THE CITY OF SAMAR (UKRAINE)

The infrastructure of individual resorts and the resort infrastructure of regions as a whole play an important role in the activities of sanatorium and resort establishments. The infrastructure for recreation and rehabilitation performs an important social and economic function in the development of the local community. The social objectives of infrastructure include improving the health of the population, reducing the overall incidence of disease, restoring lost vitality, and organizing leisure and entertainment programs. One of the extremely important social objectives of resort infrastructure is to ensure unhindered access to resort and health services. The economic aspects of the development of recreation and leisure facilities include stabilizing the surrounding areas, creating new jobs, and replenishing the budget at all levels. The recreation and leisure infrastructure is the basis for the sustainable and stable development of the entire health and recreation complex[1, 2].

The city of Samar is one of the recreational centers of the Dnipro region of Ukraine. The city of Samar and the surrounding areas of the Dnipro region (in particular, the areas around the Samara River, the Samar Bay, the Vovcha River, and the Solony Liman) offer many recreational centers that are resort areas. These are not traditional resorts on the sea or a lake, but there are sanatoriums, park hotels, large rehabilitation centers, hospitals, entertainment centers, and elite suburban complexes. All of them are located in picturesque forests and on the shores of freshwater reservoirs and salt lakes. The unique healing factors are the mud of the salt lakes located in a protected pine forest and the mineral waters of the region «Novomoskovsk» and «Znamensky».

The demand for summer trips to the city of Samar is constantly growing among Ukrainian and foreign tourists, including tourists with disabilities. This is due to the presence of two large medical centers — the Orlivshchyna sanatorium-resort and the Soleny Liman rehabilitation center. Other recreational centers in the Samara region are also actively developing and becoming new tourist destinations. It is worth noting that Ukrainian resort areas, including the city of Samara, are working to create a barrier-free environment based on the «National Strategy for Creating a Barrier-Free Environment in Ukraine by 2030».

However, the infrastructure of Samara's tourist areas still does not meet the needs of this particular group of guests. The city does not have a sufficient number of hotel rooms adapted for people with special needs, entrances or ramps adapted for people with special needs, special lifting mechanisms, or specially trained staff. The transport and entertainment infrastructure and recreational infrastructure in the city are also insufficiently adapted for people with special needs. People with disabilities are forced to travel directly to hotel complexes in the region and avoid transfer stations and train stations in Samara. However, resort facilities outside the city are more adapted to the needs of people with disabilities[3].

The Soleny Liman medical and rehabilitation facility is one of the most important resort centers near the city of Samar. The Soleny Liman facility has a typical resort infrastructure. The resort includes an administrative and medical building, guest houses, staff quarters, a medical spring, a sports ground, a recreation area, a car park, a restaurant, and two shops (one of which is located on the resort grounds). The village of Novotroitsk is located near the facility. The rehabilitation facility has convenient direct transport links to the city of Samar and, via Samar, to Dnipro (25 km), Zaporizhzhia (107 km), and Kharkiv (197 km). The infrastructure of the rehabilitation center is barrier-free and adapted to the special needs of patients with mobility impairments and anyone who wants to relax. The main elements of the barrier-free environment at the Solonyi Lyman medical and rehabilitation facility comply with barrier-free standards and norms. The Orlivshchyna resort also has a relatively high level of barrier-free accessibility[4].

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## FAO ACTIVITIES AND COOPERATION WITH UKRAINE

The international standards and specifications developed by FAO for agricultural, forestry and fishery products are of particular practical importance, as compliance with them is crucial for exporters in the face of intense competition in international trade and increasing conflict over potential markets. It should be acknowledged that since the beginning of cooperation between Ukraine and FAO (since 2003), the relevant ministries and agencies have made considerable efforts to participate in the activities of this organization and to ensure its participation in the work of the main intergovernmental bodies of FAO and international conferences held under its auspices. However, the author's analysis indicates that the ministries responsible for Ukraine's participation in the FAO have significant reserves and untapped potential in many areas of the organization's work. Therefore, the most important task facing them is to improve the institutional mechanism for regulating business in Ukraine's ecosystem. Resolving these issues will undoubtedly increase the effectiveness of Ukraine's participation in international trade relations and enable business to be conducted in the ecosystem on the basis of FAO standards. In studying the activities of the FAO and Ukraine's participation, a large number of sources were processed, including the works of numerous authors — political scientists, historians, and international experts — who are interested in the activities of the United Nations and its organizations, as well as the final documents of the United Nations, FAO, OECD, and international conferences and summits on issues of international economic relations [1]. and the Organization for Economic Cooperation and Development, the Integrated Environment Agreement, and international conferences and summits on issues of international economic relations [1].

Cooperation between FAO and Ukraine has focused on national capacity development through pilot tests and the presentation of best practices, contributing to the overall role of technology transfer and capacity building. In this regard, FAO assistance includes successful projects such as improving the monitoring of cattle and animal products and supporting the early warning system for animal and against plant pests and diseases, including monitoring, laboratory diagnosis, and emergency preparedness[2].

While the FAO Regional Office for Europe and Central Asia is primarily responsible for developing field assistance programs, another feature of the cooperation is FAO support for the development and implementation of agricultural and rural investment strategies in collaboration with local stakeholders and major international financial institutions[3].

Ukraine currently participates in five FAO open committees and two committees: the Committee on Commodities, the Committee on Fisheries, the Committee on Agriculture, the Committee on World Food Security, the Committee on Forestry, the Committee on Food Constitution, and the Committee on Genetic Resources, which are the responsibility of organizational units of the Ukrainian Ministry of Agriculture and Food[4].

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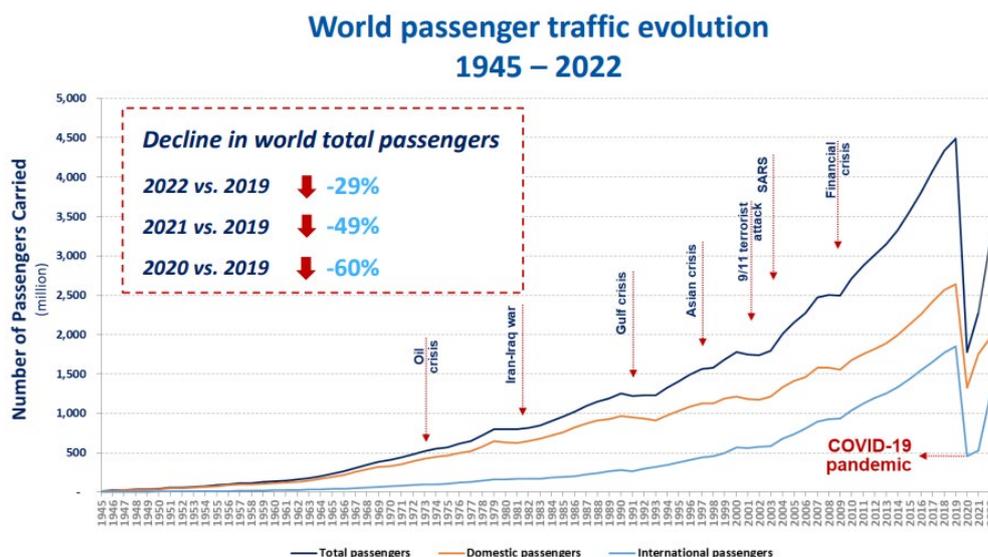
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## FINANCIAL AND ECONOMIC MECHANISMS TO SUPPORT THE SUSTAINABLE DEVELOPMENT OF THE EU AVIATION INDUSTRY DURING CRISES

*Main Scientific Results.* The resilience of businesses in a contemporary world marked by ongoing crises - ranging from past economic downturns and military conflicts to the threat of a global recession - depends heavily on their ability to respond rapidly and adapt their marketing strategies.

The COVID-19 pandemic caused a profound economic shock across all sectors, but the aviation industry was hit the hardest. Strict restrictions, flight bans, reduced consumer purchasing power, and inconsistent national regulations led to unprecedented market disruptions. Figure 1 illustrates how passenger air traffic evolved during this period.



**Figure 1.** Changes in passenger traffic dynamics under the influence of the COVID-19 pandemic, million passengers [1]

The presented statistical evidence demonstrates that global passenger air traffic experienced a dramatic collapse, marking the most significant decline in its recorded history. At the same time, in order to mitigate the adverse effects of the pandemic, governments worldwide introduced urgent measures aimed at supporting the aviation sector. A decisive factor for overcoming the crisis - and essentially for ensuring the survival of the industry as well as shaping future marketing strategies of airports and their base carriers - became the implementation of government support programs for airports and airlines.

Beginning in March-April 2020, national governments launched large-scale assistance initiatives for their aviation industries. A brief overview of the main forms of support used internationally includes the following:

1. Deferral of taxes, fees, dividend payments and other mandatory obligations for aviation-related enterprises, a measure adopted in nearly all countries.

2. State guarantees for commercial loans and facilitation of access to credit, most actively used in Northern European countries.

3. Direct financial support for airports to cover operational shortfalls and provide liquidity, with funding distributed to thousands of airports in the United States and Europe -ranging from approximately USD 20,000 for small regional airports to more than USD 300 million for major hubs.

4. Direct financial assistance or interest-free government loans for airlines, widely implemented across Europe, with support packages ranging from USD 250 million to USD 4 billion for national carriers [2].

Thus, governments, aviation bodies, airports, and airlines continue to put significant effort into bringing the industry back to its 2019 benchmarks. Passenger traffic has already exceeded pre-pandemic levels. According to the Airports Council International Europe (ACI Europe), in 2024 European airports handled more than 2.5 billion passengers, which is approximately 1.8% above the figures recorded in 2019. This indicates that overall passenger volume has returned to - and even slightly surpassed - its pre-pandemic level [3]

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### **PRECONDITIONS FOR IMPROVING UKRAINE'S OPEN BUDGET INDEX SCORE IN 2025**

In the decade preceding the full-scale russian invasion, Ukraine's Open Budget Index (OBI) score rose to 65 points in 2021, placing the country among regional leaders in budget transparency. The 2023 round, based on data for 2022, registered a sharp decline to 38 points, reflecting emergency restrictions on the publication of key budget documents and limited opportunities for public oversight under martial law [1, p. 155-158]. The Open Budget Survey (OBS) methodology, which does not provide exemptions for crisis situations, thus captured the immediate shock of war to the transparency, participation and oversight dimensions of the national budget system. In 2025, Ukraine underwent the regular OBS survey, and a series of legal and institutional changes in 2023-2024 give reason to believe that the country's 2025 OBI rating will be higher than the previous one.

A central step was the approval of the Budget Declaration for 2025-2027 by Resolution No. 751 of 28 June 2024, which re-established a coherent medium-term budget framework after its wartime suspension [2]. The Declaration and its annexes outline forecast expenditure and revenue indicators for the medium term, including disaggregation by administrative classification, thereby strengthening the link between policy priorities and resource allocation. Accompanying documents to the Draft Law "On the State Budget of Ukraine for 2025" explain how the Declaration's

parameters are reflected in the draft budget and justify deviations, improving the transparency and predictability of fiscal policy decisions. The annex “Information on fiscal risks” provides baseline and alternative macroeconomic scenarios and quantitative estimates of the impact of risks on revenues, while the National Bank of Ukraine’s Inflation Report supplies an independent forecast path of the key policy rate and other monetary variables, together ensuring public access to core macroeconomic assumptions underpinning the budget [3, 4].

Debt and donor-assistance transparency has been reinforced. The annex “Distribution of state budget expenditures for 2025” specifies expenditures for debt servicing, contributions to international organisations, debt-financed road infrastructure projects and payments related to domestic and foreign court decisions, while the annex “State budget revenues” distinguishes official transfers (grants) and other own revenues of budgetary institutions, including the valuation of in-kind donor assistance [3]. Regular publication of the Treasury’s monthly and quarterly reports on debt operations and on the state and state-guaranteed debt, complemented by monthly data and explanatory materials on the Ministry of Finance website, discloses all three key indicators relevant for OBS – new borrowings, interest payments and overall debt burden [5, 6].

The completeness and timeliness of budget documentation have also improved. Pursuant to Article 38 of the Budget Code, the Draft Law “On the State Budget of Ukraine for 2025” is accompanied by forecast indicators of the consolidated, state and local budgets and by forecast indicators for the budgets of the Compulsory State Social Unemployment Insurance Fund and the Pension Fund, extending the coverage of the executive’s proposal beyond the central government [3]. When submitting the draft budget and after adoption of the Budget Law, the Ministry of Finance publishes presentations on its website and disseminates visual materials through social media, increasing the accessibility of key figures and policy messages for citizens [7, 8].

After a period in 2022 when the Treasury did not post in-year execution reports due to legal restrictions on data disclosure, publication of monthly budget execution reports in approved formats has resumed [5]; the Ministry of Finance now posts monthly information on execution, including comparative tables with the corresponding period of the previous year [9]. For 2023, the Ministry has made available an information document on state budget execution that combines statistical tables with a narrative discussion of macroeconomic conditions, effectively restoring an annual reporting function [10].

Performance information and oversight arrangements have been strengthened in parallel. Non-financial indicators on inputs, outputs and outcomes for budget programmes are presented in annexes titled “Information: purpose, objectives, indicators” for each key spending unit of the state budget, published on the websites of respective ministries and the Secretariat of the Cabinet of Ministers [11]. These annexes provide target and realised values, improving the results orientation of the budget and supporting higher OBS scores on programme-performance disclosure. At the same time, Law No. 4042-IX of 30 October 2024 removed a wartime clause that had limited the powers of the Accounting Chamber to conduct external financial control, restoring its legal capacity to perform comprehensive audits of central government activities [12]. This change directly reinforces the institutional basis for independent oversight in the OBS framework.

Taken together, the adoption of a comprehensive medium-term Budget Declaration, integration of fiscal-risk and macroeconomic analysis into budget documentation, expansion of annexes on expenditures, revenues, debt and donor assistance, restoration of in-year and annual reporting on budget execution, publication of programme performance information and the removal of constraints on the supreme audit institution indicate a gradual transition from emergency-induced opacity back to institutionalised transparency standards. These developments align with specific OBS questions on transparency and oversight, creating robust preconditions for Ukraine to achieve a higher Open Budget Index score in the 2025 round than in 2023. However, continued security risks and the need to strengthen formal public-participation mechanisms remain significant challenges.

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**MANAGEMENT OF THE STRATEGY OF MOTIVATION AND STIMULATION OF PERSONNEL IN TRADE AS A TOOL FOR ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS BASED ON OPEN RESEARCH DATA**

In the conditions of modern trade development, effective management of personnel motivation and employee incentives requires the use of scientifically based data. The use of open research data (Open Research Data) allows you to analyze the effectiveness of various incentive strategies, compare approaches and ensure the reproducibility of research. This contributes to transparent and objective management decision-making, which increases the effectiveness of motivational policy in trade enterprises and ensures the long-term development of the organization.

In modern conditions of trade development, one of the key factors in the efficiency of an enterprise is the level of motivation and interest of personnel. A high level of employee motivation ensures high-quality service, increased productivity and competitiveness of the enterprise. Managing motivation and incentives in a business entity requires a systematic approach based on scientific research and objective data.

The use of open research data (Open Research Data) allows you to obtain up-to-date information about effective motivation methods, incentive practices and their impact on labor productivity. Such data makes it possible to compare different strategies, adapt them to specific conditions of the enterprise and ensure the reproducibility of scientific conclusions, which increases the reliability of management decisions.

The strategy for increasing motivation includes a set of measures aimed at developing internal and external motivation of employees. It involves the creation of favorable working conditions, the use of material and non-material incentives, the development of career prospects and support for the professional development of personnel. The use of open data allows you to assess the effectiveness of each of these measures and adjust the management strategy in accordance with the results obtained [2].

The digitalization of the management process and the integration of information systems for collecting and analyzing data on employee motivation are of particular importance. This allows you to quickly track the level of satisfaction, productivity and participation of personnel in various incentive programs, which increases management efficiency and ensures transparency in decision-making.

Thus, managing the strategy for increasing motivation and stimulating personnel in trade enterprises based on open research data is an effective tool for increasing productivity and competitiveness.

In addition, the use of open research data in the process of developing motivational strategies allows enterprises to focus on current labor market trends, identify the most effective approaches to motivating personnel and conduct a comparative analysis with industry indicators. This opens up opportunities for flexible adjustment of motivational tools in accordance with socio-economic changes, as well as the formation of policies based on evidence.

An important advantage is the ability to use modern digital platforms to automate the processes of assessing motivational factors and identifying key personnel needs [1].

In the context of sustainable development, focusing on long-term results, rather than only short-term incentives, is of particular importance. Motivational strategies based on open data and modern management approaches allow building an effective model of interaction between management and personnel, in which employees are perceived as a key resource for development. Thus, the digitalization of management processes, the use of open research data and the implementation of innovative motivation methods form a comprehensive basis for increasing the efficiency of commercial enterprises.

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## **SUICIDAL BEHAVIOR IN THE CONDITIONS OF WAR IN UKRAINE: CLINICAL-PSYCHOLOGICAL AND FORENSIC-MEDICAL CHALLENGES FOR THE SUSTAINABLE DEVELOPMENT OF THE SOCIO-MEDICAL SYSTEM**

Suicidal behavior in the context of the full-scale war in Ukraine has acquired a qualitatively new character. This concerns not only the increase in quantitative indicators but, above all, the transformation of risk structure, motivational configurations, and the social context in which such actions occur. Under these circumstances, suicide is no longer merely an individual act of despair: it becomes a marker of exhausted support systems, fragile social connections, and the overload of mental-health services. For a society that declares a course toward recovery and sustainable development, such dynamics signal structural dysfunctions in medicine, social policy, and the legal system.

Suicidal behavior in Ukraine develops at the intersection of several powerful factors: chronic stress, combat-related and civilian trauma, economic instability, loss, and forced displacement. Added to this are well-known clinical predictors — depressive and anxiety disorders, post-traumatic stress disorder, addictive behavior, and severe somatic conditions [1; 2]. In practice, the classical model “depression and suicidal intent” increasingly proves insufficient: specialists encounter complex crises involving intertwined feelings of guilt, shame, loss of control, experiences of moral injury, and a sense of “not belonging.”

A clinical-psychological analysis makes it possible to outline several of the most common profiles of individuals displaying suicidal behavior.

The affective-depressive profile is characterized by pronounced inhibition, loss of interest, self-blaming attitudes, and a sense of hopelessness.

The impulsive-reactive profile includes sudden self-harm-related behaviors arising in the context of conflict, frustration, or acute affect, often without prolonged preparation.

The psychotic profile encompasses suicidal behavior within the structure of psychotic symptoms.

The social-deviant profile combines self-directed harmful behavior with outward aggression, risk-taking, and substance misuse.

For forensic medical examination, this means that outwardly similar incidents may have fundamentally different internal motivations and dynamics, which must be considered during the reconstruction of events.

Another complex challenge involves differentiating suicide from incitement to self-harm, accidental death, and staged violent scenarios. In practice, superficial interpretation of circumstances may lead to incorrect legal classification, loss of critical information about the individual’s mental state, and the exclusion of cases from suicide statistics. This undermines trust in law-enforcement and expert institutions and distorts the true scale of the problem, hindering the development of effective prevention programs [3].

From the standpoint of national development, suicidal behavior reflects the ability of the system to notice and support vulnerable individuals. When a person remains outside the attention of medical, psychological, or social services for years and eventually reaches a crisis point, it indicates that at some stage they were not seen or not adequately supported. In such cases, it is essential not only to document the event but also to analyze where exactly the system lost contact with this individual.

Suicidal behavior is never the domain of a single discipline. Psychiatrists, psychologists, family doctors, emergency medical services, police, and social workers all stand nearby. Problems arise most often not because someone “did their job poorly,” but because coordination between

these links is insufficient: information is not shared, pathways are poorly defined, and responsibility becomes fragmented [4].

In wartime conditions, suicidal behavior becomes a key indicator of the system's resilience - of whether it can withstand the extraordinary burden and provide not only acute crisis response but also long-term support. Each such case is not only an individual tragedy but also an opportunity to identify weaknesses, revise approaches, and ensure that help is timely, accessible, and truly person-centered.

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### **DIGITALIZATION OF FINANCIAL REPORTING TO ENSURE COMPLIANCE WITH IFRS AND SUPPORT SUSTAINABLE ENTERPRISE DEVELOPMENT**

In the context of global economic transformation, the digitalization of financial reporting has become a decisive factor in enhancing the transparency, comparability, and quality of financial information. The introduction of electronic reporting formats, automated accounting systems, and digital data standards—particularly Inline XBRL—significantly improves compliance with the International Financial Reporting Standards (IFRS). Digital technologies enable enterprises to strengthen corporate governance, optimize internal control mechanisms, and enhance the accessibility of financial information for key stakeholders. This paper examines the role of digitalization in ensuring the reliability of financial data, highlights international practices in the EU, the UK, the USA, and Japan, and evaluates the potential of digital tools to support sustainable economic development.

Digital transformation processes have reshaped traditional approaches to financial reporting, bringing efficiency, accuracy, and transparency to the forefront of corporate information systems. The adoption of Inline XBRL (iXBRL) has become one of the most significant innovations in recent years, as it enables the integration of human-readable and machine-readable financial data within a single unified document. According to XBRL International, Inline XBRL improves the quality of financial disclosure by enhancing data structure, reducing errors, and supporting automated analytical procedures [2]. These characteristics directly contribute to compliance with IFRS requirements, which emphasize the completeness, reliability, and comparability of financial information.

Within the European Union, the mandatory adoption of Inline XBRL under the European Single Electronic Format (ESEF) has become a key step toward harmonizing corporate reporting standards. This policy promotes unified disclosure practices, reduces information asymmetry between market participants, and increases the confidence of investors and regulatory bodies [3]. Similar advances have been implemented in the United States by the Securities and Exchange Commission (SEC), as well as in the UK and Japan, demonstrating the global recognition of Inline XBRL as an essential component of financial reporting infrastructure.

Digitalization contributes significantly to the achievement of sustainable development goals by transforming the quality and accessibility of financial data. First, automation reduces the time

and resource costs associated with preparing and auditing financial statements. Second, digital formats ensure rapid access to information, supporting continuous monitoring of economic, environmental, and social performance indicators. Third, digital solutions reduce operational risks and strengthen internal controls, thereby enhancing the resilience and sustainability of business processes.

The adoption of digital tools is particularly important for fulfilling IFRS requirements. Standards such as IAS 1 “Presentation of Financial Statements,” IAS 10 “Events After the Reporting Period,” IFRS 7 “Financial Instruments: Disclosures,” and IFRS 13 “Fair Value Measurement” require structured and detailed disclosure of financial data. Digital systems facilitate compliance with these standards by ensuring the integrity and consistency of financial information, improving accuracy in classification, measurement, and presentation [1].

Furthermore, enterprise-wide automated accounting systems (ERP), cloud technologies, business intelligence (BI) analytics, and machine learning create additional opportunities for optimizing financial management. These technologies expand the analytical capabilities of enterprises, support risk management processes, and enhance decision-making, thereby contributing to sustainable development strategies. Digital transformation also aligns with corporate governance best practices by strengthening transparency, stakeholder communication, and accountability.

Digitalization has become an integral element in modernizing financial reporting and improving the resilience and sustainability of enterprises. The adoption of Inline XBRL and other digital technologies ensures compliance with IFRS requirements, increases the transparency of financial statements, and facilitates harmonized reporting practices across international markets. Digital tools enhance the efficiency of resource management, support sustainable development strategies, and strengthen investor confidence. The future of financial reporting in Ukraine depends on the active implementation of advanced European digital practices and the continued integration of international standards into national reporting systems. These transformations will support the country’s movement toward global economic integration and improve the stability and competitiveness of domestic enterprises.

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### **ADAPTIVE MANAGEMENT MODELS OF ECONOMIC SECURITY OF THE AGRICULTURAL SECTOR IN THE CONTEXT OF ENSURING SUSTAINABLE DEVELOPMENT**

Ensuring the economic security of the agricultural sector of Ukraine in modern conditions of military aggression requires a transition from classical, stable management models to adaptive situational models. These models must be able to respond promptly to nonlinear and highly probable risks caused by hostilities, destruction of infrastructure and logistical shocks [1]. In conditions of military conflicts, the main challenges are disruption of value chains, shortage of resources (fuel, seeds, fertilizers), loss of production assets and land pollution. An adaptive management model should provide for the prompt redistribution of resources, mobilization of reserve capacities and flexible change of sown areas in accordance with the security situation. In the period of post-war recovery, key management efforts should be aimed at creating investment security mechanisms, in particular, through the introduction of state guarantees and the

development of special programs to attract international financing for demining, infrastructure restoration and modernization of production facilities [2]. The effectiveness of such models is determined not only by economic indicators, but also by the speed of restoration of the production cycle and the stability of food supply. It is worth noting that the economic security of the agricultural sector in the modern scientific paradigm cannot be considered as an exclusively financial or production category. It is inseparable from environmental security, which acts as its fundamental resource basis. In the context of sustainable development, environmental security is a state of protection of the vital interests of society and production from threats associated with the degradation of natural resources (soil, water, air, biodiversity). Violations of ecological security, in particular, depletion of soil cover or shortage of water resources, are directly transformed into economic threats (reduced yield, increased cost of production and loss of competitiveness). Thus, ecological security is a critical long-term factor of economic sustainability, and its provision is not a regulatory burden, but a strategic investment in the fixed capital of the agricultural sector. The integration of ecological security and economic security of the agricultural sector forms a single system of resource and economic security necessary for sustainable development.

It should be noted that the modern agricultural sector operates in conditions of significant global and local challenges that directly threaten its resource and economic security. Climate change is a source of highly probable and high-amplitude risks, including aridization, frequent droughts and unpredictable weather events. These processes lead to significant economic losses due to a decrease in average yields and increased volatility of production [3]. The second critical challenge is soil degradation, which includes erosion, humus loss and secondary salinization. These processes reduce the amount of fertile land, which directly leads to a decrease in production potential and an increase in the need for chemical fertilizers, increasing the cost. Critical analysis shows that existing risk management models do not sufficiently take into account the synergistic effect of the combination of climatic and anthropogenic threats, which requires the development of integrated risk assessment systems. To ensure sustainable development, a transition to modeling of environmental and economic efficiency is necessary, which allows quantitatively measuring the economic benefits of implementing environmental protection measures. Traditional accounting methods record only the costs of environmental measures, but ignore long-term economic benefits. The use of the concept of costing environmental externalities is promising. For example, an increase in the humus content in the soil by 1% can be converted into a projected increase in yield and a decrease in the cost of nitrogen fertilizers. To model these relationships, it is advisable to use multivariate econometric models, where the independent variables are environmental indicators (humus level, erosion index), and the dependent variables are economic indicators (net profit, profitability). Such modeling substantiates that investments in soil conservation technologies are economically rational and strengthen resource security.

The digital transformation of the agricultural sector is a key tool for increasing both economic and environmental security. Precision farming technologies, based on the use of GIS technologies, sensors and Big Data, allow optimizing the application of seeds, fertilizers and plant protection products in accordance with the real needs of specific areas of the field, contributing to increased technological security through better monitoring of crop conditions and risk forecasting. However, a critical point is the need to develop standards for the protection of agricultural data and ensure equal access of small farms to these expensive technologies. The digital transformation of the agricultural sector is also fundamentally changing the mechanisms for managing the economic security of the agricultural sector. Despite the obvious economic benefits, which are manifested in increasing the efficiency of resource use and reducing production costs, digitalization generates new types of threats that require separate scientific understanding. In this regard, the key direction of the research is to determine technological security indicators that would assess the level of dependence of the sector on imported software and equipment, as well as the degree of protection of production and financial data from cyber risks. It is necessary to develop models that would assess the optimal ratio between economic efficiency achieved through digitalization and potential losses from technological failures or external cyber interference. At the same time, achieving the goals of

resource and environmental security requires a reorientation of financial policy. It is necessary to create mechanisms to stimulate «green» lending, where banks and financial institutions provide priority and preferential financing to those agricultural enterprises that implement environmentally friendly and soil-saving technologies. State support should be shifted from subsidizing production volumes to supporting organic production and measures to restore soil fertility. A transparent system of certification and verification of environmental indicators needs to be developed, which will allow financial institutions to objectively assess environmental risks and provide preferences. This will provide the necessary financial basis for the long-term sustainability of the agricultural sector.

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### **PROSPECTS FOR TRADE AND ECONOMIC COOPERATION BETWEEN UKRAINE AND MEXICO IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT GOALS**

Amid global economic turbulence, disruptions in supply chains, and the growing role of regional alliances, the need arises to adapt Ukraine's foreign economic activity. The prospects for cooperation between Ukraine and Mexico, although not particularly significant at first glance, gain importance as an element of foreign trade diversification, reducing dependence on traditional markets while strengthening Ukraine's position in the global arena. Economic relations between Ukraine and Mexico in recent years have demonstrated moderate but steady growth, confirming the intention of both countries to expand their foreign economic directions. For the analysis of the dynamics of bilateral trade relations, the years 2018, 2021, and 2024 were selected.

According to UN Comtrade, Trading Economics, and OEC, the total volume of Ukraine's exports to Mexico amounted to approximately USD 174 million in 2018, USD 196 million in 2021, and about USD 49 million in 2024. The structure of exports confirms that it is predominantly of a resource-technological nature. In 2018, the main export items were ferrous metals (USD 50.1 million, 29% of total exports), agricultural products (USD 60.4 million, 35%), chemical fertilizers (USD 27.2 million, 16%), and machinery products (USD 19.2 million, 11%) [1]. In 2021, although exports increased, the structure remained similar: metallurgy accounted for USD 83.5 million (43%), agricultural products for USD 33.1 million (17%), machinery and equipment for USD 14.6 million (7%), and chemical products for USD 35 million (18%) [1]. In 2024, according to estimates by Trading Economics and OEC, export volumes sharply declined to USD 49 million, with 69.6%

attributed to titanium ores and concentrates (USD 34 million), while the share of agricultural and machinery products decreased [1; 2]. These changes indicate a gradual shift in Ukrainian exports from a relatively diversified structure to a predominantly raw-material-oriented one.

Imports from Mexico to Ukraine, by contrast, are consistently oriented toward high-technology goods. Their total volume amounted to USD 168 million in 2018, USD 299 million in 2021, and approximately USD 250 million in 2024 [1; 2; 3]. The most significant import categories remain automotive equipment and components (USD 49 million in 2018, USD 178 million in 2021, and USD 120 million in 2024), electronics (USD 54 million, USD 51 million, and USD 60 million in the respective years), pharmaceutical products (USD 13 million, USD 19 million, and USD 20 million in the respective years), and processed food products (USD 18 million, USD 28 million, and USD 25 million in the respective years) [1]. These indicators confirm the technological orientation of Mexican exports and their role in the modernization of Ukraine's industrial base.

Based on the presented data, it can be argued that the prospects for bilateral cooperation are shaped around the complementarity of economic structures. Ukraine, possessing a strong agricultural sector and resources of various metals (in particular, titanium), can supply Mexico with raw materials and semi-finished products, while Mexico, integrated into the USMCA market, has a production base capable of providing Ukraine with high-technology components and equipment. It is important to note that the development of Ukrainian-Mexican economic interaction gains additional significance in the context of implementing the UN Sustainable Development Goals, in particular SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 17 (Partnerships for the Goals). Such mutual benefit opens the way for the creation of joint ventures in the fields of agricultural machinery, mechanical engineering, and pharmaceuticals, which can strengthen the positions of both countries in global value chains and contribute to increased innovativeness and resource efficiency.

Overall, the findings of this study indicate that the expansion of trade and economic cooperation between Ukraine and Mexico represents a strategically significant opportunity under conditions of global economic instability and structural change. Such cooperation can contribute not only to increased trade volumes but also to strengthening the economic autonomy of both countries by leveraging the complementarity of their economic structures. For Ukraine, this partnership creates opportunities to diversify exports, reduce dependence on traditional markets, and expand its economic presence in Latin America while gaining access to innovative technologies. For Mexico, cooperation with Ukraine offers a pathway to deepen economic ties with Europe beyond the EU, supporting nearshoring strategies, production chain reorientation, and the attraction of foreign investment. In this context, the preservation of positive trade dynamics, structural modernization of exports, and integration into Latin American markets form the basis for a sustainable partnership capable of responding to contemporary challenges. Strategic diversification of foreign economic relations thus aligns with current environmental and institutional sustainability requirements and supports the development of a more balanced, long-term model of economic growth and development.

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## **TRANSFORMING CORPORATE PROCUREMENT: GLOBAL TRENDS IN THE CONTEXT OF DIGITALIZATION AND ESG**

In the context of rapid global economic transformation, corporate procurement has evolved into a key strategic function that shapes firms' competitiveness, resilience, and capacity for innovation. No longer limited to operational sourcing, procurement increasingly serves as a mechanism for long-term value creation, risk management, and the implementation of sustainability principles. Ongoing structural shifts in the global environment have intensified these dynamics and imposed new functional and strategic requirements on procurement systems.

Procurement professionals currently operate under conditions of heightened geopolitical uncertainty, inflationary pressures, supply chain disruptions, and persistent labor shortages. As a result, the influence of corporate procurement on strategic decision-making has strengthened markedly. According to global analytical surveys, nearly 70% of leading companies report an expanding role of procurement in cost efficiency and strategic management processes [1].

Global trends in corporate procurement are shaped by three interrelated dominants:

- digital transformation, which fundamentally reshapes the technological foundations of decision-making processes;
- ESG-oriented governance, which reinforces the role of ethics, environmental sustainability, and responsibility across supply chains;
- the growing strategic influence of procurement, as it increasingly determines firms' capacity to adapt to global shocks and evolving market conditions.

However, corporate procurement is undergoing active but uneven digital development [1, 2]: only 2% of organizations have achieved full digitalization, reflecting high technological complexity and demanding requirements for integrated procurement systems; the majority of firms remain at intermediate levels of digital maturity (around 27% are partially digitalized and progressing towards comprehensive digital solutions, while 26% has no plans for further digital expansion). Thus, the structure of procurement digitalization demonstrates:

- polarization of companies by the level of digital readiness;
- dominance of partial forms of digitalization, indicating the transitional nature of the transformation;
- growing demand for advanced digital solutions, including artificial intelligence platforms, robotic data processing, forecasting tools, and risk visualization instruments;
- an increasing gap between digital transformation leaders and companies operating under traditional procurement models.

At the same time, digitalization acts as a key driver of the transition towards sustainability-oriented models, including the green transition, climate neutrality, and related pathways [3]. The growing relevance of environmental, social, and governance (ESG) principles represents one of the most visible trends in the development of corporate policy. Contemporary organizations increasingly integrate ESG considerations into their operations, recognizing their strategic importance for long-term competitiveness.

The response structure indicates that ESG has become a strategic driver of procurement development. A substantial majority of organizations report a growing role of ESG, confirming a shift from declarative sustainability commitments to their practical integration into procurement processes. ESG increasingly shapes supplier selection, cost evaluation, risk management, and supply chain transparency. The minimal share of organizations reporting a decline (3%) or uncertainty (2%) highlights the irreversibility and institutionalization of ESG within contemporary corporate governance [4]. Thus, ESG in procurement is viewed as a mechanism for long-term value creation, a tool for ensuring the environmental and social responsibility of business, and an important prerequisite for competitiveness in the context of global economic transformation.

At the same time, the synergy between digitalization and ESG forms a new procurement paradigm, as digital solutions enable comprehensive monitoring and measurement of environmental and social parameters, while ESG defines the value-based and strategic framework. The combination of these factors creates a procurement model that is transparent, data-driven, resilient to risks, and oriented towards long-term value creation.

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### CARTOGRAPHIC ASSURANCE OF TOURISM ACTIVITIES

Cartographic support for tourism activities includes the creation and use of specialised maps, atlases and geographic information systems (GIS) for route planning, tourist orientation, innovation and analysis of tourist flows [1].

Tourist maps are divided into general topographic (with relief, hydrography, roads), special (for hiking, water, cycling routes) and overview (large regions). They also include road maps with routes, city street plans, attraction maps, physical maps of natural objects, and specialised maps (for fishing or gardening). In Ukraine, companies publish route maps of the Carpathians and Crimea, atlases, and guidebooks [1; 2].

Cartographic products support tourism through cultural heritage atlases (such as Ukraine. Cultural Landscape Heritage with 39 interactive maps), tourist maps of Kyiv, the Carpathians, and regional plans. Modern tools include digital maps for mobile applications with real-time data [1, 2, 3].

Methods for creating tourist maps for regions of Ukraine include desk-based cartography based on general geographical maps, topographic plans, aerospace images and GIS technologies, with stages of design, original compilation, preparation for publication and printing (or electronic presentation).

The process begins with design: formulation of the task, selection of scale (e.g., 1:200,000–1:400,000 for regional maps, 1:5,000–1:30,000 for plans of settlements), projection (equiangular transverse cylindrical Gauss-Krüger) and content (tourist resources, routes, infrastructure). This is followed by the compilation of the original with the generalisation of objects (relief, hydrography, landmarks), the creation of a legend and symbols using vector editors. The process is completed with preparation for printing or electronic format with multimedia elements [1; 2; 3].

GIS is used for digitising sources, modelling routes, creating thematic layers (resources, tourist flows) and interactive maps. For regions of Ukraine (Carpathians, Kyiv region), data from state funds, satellite images and statistical databases are integrated for personalised routes. The systematic approach involves regional complexes: maps of the region, city plans, route diagrams, atlases [1; 2; 3].

Among the modern interactive tourist maps of Ukraine that will help you plan your travels and discover new routes are:

– META Maps – electronic maps of Ukraine with topographic and satellite images. You can view cities, roads, and natural objects [4].

– Amazing Ukraine – the official tourist map from the State Agency for Tourism Development. It includes routes, quests, Insta-locations, and contacts of tourist centres [5].

– Magneticon interactive tourist map – shows tourist attractions, routes, infrastructure with photos, videos, and audio guides [6].

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### **INNOVATIVE DIRECTIONS FOR THE DEVELOPMENT OF THE MARKETING MECHANISM FOR AGRICULTURAL BUSINESS MANAGEMENT**

Ukraine's agribusiness operates in a highly volatile environment: price fluctuations, seasonality, climate risks, logistical constraints, global competition pressure and, at the same time, European integration requirements for product quality, safety, traceability and environmental friendliness. In such an environment, traditional approaches to marketing as 'sales and advertising' are becoming insufficient. Marketing in the agricultural sector must be transformed into a mechanism for managing development: from identifying market opportunities and building competitive offerings to ensuring sustainable sales, creating added value, building loyalty and institutional support for innovation.

Researcher O. Kuzmenko notes that the marketing mechanism for managing agribusiness should be viewed as a system of interrelated blocks: marketing research; product innovation block; communication block; sales and logistics block; pricing block; marketing activity control system [1]. In practical terms, it is implemented through a coordinated marketing mix adapted to the tasks of innovation and diversification: positioning, communication policy, brand strategy, product and pricing policies. It is 'coordination' that is the key criterion for effectiveness: a strong product without communication will not be heard, a brand without quality service will not gain trust, and a low price without a value proposition will not ensure loyalty.

An important feature of the current stage is that innovations in agribusiness are increasingly determined not only by production technologies, but also by 'marketing innovation' — the ability of an enterprise to form new markets and create products with high added value using data, digital channels, and partner networks. Research materials from enterprises in the Vinnytsia region (in particular, approaches to assessing the integral indicator of innovative development with the inclusion of a marketing innovation component) [2] show that enterprises that invest in marketing research and innovative projects and process/create value propositions for end consumers usually

have higher innovation development indicators than manufacturers that remain within the ‘traditional raw material model.’

Innovation in agribusiness does not automatically translate into economic results. It goes through a chain: market goal – marketing support – innovative resources – innovative production – effective implementation – efficiency growth [2]. In this chain, marketing acts as a ‘conductor’ of innovation to the market: it ensures that new technology or products are in demand and do not remain internal improvements without commercial effect. This leads to three fundamental principles:

marketing must be integrated into the management system, rather than existing as a separate ‘sales function’;

innovations must be market-driven: decisions about new products, processing, services or sales channels are based on data, segmentation, competitive analysis and demand forecasting;

the organisational structure must ensure interaction between marketing and production, finance, logistics and R&D, otherwise innovation will not be systematic.

These fundamental principles form the methodological basis for rethinking the role of marketing in the agricultural business management system. Their implementation requires a transition from the fragmented use of individual marketing tools to the creation of a comprehensive marketing mechanism focused on supporting innovative development and achieving the strategic goals of the enterprise [3]. That is why the key innovative directions for the development of the marketing mechanism for agribusiness management are: digitalisation of marketing; product and added value innovation; building trust as a marketing asset; innovation in sales and logistics; communication transformation; new type of marketing planning; development of human capital and organisational flexibility, which together form the basis of the modern model of marketing management in the agricultural sector.

Thus, it has been established that the key innovative directions for the development of the marketing mechanism in agribusiness are digitalisation (CRM, analytics, e-commerce, automation and Big Data/AI), which translates marketing into a format of data-driven decisions and KPIs. It has been found that product innovation and value creation (processing, niche products, branding, packaging, price ranges) are at the core of increasing competitiveness, ensuring a move beyond the raw materials model. It has been found that trust is transformed into a marketing asset through certification, traceability and transparency of production, which strengthens positioning in EU markets.

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### **BIODIVERSITY AS A BASIS FOR SUSTAINABLE DEVELOPMENT OF PROTECTED AREAS: MONITORING EXPERIENCE FROM MOUNT MAKITRA**

Mount Makitra, located within the Voronyaky Range in Western Ukraine, represents one of the few well-preserved fragments of meadow-steppe ecosystems in the region. Established as a botanical reserve in 1931 and later incorporated into the “Pivnichne Podillia” National Nature Park, this area is characterized by high biodiversity, including rare plant and animal species listed in the Red Book of Ukraine and protected under the Bern Convention. The conservation of such

ecosystems is essential not only for maintaining biological diversity but also for ensuring ecological resilience and sustainable regional development.

The slopes of Mount Makitra (343 m a.s.l.) form a mosaic of forest, meadow, and steppe habitats that provide suitable conditions for pollinators, steppe flora, and indicator species sensitive to environmental change. The history of entomological research in the region dates back to the mid-19th century, beginning with the works of Maximilian Nowicki, who described the insect fauna of Eastern Galicia. The modern stage of research emphasizes long-term monitoring of protected areas and the assessment of biodiversity status, forming a scientific foundation for sustainable management strategies.

The meadow-steppe slopes of Mount Makitra support a unique variety of plant communities typical of natural steppe ecosystems in Western Ukraine. Species such as *Salvia pratensis*, *Onobrychis*, *Galium verum*, *Chamaecytisus*, *Daphne cneorum*, and others create a mosaic of habitats with a high density of floral resources. These communities provide a stable food base for pollinating insects, support pollination processes and seed formation, and contribute to soil stability.

The synchronous flowering of different plant species throughout the warm season ensures a continuous supply of resources for butterflies, bees, and bumblebees, making meadow-steppe habitats critical for maintaining biodiversity. Pollinators, in turn, enable the reproduction of plant communities, preserving their structural integrity and ecological resilience. The interaction between vegetation and insects forms a balanced ecosystem in which each component plays a significant role in maintaining natural processes.

Butterflies are among the most sensitive and widely used indicator groups for assessing environmental quality. On Mount Makitra, representatives of the families *Lycaenidae* and *Nymphalidae* are common, including *Polyommatus icarus*, *P. bellargus*, *Plebejus argus*, *Coenonympha glycerion*, *Aglais io*, *Autographa gamma*, and the rare *Papilio machaon*.

Lycaenid butterflies are closely associated with ant communities, reflecting the stability of biotic interactions in steppe ecosystems. Their presence and diversity indicate the preservation of meadow-steppe habitats, while shifts in species composition may signal ecological disturbances.

During field studies on the slopes of Mount Makitra, quantitative surveys of diurnal butterflies were conducted across representative sites with different vegetation types. These observations made it possible to assess overall species richness, evaluate spatial distribution, and identify differences in abundance among butterfly families.

The data obtained indicate the high ecological quality of meadow-steppe habitats, which provide favorable conditions for both small lycaenids and larger territorial species. Analysis of community structure enables long-term tracking of population dynamics and supports evidence-based conservation planning and biodiversity management.

Research conducted on Mount Makitra demonstrates that natural meadow-steppe ecosystems perform essential ecological functions: they support pollination, ensure the stability of plant communities, regulate microclimate conditions, and provide habitats for diverse insect groups and rare plant species.

Monitoring of vegetation and insects makes it possible to assess overall ecosystem condition, detect trends, and identify potential threats at an early stage.

Practical measures carried out by park staff — the preservation of open habitats, control of woody encroachment, and maintenance of natural conditions for meadow-steppe development — contribute to ecological stability. The findings serve as a foundation for integrating conservation approaches into local planning strategies and sustainable resource use.

#### Conclusions

1. Mount Makitra is a valuable center of natural meadow-steppe ecosystems in Western Ukraine and an important reference site for ecological monitoring.
2. Observations of plant diversity and insect community structure confirm the high natural value and good ecological condition of the territory.
3. Pollinators and other sensitive insect groups play a key role in maintaining ecological processes; therefore, their long-term monitoring is a necessary component of sustainable environmental

management.

4. The scientific results provide the evidence base required for effective conservation management and strategic planning at both the community and regional levels.

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## **REFORM OF THE PENSION SYSTEM OF UKRAINE IN THE CONTEXT OF FINANCIAL SUPPORT FOR SUSTAINABLE DEVELOPMENT**

Among the Sustainable Development Goals, poverty reduction should be identified as one of the most pressing priorities under conditions of uncertainty and a slowdown in global economic growth. For Ukraine, additional challenges include ongoing armed aggression, declining household incomes, and population ageing.

The funded pension system provides for the accumulation of individual pension assets for each citizen through regular contributions of a certain percentage of earnings to personal accounts. Unlike the pay-as-you-go system, where the amount of future pension benefits depends on the demographic ratio between employed individuals and retirees, the funded system ensures a direct link between the amount of contributions made and future pension payments [1].

The advantages of the funded pension system include:

1. Financial sustainability. Pension savings are accumulated on an individual basis, which reduces the burden on the state budget and ensures the stability of pension payments regardless of demographic trends.
2. Incentives for formal employment. Citizens are motivated to make contributions, as this directly affects their future income.
3. Investment-driven development. Pension assets can be invested in government and corporate securities, thereby creating additional financial resources for economic growth.
4. Personal responsibility. Individuals are able to monitor their own savings, choose a pension fund, and select an appropriate investment strategy.

Challenges and implementation conditions. Despite its significant advantages, the introduction of a funded pension system requires addressing a number of important issues. First and foremost, the development and stability of financial markets are essential, as investment mechanisms are the primary drivers of pension asset growth. It is also necessary to ensure transparency in the operation of private pension funds, effective state regulation, and reliable supervision of asset management [2].

Equally important is the improvement of the population's level of financial literacy. Many citizens lack sufficient knowledge of investment instruments, risks, and the principles of funded pension schemes, which may lead to mistrust and low participation rates.

The transition period also poses a major challenge, as contributions will be partially redirected to the funded pillar while pensions for current retirees must continue to be paid in full. This requires the development of a balanced financial model that adequately accounts for the fiscal burden on the state budget [3, p. 383].

The implementation of a funded pension system can generate long-term investment resources for the economy, facilitate the accumulation of domestic capital, stimulate the development of the capital market, and increase national savings. In the long run, this will contribute to higher living standards and provide higher pension benefits compared to a purely pay-as-you-go system.

The gradual transition of Ukraine to a funded pension model is a strategically important step toward ensuring the long-term financial stability of the pension system. The combination of pay-as-you-go and funded mechanisms will reduce fiscal pressure, enhance the predictability and adequacy of pension benefits, and create additional investment opportunities for economic development [4, p.

154]. The success of the reform will depend on effective state regulation, the development of financial infrastructure, and active citizen participation in building individual pension savings.

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### THE ROLE AND IMPORTANCE OF MODERN MEDICINE IN ENSURING SUSTAINABLE DEVELOPMENT

Health is one of the most important components of sustainable development. The well-being of the population directly affects economic productivity, social stability and the ability to respond to crises. Modern medicine encompasses preventive care, digital health technologies, biomedical research and creates the basis for a sustainable society by improving health, increasing life expectancy [1]. Noncommunicable diseases (NCDs) remain the leading cause of premature death and disability worldwide. Cardiovascular diseases, diabetes, cancer and chronic respiratory diseases cause millions of averted deaths each year and impose a huge economic and social burden. In the European Region, NCDs cause an estimated 1.8 million averted deaths and cost over US\$514 billion each year [2]. These findings highlight the urgent need for comprehensive health interventions to achieve sustainable development.

Preventive medicine is key to reducing the prevalence of NCDs. Vaccination programs, early screening, promotion of healthy lifestyles, and tobacco control significantly reduce the incidence and prevalence of preventable diseases. Such measures not only save lives, but also reduce long-term health care costs, contributing to social and economic sustainability [3]. It should be emphasized that preventive health care for the population is important and essential for preventing and treating many diseases at their early stages, especially among incurable diseases. For the effective organization of preventive health care for the population, some marketing aspects should be taken into account [4].

Digital health technologies, including telemedicine, electronic health records, and mobile applications, have significantly transformed the delivery of health care. Telemedicine enables remote patient monitoring, timely consultations, and management of chronic conditions, especially in underserved regions. Evidence suggests that telemedicine improves outcomes, reduces hospitalizations, and ensures equitable access to health services [5]. The COVID-19 pandemic has demonstrated the importance of resilient and adaptive health systems. Countries with well-developed digital health infrastructure have been able to maintain continuity of care, protect vulnerable populations, and minimize disruptions to health services. Such resilience is a key element of sustainable development that enables resilience to health crises [6].

Telemedicine, primary care programs, and public health initiatives reduce inequalities related to geographic location, income, or social status. Ensuring equal access strengthens social cohesion, reduces inequality, and supports inclusive development [7]. Biomedical research contributes to the development of modern medicine, developing genetics, drug development, vaccines and personalized therapies. These innovations improve the effectiveness of treatment, optimize resources and strengthen public health, supporting sustainable health systems worldwide. Meeting the health needs of an aging population is also important. Effective geriatric care, chronic disease management and preventive programs help maintain the quality of life of older people and allow them to remain productive members of society. This approach promotes intergenerational equity and strengthens the social dimension of sustainable development. Modern medicine therefore plays a key role in sustainable development. Through prevention, effective treatment, innovation and equitable access, it strengthens population health, economic sustainability and social inclusion. Investments in health today ensure the long-term well-being of society.

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## INFORMATION TRANSPARENCY OF COMMUNITIES AS A FACTOR OF TRUST AND REVIVAL OF RURAL GREEN TOURISM

Rural green tourism plays a significant role in the sustainable development of local communities in Ukraine. In the post-war period, rebuilding trust between residents, local authorities, and tourists is crucial for the recovery of this sector. Information transparency—open access to accurate and timely data about local attractions, services, and safety—serves as a key factor in restoring confidence among potential visitors. Effective communication strategies and digital tools can enhance the visibility of rural areas, support local businesses, and foster a sustainable tourism environment. This study examines how information transparency contributes to the revival of rural green tourism and strengthens community resilience after the conflict [1].

The influence of information transparency in communities on the level of trust among local residents and tourists can be explained as follows. Firstly, when a community-through local

authorities or initiative groups-systematically provides publicly accessible, complete, and reliable information about its services, infrastructure status, safety measures, and visitor opportunities (such as accommodation, leisure, and local events), it creates a foundation for developing trust. People-both local residents and potential tourists-can independently verify whether the provided information is accurate, assess risks and benefits, and see that the community is open to dialogue [2].

Secondly, information transparency enhances the sense of responsibility and accountability of local authorities or community structures. When real communication channels, feedback mechanisms, public reports, or updates exist, the risk of misunderstandings, distrust, or fear is reduced. Transparency demonstrates that the community intends to act openly, which is particularly important in the context of post-war recovery, where safety and integrity are priorities.

Finally, transparent information signals that the community is interested in development, inviting visitors and revitalizing economic activity. This makes rural green tourism more attractive not only from a tourist perspective but also socially and economically. Such trust-between authorities, local people, and visitors-can become the foundation for sustainable tourism development and community growth as a whole.

This assertion is supported by research showing that information transparency in public administration-including public reports and accessibility of procedures and data-is an effective tool for building trust and ensuring public safety [3].

Effective communication about services and the attractiveness of rural green tourism in the post-war period requires a comprehensive approach that combines traditional and digital communication channels. One of the key tools is official websites of communities and tourist facilities, which provide up-to-date information about available services, routes, accommodation conditions, safety measures, and cultural events. Posting updates on social media platforms (Facebook, Instagram, Telegram) allows timely information for potential tourists and helps build a positive community image through photo, video, and text content.

In addition, online booking and review platforms play an important role, enabling tourists to verify the accuracy of information and learn from previous visitors' experiences. Traditional channels, such as printed brochures, informational stands at local tourist sites, and cooperation with regional travel agencies, provide additional access for audiences less active on digital resources.

A crucial condition is the integration of all channels into a single community information strategy that ensures timely data updates, material accessibility, and opportunities for tourist feedback. Such an approach promotes trust, increases the attractiveness of rural areas, and supports the sustainable development of rural green tourism after the war.

Information transparency in local communities is a decisive factor in rebuilding trust and promoting rural green tourism in post-war Ukraine. Open communication, digital engagement, and access to reliable information increase the attractiveness of rural areas for tourists, support the recovery of local economies, and encourage sustainable practices. Strengthening transparency mechanisms not only improves the tourism experience but also enhances social cohesion and resilience within communities. For sustainable development, policymakers and local authorities should prioritize transparency and information sharing as core components of tourism planning and community recovery strategies.

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## **GROUP PSYCHOTHERAPY AS A RESOURCE FOR PSYCHOLOGICAL RESILIENCE IN CONDITIONS OF WAR**

The full-scale war in Ukraine has created an unprecedented level of psychological pressure, making the need for effective, evidence-based, and accessible forms of psychotherapeutic support especially urgent. Under these conditions, group psychotherapy becomes a particularly valuable intervention, as it combines emotional support, therapeutic interaction, and the development of social resources—all of which directly contribute to psychological resilience.

Contemporary approaches describe group psychotherapy as one of the most effective tools for coping with stress, traumatic experiences, and emotional maladaptation. Group members have the opportunity to process their experiences in a safe space, broaden behavioural strategies, and train emotional self-regulation skills [1, p.4-6]. Participation in a therapeutic group helps restore a sense of agency that is often disrupted by war-related trauma.

A key component of group work is group dynamics: mechanisms of normalization, mutual support, modelling adaptive behaviour, and exchanging lived experience. Research demonstrates that social support is one of the strongest protective factors against the intensity of stress reactions and the development of post-traumatic symptoms [2, p. 189-190]. Group processes reduce isolation, strengthen the feeling of belonging, and create conditions for emotional stabilization.

Ukrainian psychosocial guidelines emphasize the effectiveness of group-based interventions in addressing prolonged stress, loss, frustration, and emotional exhaustion during wartime [3]. Group work activates inner resources—reflection, re-interpretation of traumatic experience, restoration of interpersonal connections, and development of self-regulation skills.

Materials on the medical and psychological rehabilitation of combatants show that emotional stabilization and renewed social functioning occur more effectively in interaction with others than through individual work alone [4, 17-22]. Group interventions offer a context in which individuals can reinterpret their reactions, discover new coping strategies, and experience supportive relationships.

In wartime, group psychotherapy performs several critical functions:

- reducing the sense of isolation and social fragmentation;
- facilitating the re-evaluation of traumatic experiences through collective support;
- restoring emotional self-regulation;
- developing skills in communication and constructive interaction;
- strengthening self-efficacy through shared learning;
- contributing to both individual and community resilience.

Thus, in conditions of war, group psychotherapy functions not only as a therapeutic method but also as a mechanism for strengthening community resilience. It helps individuals restore internal resources, reduce distress, and regain a sense of control and social inclusion. Combined with the professional training of specialists, these approaches form a solid foundation for psychological assistance programs capable of responding to the challenges of wartime.

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## **DIGITALIZATION AND INNOVATION AS DRIVERS OF ENTREPRENEURIAL ACTIVITY DEVELOPMENT AMIDST CONTEMPORARY ECONOMIC CHALLENGES**

Digitalization and innovation stand as the cornerstone of sustainability and competitiveness for entrepreneurial activity amidst contemporary economic challenges, including global instability, high inflation, and resource scarcity. The relevance of this topic lies in the fact that traditional business models are losing effectiveness, and only enterprises that promptly implement digital solutions (Artificial Intelligence, Big Data, cloud technologies) and cultivate an innovative mindset can optimize operational processes, enhance labor productivity, and effectively interact with consumers. In the context of economic recovery, especially after crisis phenomena, it is the innovative and digital vector of development that becomes a key driver for forming new market niches, ensuring financial stability, and minimizing risks, making it a critically important subject for scientific research and practical implementation. Enterprises are compelled to adapt to new challenges by implementing digital solutions and innovations, which serve as key factors in ensuring business competitiveness.

Digitalization and innovation are the cornerstone of sustainability and competitiveness for entrepreneurial activity amidst contemporary economic challenges, including global instability, high inflation, and resource scarcity. The relevance of studying this topic lies in the fact that traditional business models are losing their effectiveness, and only enterprises that promptly implement digital solutions (Artificial Intelligence, Big Data, cloud technologies) and cultivate an innovative mindset can optimize operational processes, enhance labor productivity, and effectively interact with consumers. In the context of economic recovery, especially after crisis phenomena, it is the innovative-digital vector of development that becomes a key driver for forming new market niches, ensuring financial stability, and minimizing risks, making it a critically important subject for scientific research and practical implementation. Enterprises are compelled to adapt to new challenges by implementing digital solutions and innovations, which serve as key factors in ensuring business competitiveness. Digitalization and innovation are consistently in the focus of both practitioners and academics (L. G. Melnyk, A. P. Bevz, O. I. Karintseva, L. L. Kalinichenko, A. V. Cherep, O. A. Sorokivska, M. Nambisan, Peter Weill, Stephanie Woerner, Henry Chesbrough, Philip Kotler), who actively contribute to generating new ideas and transforming them into practice.

The modern global economy is characterized by a high level of volatility, uncertainty, complexity, and ambiguity (the so-called VUCA world, or, by newer terminology, the BANI world, which emphasizes fragility and anxiety). In this dynamic environment, burdened by geopolitical conflicts, pandemic consequences, and inflationary risks, traditional business models become insufficient to ensure long-term sustainability. Digitalization and innovation have transformed from optional strategies into critical imperatives, acting as the main drivers that allow entrepreneurial activity not only to survive but also to achieve breakthrough development.

Digitalization is significantly more than simple automation; it is a fundamental transformation of business models, internal processes, and market interaction. It creates new economic landscapes, such as the platform economy, the sharing economy, and the gig economy. The implementation of advanced technologies, such as Artificial Intelligence (AI), Big Data processing, cloud computing, and the Internet of Things (IoT), allows enterprises to optimize operating costs, increase the speed of decision-making through real-time data analysis, and personalize the customer offering.

Innovation in the digital context is not limited only to technological progress (product innovations). It encompasses process innovations (agile management methodologies), marketing innovations (virtual or augmented reality in sales), and organizational innovations (forming

horizontal network management structures). Specifically, amidst economic challenges such as supply chain disruptions and the need for energy efficiency, innovative digital solutions allow for:

- enhanced resilience: thanks to cloud services and remote access, businesses can maintain operational continuity even in crisis regions.
- ensured transparency: technologies like blockchain ensure the reliability of transactions and product provenance, which is critical in global trade and the fight against counterfeiting.
- democratization of entrepreneurship: digital platforms lower barriers to entry into international markets for Small and Medium-sized Businesses (SMBs), transforming local startups into global players.

Despite the significant advantages, the process of digital transformation for enterprises is accompanied by a number of challenges. Ukrainian scholars note that the problem of transforming the national economy into an information-network economy remains insufficiently addressed, as well as the deficit of qualified personnel and financial constraints for SMBs. In this context, the role of the leader-entrepreneur, as the driving force of innovation, becomes central. For the effective realization of digital potential, entrepreneurial activity must focus on the following strategic priorities:

- forming a digital culture;
- developing digital skills;
- building innovative ecosystems.

Thus, digitalization and innovation are the inevitable path of development, which provides entrepreneurial activity with the ability to adapt, maneuver, and create value in conditions where economic challenges require non-standard, fast, and high-tech responses. The success of a future enterprise will be determined by its ability to transform digital potential into sustainable economic results. The introduction of innovative technologies creates the prerequisites for expanding the product range, the emergence of new services, and the formation of new markets. The implementation of such solutions requires significant financial investments and institutional support from the state, which is critically important for the Ukrainian economy amidst military challenges.

Despite the obvious advantages of digital technologies, certain problems also exist. Specifically, A. P. Bevz notes that the use of Artificial Intelligence in auditing is accompanied by technical difficulties and high implementation costs. Furthermore, ensuring cybersecurity remains a major challenge, as data leakage can lead to significant financial losses and a decrease in customer trust.

In conditions of war and economic instability, digitalization and innovation can become the basis for the economic recovery of Ukraine. The use of digital e-commerce contributes to customer retention and market expansion.

Therefore, the conducted research proves that digitalization is a necessary condition for the effective functioning of enterprises in modern economic realities, and innovation is the main factor in ensuring the competitiveness and development of business. The implementation of digital technologies and innovative solutions requires state support and investment, and for Ukraine, digital business can become the foundation for economic recovery and integration into global markets.

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## IMPLEMENTATION OF ESG STANDARDS IN CORPORATE GOVERNANCE AS A TOOL FOR SUSTAINABLE DEVELOPMENT

Modern global economic transformations define sustainable development as a central guideline for corporate operations. Rising environmental risks, social challenges, and demands for transparency have driven the adoption of the ESG (Environmental, Social, Governance) framework, which now underpins corporate decision-making, strategy formulation, and risk management [1]. ESG allows companies to assess performance not only financially but also in terms of environmental impact, social welfare, and governance quality. In the context of Ukraine's European integration and stricter international regulatory requirements, ESG implementation is critical for competitiveness, investment access, and long-term business resilience. International experience demonstrates that corporations integrating ESG gain strategic advantages, including cost reduction, enhanced reputation, improved risk management, and higher stakeholder engagement [2].

ESG standards encompass three pillars: Environmental: emissions, energy efficiency, and waste management; Social: labor conditions, inclusion, safety, and community engagement; Governance: transparency, ethics, compliance, and board structure. Incorporating these pillars into corporate governance fosters responsible business processes oriented toward long-term sustainability. ESG-oriented management is increasingly used by investors to evaluate risks and corporate attractiveness. European regulations, such as the EU Taxonomy, CSRD, and GRI standards, set clear non-financial reporting requirements, promoting transparency and digitalization. Effective ESG integration requires robust information systems. Corporations must collect, analyze, and systematize large volumes of ESG data using modern digital infrastructure. Key tools include: Data Analytics and Big Data for risk forecasting, carbon footprint assessment, and social indicator monitoring; Internet of Things (IoT) for real-time energy, emissions, and safety monitoring; ESG-oriented reporting platforms ensuring transparency and compliance with GRI, SASB, and TCFD standards; ERP and BI systems integrating ESG data into overall corporate management for informed strategic decisions [3].

Polish companies actively integrate ESG due to EU standardization and investor demand. The banking sector implements "green finance" policies, while industry focuses on emissions, energy efficiency, and workplace safety. Corporations operating internationally adopt integrated ESG dashboards combining environmental, social, and business metrics. Poland's experience demonstrates that digitalization and standardized reporting enhance competitiveness within the EU. Globally, Western European and North American companies consolidate ESG data from all subsidiaries, using AI to evaluate suppliers, forecast emissions, and identify social risks. Comprehensive sustainability programs reduce carbon footprints, promote circular business models, enhance inclusivity, and strengthen corporate responsibility. Technological support and ESG data standardization are critical for strategic resilience in a globalized environment [4]. Ukrainian companies are gradually adopting ESG standards, driven by European integration, international partners, and investor expectations. Large enterprises in energy, agriculture, metallurgy, and finance lead this trend, implementing decarbonization, energy efficiency, workplace safety, human capital development, and transparent governance practices. Companies also adopt standardized ESG reporting according to GRI, UN Global Compact, and EU guidelines, while

reorienting business models toward social responsibility, including community support and international partnerships. ESG integration strengthens resilience during crises and facilitates global market positioning [2; 3].

Key challenges include non-standardized ESG data, high costs of digital systems, limited management expertise in sustainability, poor integration of ESG metrics in strategic planning, and monitoring difficulties in global supply chains. Addressing these challenges requires enhanced information infrastructure, advanced ESG analytics, and harmonized reporting aligned with international standards [5]. ESG implementation in corporate governance is a strategic instrument for sustainable corporate development. International experience confirms that digital technologies and high-quality information systems are fundamental for transparency, stakeholder trust, and long-term resilience. For Ukrainian companies, ESG adoption is both a requirement for European integration and an opportunity to strengthen their global competitiveness.

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### THEORETICAL ASPECTS OF DEVELOPING AN ORGANIZATIONAL AND ECONOMIC MECHANISM FOR ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS

Sustainable development is a multidimensional concept that encompasses economic, social, and environmental domains. In the context of the global challenges of the 21st century [1] including war, deepening climate crises, rising social inequality, technological transformation, environmental degradation, deterioration of institutional governance, and the erosion of trust in political institutions the necessity for radically rethinking the foundations of socio-economic regulation becomes increasingly urgent. The contemporary socio-economic system demonstrates a growing structural inability to ensure stable, environmentally neutral, and socially equitable growth. From an academic perspective, this is manifested in the lack of integrated, conceptually coherent models that simultaneously account for systemic complexity, dynamic intersectoral interdependence, eco-social constraints, and macroeconomic stability requirements.

Traditional macroeconomic models predominantly focus on economic growth without sufficient consideration of resource limitations and social equity. The field of economics is characterized by profound methodological fragmentation. On the one hand, there exists a significant number of theories of growth and development (neoclassical, Keynesian, endogenous, post-industrial, inclusive, green growth theory, etc.), many of which propose promising directions for

transformation. On the other hand, there are classical macroeconomic equilibrium models (IS-LM, AD-AS, DSGE, RBC), which form the foundation of macroeconomic policy [2].

However, these theories and models are not integrated into a unified management system. Moreover, existing macro-models typically ignore externalities, socio-economic polarization, and ecological constraints, while development theories generally lack institutional stabilization mechanisms and do not rely on quantitatively validated management systems. As a result, strategic development priorities become disconnected from practical governance, causing low effectiveness of public policy. Theoretical approaches to building a mechanism for sustainable development of socio-economic systems are clearly divided into two separate components: growth theories and macroeconomic equilibrium models.

Thus, there is an urgent need to develop a universal theory of sustainable growth based on an equally universal model of macroeconomic equilibrium. Such an analytical and mathematical model must incorporate sustainability factors and enable the calculation of a macroeconomic equilibrium point within socially acceptable parameters. It must also serve as an objective, scientifically grounded evidence base supporting the validity of the proposed universal theory of sustainable growth. The universal theory of sustainable growth and the analytical mathematical model should function as components of a holistic system whose integral unity forms a scientifically substantiated organizational and economic mechanism capable of ensuring stable and sustainable development of the socio-economic system in the long run.

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### INFORMATION TRANSPARENCY AS AN OPEN DATA MODEL IN PUBLIC PARTICIPATION IN SUSTAINABLE DEVELOPMENT PLANNING

The Sustainable Development Goals require the integration of citizen participation into planning processes. Transparency of information enables public participation in governance and strengthens accountability.

In September 2015, the UN Sustainable Development Summit was held in New York as part of the 70th session of the UN General Assembly. The Summit's outcome document, "Transforming our world: the 2030 Agenda for Sustainable Development," included 17 Sustainable Development Goals and 169 targets. National development goals, indicators for monitoring their implementation, and targets for achievement by 2030 were reflected in the National Report "Sustainable Development Goals: Ukraine."

Sustainable Development Goal 16 on "Peace, justice and strong institutions" aims to build peaceful and inclusive societies, ensure access to justice for all and establish effective, accountable and inclusive institutions at all levels, including combating corruption, violence and strengthening the rule of law. This is the basis for social stability and the protection of human rights. It requires ensuring public access to information as a basis for effective, inclusive institutions. Transparent data systems facilitate meaningful citizen participation in sustainable development planning.

Transparency enables informed citizen participation by providing the data needed to understand the context of policy and make meaningful proposals [1]. The Open Government Partnership recognizes transparency, citizen participation, and accountability as mutually reinforcing principles. Open data-government information made available in machine-readable, reusable formats—enables evidence-based planning that responds to community priorities [2].

Three mechanisms link transparency to development outcomes. First, transparent information empowers citizens to assess policy options and influence decision-making. Second, open data systems integrate diverse sources of information, enabling local development priorities to be identified. Third, transparency enhances accountability by creating a record of decisions and resource allocations that is monitorable by citizens and civil society.

There is a significant gap between the legal recognition of information rights and their practical implementation. Institutional barriers include bureaucratic complexity, inadequate data management infrastructure, and political resistance [3]. Over 130 countries have adopted access to information laws, but their implementation remains uneven. South Korea's Open Government Data Master Plan systematically publishes datasets on priority challenges [2]. Brazil's Transparency Portal allows citizens to scrutinize government spending, exposing instances of poor governance [4]. Participatory budgeting, which operates in over 1,500 cities, demonstrates how transparency ensures that spending is aligned with community priorities [5].

Citizen-generated data complements official statistics. Research shows that integrating citizen data with official information reduces costs and increases responsiveness to community needs. Equal access. Equitable transparency requires addressing the issue of data accessibility for different populations. Solutions include expanding digital infrastructure, educating citizens through civic organizations, and combining digital and analog engagement methods.

Transparency of information, realized through open data, is the basis for participatory, accountable planning for sustainable development. To realize this potential, it is necessary to: strengthen legal frameworks; invest in digital infrastructure; expand literacy programs; institutionalize participatory data governance; and integrate citizen-generated data with official statistics. Investing in equal access to information is a commitment to inclusive governance that responds to the needs of all communities.

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### **GREEN MARKETING AS A FACTOR IN FORMING COMPETITIVE ADVANTAGES AND ENSURING SUSTAINABLE DEVELOPMENT**

Modern trends in the development of the world economy demonstrate the growing importance of environmental responsibility as a key element of strategic management of enterprises. Against the background of increasing consumer demands for environmental friendliness of products and transparency of business activities, green marketing is becoming an important tool for ensuring sustainable development. It creates new opportunities for increasing competitiveness and long-term financial stability.

Green marketing encompasses a set of activities aimed at creating, promoting, and selling goods and services that minimize their negative impact on the environment. Its components include eco-friendly product design, the use of eco-friendly packaging, certification, energy-saving technologies, and ESG communications that ensure transparency in business interactions with stakeholders [1].

The introduction of green technologies allows businesses to optimize costs, increase investment attractiveness and increase consumer loyalty. For example, switching to energy-efficient technologies reduces resource costs in the long term, while environmental certification opens up access to international markets.

Table 1 summarizes the main green marketing tools.

**Table 1. Main Green Marketing Tools**

Tool	Description	Economic effect	Competitive advantage
Environmentally friendly packaging	Biodegradable and recycled materials	Reduced disposal costs, premium pricing possible	Growing trust and loyalty
Energy-efficient production	Technologies to minimize energy consumption	Reducing operating costs	Cost reduction
ESG-communications	Environmental and social impact reporting	Increasing investment attractiveness	Strong brand image
Environmental product design	Minimizing the product's environmental impact	Access to new markets	Differentiation
Eco-certification	Confirmation of compliance with standards	Increasing competitiveness	Trust of partners

The effectiveness of green marketing is confirmed by the experience of global and Ukrainian companies. Thus, Carlsberg developed a biodegradable bottle made of wood fiber and introduced the “Snap Pack”, which reduced the use of plastic by 76%. This allowed the company to strengthen the reputation of an environmentally friendly brand and increase sales in the markets of Northern Europe.

Another example is IKEA, which is actively investing in renewable energy and implementing energy-efficient solutions in its stores. A full transition to renewable energy sources reduces operating costs and makes the brand more attractive to investors who support ESG policies. The catering sector also includes environmental approaches. McDonald’s is modernizing its restaurants, introducing energy-saving equipment, waste recycling and environmentally friendly packaging. As a result, the company has reduced energy consumption by 10-15% and strengthened its position among the younger audience.

Among Ukrainian examples, it is worth highlighting the natural cosmetics brand “Yaka Guta”, which uses glass and recycled packaging. This approach allowed the company to enter EU markets, increase the value of its products and position itself as a responsible manufacturer [2]. Implementation of green strategies contributes to the formation of sustainable competitive advantages due to:

- product differentiation based on environmental value;
- strengthening consumer loyalty and trust;
- positive brand image; – access to international markets;
- increasing the likelihood of attracting investment.

As a result, the enterprise not only improves its market position, but also ensures stable economic development [3].

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### INFORMATION SUPPORT IN SUSTAINABLE DEVELOPMENT PLANNING

The services market is characterized by high dynamism of market processes and high dynamism of supply on it. One of the main trends observed in the services market is the rapid spread of new information and communication technologies, which is the result of Ukraine's involvement in the processes of globalization and European integration. The development of information and communication technologies makes it possible to improve traditional services, due to which new ways of providing services via the Internet appear and new consumers are attracted.

Any information system works thanks to information support, therefore the effectiveness of its work depends primarily on the effectiveness of information support. Information support in sustainable development planning involves the use of information systems and technologies to collect, analyze and monitor data to make informed decisions on environmental, social and economic sustainability, allowing enterprises and states to effectively manage resources, reduce environmental impact and achieve the Sustainable Development Goals, but requires investment, training and cybersecurity.

Information support in the service sector is a regulatory tool that is responsible for the timely receipt of relevant and reliable information resources, and also contributes to the effective dissemination of information from managers to performers. The importance of information support in the process of managing service organizations is due to the need to meet the needs not only of management, but also to be able to collect, accumulate and process all information that may affect activities in the long term. The significance and role of information support in the process of marketing the organization's services is due to the variability of the external environment and the domestic economic space. The key features include:

- dynamic changes in the market environment in accordance with rapid changes in technologies, consumer preferences and competitive conditions;
- the need for data for making management decisions in the field of marketing services in conditions of information overload;
- the importance of marketing innovations for the effective implementation of new products and services;
- globalization of business in international markets;
- information support increases the efficiency of management processes, improves coordination and interaction between different departments, and helps reduce costs.

Therefore, information support is an integral part of marketing management in the service sector, which allows organizations to successfully compete, adapt to changes and ensure sustainable growth in the modern business environment. One of the conditions for stable functioning and effective implementation of organizational development is the use of principles and tools of

information support in the activities [1]. The introduction, improvement of existing and development of new information technologies for managing organizations is evolutionary: Master Planning Schedule (MPS); Material Resource Planning (MRP); Manufacturing Resource Planning (MRP II); Capacity Requirements Planning (CRP); Finance Requirements Planning (FRP); Enterprise Resource Planning (ERP); Customer Relationship Management (CRM); supply chain management (SCM); customer synchronized resource planning (CSR); enterprise resource and relationship planning (ERP II); common performance management (CPM).

Corporate systems combine structural divisions of the organization into a single circuit (customer order – production order – material purchase order – material delivery – production of finished products – delivery of finished products to the customer). Such complex systems include: ERP class systems, SAP/R3, Oracle E-Business Suite, Baan IV, Microsoft Business Solutions–Axapta and others.

In modern conditions of economic development, there is a tendency to increase consumer demand for multimedia convergent telecommunication services, machine-to-machine (M2M) services, Internet of Things (IoT) services, an increase in the number of owners of multifunctional terminal equipment with wireless access to the Internet; creating conditions for the activities of virtual operators [2].

The role of IT in achieving the Sustainable Development Goals is to reduce waste, energy efficiency, clean technologies; ensure transparency, equitable access and a healthy community, increase efficiency, innovation and green investments. Information security is a critical tool for the transition to sustainable development, ensuring transparency, efficiency and the ability to adapt to modern challenges.

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### AN ESG-BASED CONCEPTUAL MODEL OF SUSTAINABLE MARKETING WITHIN FINANCIAL AND ECONOMIC DEVELOPMENT SYSTEMS

The functioning of modern economic systems takes place under conditions of increasing financial risks, heightened regulatory pressure, and the need to integrate environmental and social factors into economic decision-making processes. Under such circumstances, the search for tools capable of ensuring the alignment of strategic development goals with financial and economic efficiency becomes particularly relevant. One such tool is a conceptual model of sustainable marketing, which enables the systematic integration of market mechanisms with sustainable development goals.

This study proposes a conceptual model of sustainable marketing developed on the basis of a bibliometric analysis of contemporary scientific discourse. Unlike fragmentary approaches focused on individual marketing or socio-environmental instruments, the proposed model conceptualizes sustainable marketing as a financial and economic mechanism for supporting the development of economic systems, functioning through the interaction of strategic decisions, operational instruments, and market behavioral signals.

The architectonics of the model is based on a three-level structure comprising strategic, instrumental-process, and behavioral-value levels. This structure makes it possible to capture the

logic of transforming long-term development objectives into measurable financial and economic outcomes, as well as to ensure feedback between economic decisions and market responses.

The strategic level of the conceptual model performs the function of shaping long-term guidelines for economic value creation and the reduction of systemic financial risks. At this level, the principles of ESG governance, the circular economy, green investments [1-2], and the energy transition [3] are integrated, thereby forming a foundation for sustainable value chains and enhanced financial stability of economic systems. This level establishes the framework for aligning sustainable development goals with the financial and economic policies of business entities.

The instrumental-process level ensures the practical implementation of strategic guidelines through a system of marketing and digital instruments. The application of big data analytics, artificial intelligence, business process digitalization, sustainable supply chain management, and environmental market segmentation contributes to increased transparency of economic activity, cost optimization, and improved efficiency of financial decision-making. Within the model, this level functions as a translator of strategic objectives into concrete economic results, ensuring the measurability and controllability of sustainable development processes.

The behavioral-value level of the model is responsible for shaping the economic prerequisites for sustainable development through demand-side mechanisms. It reflects the influence of consumer motivations, value orientations, and trust in brands on the market's willingness to support sustainable products and services. Within the conceptual model, behavioral factors are treated as a key determinant of financial and economic performance, as they define the level of solvent sustainable demand and the economic feasibility of implementing relevant strategies.

The interaction among the three levels of the model is cyclical and based on the presence of direct and feedback relationships. Strategic decisions determine the set of implementation instruments, while changes in consumer behavior and the market environment serve as signals for adjusting financial, economic, and marketing approaches. As a result, the conceptual model of sustainable marketing acquires an adaptive character and can be applied as a tool of financial and economic support for the long-term development of economic systems.

In summary, the proposed conceptual model enables a transition from a declarative understanding of sustainable marketing to its interpretation as a systemic financial and economic mechanism. Its application creates conditions for long-term value creation, risk reduction, and enhanced competitiveness of economic systems in the context of achieving sustainable development goals.

Prospects for further research are associated with the empirical validation of the proposed conceptual model based on quantitative indicators of financial performance and ESG metrics, as well as with the analysis of its application across different economic sectors and governance levels.

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## **ARTIFICIAL INTELLIGENCE AS A TOOL FOR IMPROVING ACCOUNTING AND ANALYTICAL PROCESSES OF AN ENTERPRISE**

Artificial intelligence is gradually becoming the foundation of digital modernization of accounting and analytical processes, as it ensures increased accuracy of accounting operations, accelerates the processing of financial data, and enables the development of more informative analytics. Processing large volumes of information using machine learning algorithms makes it possible to promptly detect atypical deviations, forecast risks, and develop well-grounded managerial decisions.

In the study by R. Shvaika and N.S. Liba, it is emphasized that the use of data analytics in accounting and auditing procedures enhances the reliability of financial information and strengthens the enterprise's internal control system [1, p. 133]. The authors highlight that the integration of intelligent tools into control procedures facilitates timely identification of potential violations and enhances the enterprise's ability to respond to information risks.

According to the theses by T.L. Kuzmin, B.S. Bryndzei, and A.I. Nadraga, the digitalization of accounting and analytical outsourcing, including the use of artificial intelligence technologies, ensures a systemic renewal of data processing mechanisms and optimizes the structure of the enterprise's information flows [2, p. 73]. Modern approaches are based on combining intelligent algorithms with classical accounting methods, which expands the possibilities for diagnosing financial conditions and forecasting key performance indicators. As a logical continuation of these approaches, the latest artificial intelligence technologies represent the next stage in the evolution of accounting and analytical systems, as they significantly strengthen the enterprise's analytical potential, improve the quality of accounting information, and provide a new level of analytical support for management [3, p. 182].

The issue of digital transformation of accounting is thoroughly examined in the works of V.P. Melnyk, who explores the role of intelligent systems and modern analytical technologies in forming a high-quality information base for management [4, p. 70]. The researcher draws attention to the importance of automated data processing procedures, which increase the accuracy of indicators and reduce the time required to prepare information. In this context, the approach presented in the study by V. Zhuk, M. Pugachov, O. Shpykuliak, Yu. Bezdushna, and Ye. Popko [5, p. 199] is relevant, as the authors emphasize the importance of adapting accounting methods to the specific challenges of the present time.

Artificial intelligence technologies significantly enhance the accounting and analytical capabilities of an enterprise, promote the improvement of accounting information quality, and provide a new level of analytical support for management.

The application of artificial intelligence creates conditions for improving the timeliness, quality, and informativeness of accounting processes, forms new standards for analytical work, and contributes to strengthening the enterprise's competitiveness. The prospects for further research lie in the development of comprehensive models for integrating intelligent technologies and improving the mechanisms of their practical implementation in accounting systems.

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### **BUDGET PLANNING AS A TOOL FOR ENSURING THE SUSTAINABLE DEVELOPMENT OF TERRITORIAL COMMUNITIES**

Budget planning is one of the primary instruments of financial management, ensuring the rational use of territorial community resources and promoting the implementation of sustainable development principles. It enables a systematic allocation of limited financial resources, taking into account the needs of the population, priorities of economic development and the social sector, as well as the necessity of environmental protection.

As a result of decentralization in Ukraine, significant powers and resources were transferred from the central government to territorial communities. This allowed communities to independently plan and implement local development programs, considering the specifics and needs of their territories. Within this process, financial resources were redistributed, providing communities with greater opportunities for effective management of local budgets. The transfer of financial resources is accompanied by increased accountability of local authorities for the quality of services provided and the efficiency of budget resource utilization [1].

Sustainable development of territorial communities implies a balance between economic growth, social well-being, and environmental security. In this context, budget planning serves as a strategic mechanism: it defines funding directions, priority programs, and measures that contribute to achieving these goals. For example, part of the budget may be allocated to infrastructure development (road repairs, modernization of educational and healthcare institutions), support for local businesses, and creation of conditions for attracting investments, while another part may be directed to energy-saving initiatives, water purification, and reduction of environmental pollution.

Medium- and long-term budget planning is of particular importance. It allows forecasting community revenues and expenditures for several years ahead, taking into account economic, demographic, and social factors. This approach ensures financial stability, reduces the risk of budget deficits, and enables the gradual implementation of large investment and social projects.

To streamline this process and ensure the efficiency of medium-term local budget planning, Methodological Recommendations for Organizing Medium-Term Budget Planning at the Local Level were developed. They were approved on May 23, 2025, «to systematize measures that must be carried out by participants in the budget process within established deadlines at this stage of the budget process, and to improve the efficiency of forming financial resources of local budgets for the medium-term period» [2]. The importance of these recommendations lies in their promotion of systematic medium-term planning, integration of strategic development goals of territorial communities into the financial process, improvement of public resource management quality, ensuring budget balance, and optimizing the use of funds to achieve socio-economic and investment priorities of the region.

Alongside medium-term planning, long-term budget planning is also crucial. It focuses on defining strategic directions for the development of a territorial community, prioritizing infrastructure and investment projects, ensuring financial sustainability, and forecasting significant socio-economic changes in the long term. Long-term planning allows medium-term budgets to be aligned with the community's vision of sustainable development, forms the basis for financing large-scale investment and social programs, and serves as a tool for strategic risk management, including demographic, economic, and environmental factors.

Transparency of the budget process and community participation in its formation are also essential elements of effective budget planning. Involving local residents in discussions on spending priorities allows their needs to be considered, increases trust in local authorities, and ensures more efficient use of funds. Many countries worldwide practice participatory budgeting tools, which enable residents to directly determine a portion of local budget expenditures.

Equally important is the monitoring of budget execution. Tracking financial flows, analyzing the efficiency of resource utilization, and regular reporting to the community allow for timely adjustments to budgetary decisions and enhance the effectiveness of sustainable development projects.

Thus, budget planning is not only a financial instrument but also a strategic mechanism for ensuring the sustainable development of territorial communities. Its proper implementation allows the integration of economic, social, and environmental priorities, enhances the efficiency of local governance, and contributes to improving the quality of life for the population. In the future, improvements in the budgeting process, the implementation of digital planning tools, and active citizen engagement can become decisive factors for the sustainable development of Ukrainian communities.

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### **THE ROLE OF PSYCHOLOGICAL WELL-BEING OF HELPING PROFESSIONALS IN ENSURING SUSTAINABLE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS**

The relevance of the study is determined by the deep interconnection between the psychological state of professionals working in the “person-to-person” sphere and the overall resilience and productivity of socio-economic systems in the context of contemporary global challenges. In modern society, which faces a constant increase in stress levels, socio-economic and environmental challenges, as well as crisis phenomena (the COVID-19 pandemic, the war in Ukraine), the need for a high level of adaptation and psychological well-being becomes particularly significant. The study is relevant due to the high risks associated with the professional activities of specialists whose work is the most psychologically demanding (teachers, psychologists, social workers, doctors, etc.). These specialists are exposed to a high risk of burnout, stress, and secondary traumatization due to constant emotional and physical strain. Psychological well-being is an important determinant of human capital reproduction and directly affects a person's performance and productivity. It is regarded as an integral system that encompasses emotional state, life satisfaction, motivation for self-realisation, and the ability to engage in constructive interaction with the social environment [1]. To support the sustainable development of socio-economic systems,

which requires resilient and effective human capital, it is necessary to intensify policies in the field of mental health protection for helping professionals: institutionalisation of supervision, professional training of future helping professionals, and funding to ensure expanded reproduction of human capital.

The institutionalisation of supervision means providing regular professional support (supervision) for all workers in the socio-economic sphere, especially those operating in extreme and crisis conditions. It is a critically important step to ensure the resilience and quality of work of specialists functioning in the socio-economic sphere, particularly under conditions of significant stress, crises, and emergencies. The supervision process must be stable, regular, and continuous. Regularity allows supervision to be viewed as a process of development rather than isolated meetings to address current difficulties. Supervision sessions must have an agreed duration, as this creates a reliable “container” for the process. The development of resilience and supervisory skills should be integrated into training programmes and supervision practices for specialists, starting from their student years. Thus, supervision is not only a tool for professional improvement but also a guarantee of service quality and a mechanism for protecting human capital in socio-economic systems.

Professional training of future helping professionals involves incorporating programmes for developing professional stress resilience and hardiness into the educational process of higher education students. Research by scholars has shown [1, 2] that the development of professional stress resilience will be more effective if a psychological support programme is implemented by the psychological service, which involves the student’s inclusion in this process throughout their studies at a higher education institution. Based on the study of stress resilience characteristics of students and working helping professionals, we propose, as an example, a concise content of a programme for developing professional stress resilience in students, consisting of three blocks. The informational block is aimed to provide students with theoretical knowledge and increase their awareness of professional risks and resources. The diagnostic block is focused on students’ self-knowledge of their individual characteristics and current level of professional stress resilience. The corrective block is aimed at actively developing the necessary professionally important qualities and correcting maladaptive strategies. Thus, the integration of such programmes into higher education for helping professionals is necessary, as it ensures the holistic formation of a professional capable of withstanding stressors and maintaining professional effectiveness and well-being throughout their professional activity.

Increased funding is a critically important economic and strategic priority for ensuring the resilience of socio-economic systems. Human capital is the basic asset through which citizens become productive members of society and contribute to the prosperity of their countries. Psychological well-being is an important determinant of human capital reproduction. The interconnection between psychological well-being and human capital development requires the intensification of state policy in the field of citizens’ mental health protection. Increased funding makes it possible to provide institutional support for helping professionals.

Thus, the psychological well-being of helping professionals is a key determinant of the reproduction and preservation of human capital, directly influencing their performance and productivity. To ensure it, a comprehensive state policy is needed that includes the institutionalisation of regular supervision, the integration of programmes for developing professional stress resilience into student training, and a substantial increase in mental health funding.

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## **DISCLOSURE OF INFORMATION ABOUT LIABILITIES IN NON-FINANCIAL REPORTING: EU AND IFRS REQUIREMENTS**

The issue of liability disclosure is usually considered in the context of financial reporting, but in the field of non-financial reporting, it has a much broader meaning. Companies are accountable not only to their investors and creditors, but also to society and the environment. This gives rise to the need to disclose so-called non-financial liabilities in order to ensure transparency and accountability of their activities. Although IFRS are a set of standards for the preparation of financial statements, they provide a conceptual framework for understanding liabilities. According to the Conceptual Framework for Financial Reporting (2018), a liability is defined as “an existing obligation of an entity arising from past events, the settlement of which is expected to result in an outflow of resources embodying economic benefits.” In financial reporting, this is regulated by IAS 37 “Provisions, Contingent Liabilities and Contingent Assets,” which requires disclosure of provisions—liabilities of uncertain timing or amount (e.g., environmental cleanup or restructuring costs). Although IAS 37 focuses on quantitative recognition, its requirements force companies to identify and assess the financial implications of their social and environmental activities. This approach provides a basis for further expansion of information in non-financial reporting, as unrecognized but material non-financial risks and obligations may ultimately translate into financial losses [1].

The European Union is a leader in the regulation of non-financial reporting, focusing on dual materiality (the financial impact on the company and the company's impact on people and the environment). Until recently, this was regulated by the Non-Financial Reporting Directive (NFRD) 2014/95/EU [2], but from 2024, the more stringent Corporate Sustainability Reporting Directive (CSRD) 2022/2464/EU will be implemented, which significantly expands the range of companies and the scope of required disclosures. The CSRD requires reporting in accordance with the European Sustainability Reporting Standards (ESRS) developed by EFRAG. In the context of commitments, ESRS requires detailed disclosure of information related to: Social commitments, including human rights and working conditions throughout the value chain (e.g., ESRS S1 “Own Employees”), and Environmental obligations covering actions and investments to mitigate climate change, pollution, and obligations related to biodiversity and the circular economy (e.g., ESRS E1 “Climate Change”). In effect, the ESRS compel companies to recognize their obligations arising not only from legal but also from constructive (moral or ethical) expectations of society, which is a much broader approach than that of IFRS. As a result, this requirement encourages companies to more carefully identify and assess the risks arising from their social and environmental activities, as well as to be aware of the possible consequences of these risks for the future financial stability of the enterprise.

Disclosure of information about governance is also an important element of the EU approach, as it is the quality of corporate governance that affects a company's ability to identify, assess, and fulfill its non-financial obligations in a timely manner. In particular, the presentation of data on the management structure and decision-making mechanisms in the field of sustainable development actually reflects the level of organizational responsibility for these issues. Such information demonstrates that sustainability commitments are not merely formalities, but are

actually taken into account in strategic planning and control systems. This allows users of financial statements to better assess the reliability and completeness of the data presented by the company.

The interconnection between these systems lies in the fact that IFRS initiated an approach to standardizing financial obligations, while the EU, by introducing CSRD and ESRS, effectively extended this logic to a broader range of non-financial aspects, both qualitative and quantitative. Further regulatory developments are largely linked to the activities of the International Sustainability Standards Board (ISSB), which has introduced IFRS S1 and IFRS S2 standards. These standards, based on TCFD approaches [3], focus on disclosing risks and opportunities related to sustainable development that may affect financial performance and access to capital, thereby creating a logical link between financial and non-financial reporting. Unlike the EU, which adheres to the principle of “double materiality,” the ISSB focuses primarily on information that is important to investors, i.e., it adheres to the “single materiality” approach. For users of financial statements, data on non-financial obligations are becoming increasingly important in risk assessment and decision-making. In this context, IFRS requirements provide the basis for financial accountability, while EU regulations (CSRD/ESRS) and ISSB standards encourage more comprehensive and structured disclosure of companies' sustainability responsibilities.

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### **SUSTAINABLE DEVELOPMENT IN NIGERIA: IMPACTS AND OPPORTUNITIES OF FOREIGN INVESTMENT**

The role of international investment is considered crucial in the formation of mechanisms aimed at ensuring long-term and balanced development of modern states. In the context of deepening globalization, the cross-border flow of capital, technological innovations, and specialized knowledge is regarded as a key factor enabling national economies to be integrated into the global market, high-productivity jobs to be created, infrastructure to be modernized, and the overall well-being of the population to be improved. At the same time, sustainable development is understood as encompassing multidimensional social progress, which is seen not only in terms of economic growth but also through the conservation and rational use of natural resources, the promotion of social justice and inclusion, and the support of effective institutional frameworks. In this context, it is particularly important to determine how international investment capital can be transformed into an effective tool for implementing balanced development models, especially in countries where market and institutional structures are underdeveloped.

The impact of international investment activity on economic, social and environmental processes can be traced using the example of Nigeria, one of Africa's largest economies, which has significant natural resources, developed energy potential and a promising domestic market. Foreign direct investment is an important source of financing for the development of industry, energy, infrastructure and the agricultural sector. However, despite significant investment volumes, the country faces a number of problems: instability in the legal environment, corruption, weak institutional control, and uneven distribution of the benefits of economic growth. In the context of global competition for investment, Nigeria seeks to attract foreign direct investment (FDI) as a

means not only for economic growth but also for building a more sustainable and environmentally balanced economy. The influence of international investment activity on economic, social, and environmental processes can be illustrated by the example of Nigeria, one of Africa's largest economies, which is endowed with substantial natural resources, developed energy capacities, and a promising domestic market. Foreign direct investment is regarded as a key source of funding for the advancement of industry, energy, infrastructure, and the agricultural sector. Nevertheless, despite the considerable volumes of investment received, the country is confronted with several challenges, including legal instability, corruption, weak institutional oversight, and unequal distribution of the benefits of economic growth. In the context of global competition for investment, Nigeria aims to attract foreign direct investment (FDI) as a tool not only for fostering economic growth but also for promoting a more sustainable and environmentally balanced economy. When the role of FDI in Nigeria's sustainable development is analyzed, the relationship between economic growth, urbanization, human capital development, and environmental impact should be taken into account. According to Faloye, S. T., Ranjeeth, S., & Ako-Nai, M. S., intensive economic development in the country is accompanied by the expansion of industrial production, urban growth, and increased energy consumption, which results in higher greenhouse gas emissions and exerts additional pressure on the natural environment. However, it has been demonstrated that high-quality foreign investment, focused on innovation, technology transfer, and energy efficiency, can mitigate the negative environmental effects of production [1].

Krauth, P. B., emphasizes that it is crucial for Nigeria that FDI is not confined to raw material sectors, such as the oil and gas industry, but is channeled into areas that generate long-term environmental and social benefits, including "green" energy, processing industries, transport infrastructure, education, and digital technologies. Such investments not only create employment opportunities but also enhance labor skills, contribute to energy efficiency, and foster the development of innovative capacities. Urbanization in Nigeria has a dual impact: while it increases demand for infrastructure, housing, energy, and transportation—thereby exerting pressure on the environment—it also creates opportunities for the concentration of resources and the implementation of effective environmental technologies. Therefore, the influence of FDI on sustainable development largely depends on the quality of investments, particularly whether they support urban modernization, increase energy efficiency, develop environmentally friendly transport, and promote the rational use of resources. Sustainable development is understood as the integration of three components—economic, social, and environmental. Investment can act as a driving force in this process if it is directed not only toward profit generation but also toward improving living standards, developing human potential, and protecting the environment. To achieve this, favorable conditions must be established by the state, including a legislative framework that ensures investor protection while mandating compliance with environmental and social standards. Nigeria has already undertaken steps in this direction, incorporating sustainable development principles into its international investment agreements. This demonstrates an awareness that investment inflows should align with long-term national objectives rather than merely providing short-term economic gains [2].

According to the study by Oludare A.I., Agu M.N., Akusu P.O., Umar A.M., and Omolara O.E., a key strategy is to attract investments in sectors that contribute to the structural transformation of the economy. These sectors include "green" energy, transport development, education, healthcare, and digital infrastructure. Investments in these areas form the foundation for economic diversification, reduce dependence on raw material exports, and generate new employment opportunities. Additionally, they facilitate regional development, improve living conditions, and help reduce social tensions [3]. At the same time, in order to effectively realize the potential of international investment activities, it is necessary to overcome a number of systemic challenges. First of all, it is about increasing the transparency of management processes, strengthening the judicial system, and improving mechanisms for monitoring the use of investments and compliance with environmental standards. It is important that foreign investments do not cause negative impacts on natural resources or the social environment. This requires the implementation

of clear standards of corporate responsibility, assessment of socio-economic impacts of projects, and participation of local communities in decision-making processes.

The study by Furo Ebiere, Orumo Beinmotei Kenoll emphasizes that Nigeria is gradually moving towards a model of investment policy focused on sustainable development. This is manifested in the revision of bilateral agreements, taking into account provisions on social justice, environmental protection, and human capital development. However, to consolidate positive trends, a consistent state policy is needed, consistent with international standards of sustainable investment [4].

Therefore, international investment activity can become a powerful factor in the sustainable development of Nigeria only if the economic interests of investors and the strategic priorities of the state are properly combined. It should contribute not only to GDP growth, but also to the formation of a fair, inclusive, and environmentally safe economy. The effective use of foreign capital requires a strong legal framework, transparent management, and consistency with national sustainable development goals. Nigeria's success in this area can become an example for other countries seeking to integrate into the world economy without losing their own social and environmental stability.

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### THE ROLE OF THE CADASTRE OF POPULATED AREAS IN THE TRANSFORMATION OF MODERN LAND RELATIONS

The cadastre of settlements serves as a systematic source of information for state authorities, local self-government bodies, enterprises, institutions, organisations and citizens. Its purpose is to ensure the regulation of land relations, the rational use and protection of land, the determination of land payments and its value as a component of natural resources, the control of land use, and the formation of an economic and environmental basis for business plans and land management projects (Table 1).

**Table 1.** Tasks and components of the cadastre of populated areas\*

<i>Tasks of the cadastre</i>	<i>Components (information blocks)</i>
Regulation of land relations	Registration of ownership and use rights to land plots; lease agreements
Rational use and protection of land	Data on the quantitative and qualitative composition of land; soil bonitation
Determination of land fees and value	Economic and monetary valuation of land resources
Control over land use and protection	Zoning of populated areas; urban planning materials
Formation of economic and environmental foundations for business plans and land management projects	Topographic, geodetic and cartographic work; soil, geobotanical, radiological and forest typological studies
Ensuring data accuracy and timeliness	Use of aerospace imagery and remote sensing methods of the land surface

\*Source: compiled by the author based on the research conducted.

The primary task of the real estate cadastre is to identify and designate each unit of real estate that is subject to taxation. Such a unit may be a land plot, land with a residential building or other buildings, or it may be part of a building, such as an apartment, etc. Anything that can be subject to property tax [1, p. 6].

The cadastre of settlements covers information on the registration of ownership and use rights to land plots, lease agreements, data on the quantitative and qualitative characteristics of land, soil bonitation results, zoning materials, as well as indicators of the economic and monetary valuation of land resources.

The functioning of the cadastre of settlements is based on the implementation of a complex of topographic, geodetic and cartographic works, soil, geobotanical, radiological, forest typological and urban planning studies. The high efficiency and accuracy of cadastral data is ensured by the use of aerospace surveys and remote sensing technologies. Land for residential and public development accounts for only 11.5% of the state's land fund, but its importance is decisive, as it is in these areas that the population is concentrated and production, administrative and cultural and social facilities are located. Within settlements, priority is given to land characteristics that determine the conditions for the construction and operation of residential and industrial facilities.

The use of land for residential and public buildings is carried out in accordance with the general plan of the settlement, other urban planning documentation, and the land management plan, in compliance with state standards and norms, as well as regional and local building regulations [2].

One of the main strengths is the relevance of the data available in the currently functioning cadastre of settlements. Since the land of settlements and its overall assessment is the main factor in the formation of the budget of settlements, the frequency of land registration and assessment processes requires their review and clear adjustment in accordance with current realities [3, p. 220].

In accordance with the decisions of executive authorities and local self-government bodies, Ukrainian citizens can obtain land plots free of charge for ownership or lease for the construction and maintenance of residential buildings, farm buildings and garages within the limits specified by the Land Code of Ukraine.

Therefore, the main task of the cadastre of land in populated areas is to collect, systematise and provide data on the quantitative and qualitative composition of land, its legal status, forms of ownership and functional purpose. The objects of the cadastre are land plots for which information about owners and users, location, geometric parameters, legal status, functional use and economic assessment is recorded.

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## PSYCHOLOGICAL REHABILITATION OF COMBATANTS AND THEIR FAMILIES AS A FACTOR OF NATIONAL RESILIENCE

The full-scale war in Ukraine has significantly increased the number of individuals experiencing combat-related traumatization and chronic stress. This concerns not only military

personnel but also their partners, children, and parents. For many of them, the consequences of traumatic experience do not “close” after demobilization or relocation to safer regions. This requires the psychological support system to shift from single crisis interventions to long-term psychological rehabilitation as an essential component of national resilience.

Psychological rehabilitation can be understood as a complex system of measures aimed at restoring or compensating impaired mental functions, personal resources, and social roles of an individual affected by combat. Ukrainian scholars view it as an integral part of a broader rehabilitation framework—medical, social, and vocational—that includes its own goals, principles, and stages: diagnostic, corrective-psychotherapeutic, re-adaptation, and follow-up support [1]. Importantly, such a model places emphasis not on a “diagnosis,” but on the recovery trajectory of a real person living in real conditions.

Studies of the socio-psychological readaptation of demobilized servicemembers demonstrate substantial heterogeneity in their post-military functioning. Some veterans successfully return to civilian roles, maintaining behavioural regulation and stress tolerance. However, a considerable proportion exhibit neuropsychic instability, explosive emotional reactions, communication difficulties, and a sense of “alienation” in peaceful environments [2]. This suggests that a short rehabilitation program in a hospital or center is insufficient for stable adaptation without long-term work in the community and attention to family and social context.

Family members constitute a separate target group. Research describes chronic anxiety for the life of a loved one, emotional exhaustion, secondary traumatization, stress associated with economic insecurity, and, often, forced displacement [3; 4]. The veteran’s return home often triggers redistribution of roles, conflicting expectations, and divergent views of the future. For many families, the period “after the front” becomes no less challenging than the combat period itself. Therefore, rehabilitation programs must treat the family as a system rather than focus solely on one “carrier of symptoms.”

Modern approaches to psychosocial rehabilitation emphasize its integrative nature: combining psychodiagnostics, crisis counselling, psychotherapy, stress-management skills training, suicide-prevention work, and support in professional reintegration [1; 4]. Within this system, the practical psychologist fulfils several roles: a specialist conducting assessment, a facilitator of individual and group processes, and a mediator between the family and medical, social, and educational institutions. Importantly, effective work requires coordinated inter-agency cooperation rather than formal referrals.

A special challenge concerns the preparation of future psychologists. Teaching experience shows that students typically master theoretical models of trauma but often feel insecure about practical skills—conducting a crisis interview, working with families, coordinating services. Integrating real case studies, joint projects with rehabilitation centers, and supervision formats into training can significantly improve readiness for working with veterans and their families.

From the perspective of national resilience, psychological rehabilitation of combatants and their families is a marker of a mature state. If a veteran remains alone with trauma, and their relatives - with exhaustion and helplessness, this creates conditions for chronic maladaptation, violence, substance misuse, and the breakdown of educational and professional trajectories. Where a coordinated system of psychosocial support operates, these same individuals can become a resource for their communities, sharing experience, restoring institutions, and contributing to recovery. Existing Ukrainian studies already provide a foundation for building such a system; the role of practical psychologists is to translate these models into real, human-centered support.

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### **IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT PRINCIPLES IN STRATEGIC LOGISTICS MANAGEMENT: EU EXPERIENCE AND PERSPECTIVES FOR UKRAINE**

For Ukraine, which is currently at the stage of actively implementing European management standards, it is crucial to consider the experience of the European Union countries in developing policies aimed at harmonizing economic, environmental, and social interests in the logistics sector. The application of sustainable development principles allows not only to increase the competitiveness of the national economy but also to ensure the long-term stability of logistics systems in the context of global integration.

The issue of integrating sustainable development principles into the management of logistics processes occupies a significant place in modern economic research. Scholars focus on finding effective mechanisms to combine economic, environmental, and social goals in the activities of enterprises operating in a global market environment. O. Verstyak [1] emphasizes that the process of European integration highlights the need for innovative renewal of the strategic management system, particularly in the field of logistics. Yu. Remyha and N. Pryimak [2] consider sustainable development as a strategic guideline for logistics management, stressing the importance of forming environmentally oriented supply chains. O. Levishchenko and S. Kuzmenko [3] focus on the practical aspects of implementing a sustainable development strategy in logistics companies, highlighting key stages and management challenges.

From the perspective of strategic management, the sustainable development of logistics implies the integration of environmental and social criteria into the managerial decision-making process. This means that enterprises must not only optimize costs but also consider the impact of logistics operations on the environment, energy efficiency, and society. As noted by Yu. Remyha and N. Pryimak [2], in modern models of logistics management, sustainable development serves as a key factor of an enterprise's strategic stability.

In EU countries, the implementation of sustainable development policies for logistics systems is achieved through a combination of innovative technologies, "green" transportation standards, the digitalization of supply chains, and government support for environmental initiatives. The experience of EU countries is valuable for shaping effective mechanisms for integrating sustainability principles into national logistics policy.

The key principles of sustainable development in logistics can be presented in the form of a systematized Table 1:

**Table 1 .Principles of Sustainable Development in the Logistics Management System**

Principle	Content	Expected Result
Economic Efficiency	Cost optimization, increasing the productivity of logistics processes	Growth of enterprise competitiveness
Environmental Responsibility	Use of energy-efficient transport, reduction of CO <sub>2</sub> emissions	Reduction of negative environmental impact
Social Orientation	Ensuring safe working conditions, personnel development	Increasing the level of social responsibility
Innovativeness	Implementation of digital technologies, automation, and data analytics	Acceleration of adaptation to market changes
Systematic Management	Alignment of strategic, operational, and control management functions	Increasing the stability of logistics systems

*Source: generalized by the author based on [1-3].*

Thus, sustainable development serves as a fundamental element of the strategic management of logistics processes, facilitating the achievement of the long-term efficiency of enterprises, the formation of a positive image in the international market, and the harmonization of national logistics policy with European standards.

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### ENSURING THE EFFECTIVE DEVELOPMENT OF ENTERPRISES SPECIALIZING IN RETAIL TRADE THROUGH BUSINESS PROCESS RE-ENGINEERING AND INTEGRATION OF AN INTERACTIVE AI AGENT

In our time, when the volume of information is growing rapidly, and enterprises are faced with new operational challenges that simultaneously generate both potential threats and new opportunities. There is an increasing amount of information – from sales data and logistics logs to policies, instructions and marketing campaigns – companies find themselves faced with the problem of information noise: the necessary solutions are there, but their search, correct interpretation and timely application take too much time and resources. The interfaces of numerous corporate systems are often fragmented, and the user is forced to switch between them and look for answers in different sources. This inevitably leads to a decrease in the efficiency of work for staff, slows down the decision-making process at the management level and worsens the quality of customer service. Given this, there is an urgent need to create a unified, easy-to-use communication layer – namely, through an intelligent assistant based on artificial intelligence.

Modern advances in language models provide the technical opportunity to implement this concept. Thanks to advances in large language models, the architecture of augmented generation with retrieval (RAG) [1], vector data storage, and integration frameworks, we can develop agent-based systems. These agents are able to understand user queries in natural language, conduct deep semantic search in an array of documents and data, and most importantly, they are able to not only

provide information, but also launch specific business processes through negotiation. To successfully deploy such an intelligent agent, it is necessary to combine the latest developments in artificial intelligence with established data management practices: this includes document indexing, careful structuring of standard operating procedures, verification of source data, and the establishment of reliable corporate governance mechanisms. This approach guarantees not only accurate answers, but also traceability of the original sources, minimizing the risk of model hallucinations and forming a complete audit trail for all adopted management decisions.

The development of an interactive AI agent covers complex aspects of business processes. It serves two purposes at once: optimizing internal productivity and for interaction with customers. For staff, the agent eliminates the need to waste time on lengthy searches for information, prepare documentation or launch business processes that previously required switching between different programs or involving the resources of other employees. For customers, this agent turns into a personal assistant. It can offer product selections on request (for example, if the user indicates: “I need ingredients for soup”), inform about the availability of goods in the nearest stores, create a basket taking into account availability and delivery, and also develop unique promotional offers for individuals.

Integration of such an agent also means deep reengineering of business processes. For the agent to function properly, it is critically important to formalize and standardize internal procedures, converting standard operating procedures into a format that can be read by a machine.

At the same time, the implementation of such an initiative entails a number of threats that require detailed consideration. The most obvious is the possibility of generating unreliable answers. To reduce this dangerous factor, it is worth choosing a “retrieval-first” strategy, when the answer is formed exclusively from verified relevant materials, with a mandatory reference to the sources. Another significant danger is the obsolescence or low quality of the information base; to mitigate this problem, it is necessary to introduce data management mechanisms, establish regular extraction, transformation and loading (ETL) operations, as well as tools for checking the reliability of information. Security and privacy threats require the implementation of role-based access control (RBAC), the use of data encryption, hiding personal information when requesting from external sources, and careful monitoring of granted permissions. Do not forget about management risks: staff reluctance to adapt to changes and slow adoption of new solutions, which is overcome through a well-thought-out integration plan, appropriate training, involvement of key supporters of ideas in structural units. Also important is protection against corporate information leakage, which is possible if the AI agent runs on rented servers or in the cloud, i.e. on facilities that are not owned by the company. Therefore, a trusted provider of facilities or installation of your own servers is important.

To reduce undesirable consequences and enhance positive effects, a number of interrelated measures should be established within the project. First of all, the choice of architectural solutions should be based on the principles of energy saving: for those calculations that are resource-intensive, it is advisable to consider attracting data centers that have an environmental certificate, or a hybrid scheme. To reduce both the overall load and the costs of the processing itself, we recommend implementing methods for creating simplified models for query service, applying knowledge distillation (model distillation) and fine-tuning for models. Planning of model training and retraining cycles should be tied to times of day when electricity is more affordable or has a “greener” origin [2].

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## **FINANCIAL AND ECONOMIC MECHANISMS OF SUSTAINABLE DEVELOPMENT IN THE SYSTEM OF CONTROLLING, ANTI-CORRUPTION COMPLIANCE, AND PUBLIC ADMINISTRATION**

In the current context of globalization and economic instability, the issue of sustainable development has become particularly relevant for both public and private institutions. Ensuring balanced economic growth, effective resource management, and enhanced transparency of financial flows requires an integrated approach that combines financial and economic mechanisms, controlling tools, anti-corruption compliance, and a robust public administration system. Sustainable development in Ukraine during 2019–2024 has been shaped under the influence of profound transformations in macroeconomic dynamics, the institutional environment, and challenges associated with the COVID-19 pandemic and the full-scale military aggression of the Russian Federation [1]. Ensuring financial stability, transparency, and efficiency in public administration has become a critical factor in maintaining the country's economic resilience. Accordingly, the role of controlling as a resource management tool, anti-corruption compliance as a mechanism to minimize the risk of abuses, and improving the effectiveness of public administration has grown as key prerequisites for financial and economic stability.

Financial and economic mechanisms of sustainable development serve as instruments for regulating economic activities, fostering investment attractiveness, and ensuring socio-economic security. In this context, controlling provides systematic monitoring, planning, and evaluation of managerial decisions, contributing to transparency and resource optimization. Anti-corruption compliance, in turn, establishes conditions to minimize the risks of unlawful actions, which have intensified in recent times [2], enhances trust in governmental bodies and business structures, and supports the principles of integrity in management. The systemic integration of these elements within public administration enables the creation of an effective model of state and corporate policy aimed at achieving strategic resilience, improving managerial efficiency, and ensuring transparency in financial processes. Studying financial and economic mechanisms under these conditions is both a relevant scientific and practical task, requiring a comprehensive approach and the integration of modern management and control technologies.

The conducted analysis of financial and economic mechanisms of sustainable development in the context of controlling, anti-corruption compliance, and public administration in Ukraine highlighted key trends, patterns, and challenges in their integration. In particular, it was found that the implementation of controlling systems in enterprises and public administration bodies contributes to improved financial planning and monitoring, optimized resource use, and timely identification of risks negatively affecting sustainable development. The analysis showed that organizations with more developed controlling systems demonstrate higher financial resilience and greater transparency of managerial decisions. On the other hand, the assessment of anti-corruption compliance confirmed that its effective integration into financial and economic processes significantly reduces the risks of financial misconduct and increases trust in public authorities and business structures, while a systematic approach to compliance and regular auditing of corruption risks is critically important to ensure transparency and adherence to corporate and state ethical standards. Regarding public administration, the application of financial and economic mechanisms in combination with controlling and compliance enhances the effectiveness of managerial decisions at both national and regional policy levels, contributing to the strategic resilience of the system and reducing economic and social risks.

It becomes evident that the results of the study confirm the effectiveness of a comprehensive approach that integrates financial and economic mechanisms, controlling, and anti-corruption compliance within the public administration system. They demonstrate the potential to ensure transparency, efficiency, and sustainability of management processes, which has important practical

implications for increasing investment attractiveness and socio-economic security of the state. Based on these findings, it can be asserted that the synergy of controlling, anti-corruption compliance, and effective public administration forms the foundation of Ukraine's financial and economic resilience. Institutional strengthening, digitalization of management, and the enhancement of integrity are key factors for sustainable development in Ukraine's wartime and post-war economy. The application of integrated controlling and compliance mechanisms can ensure not only the stabilization of financial flows but also the increase of trust among investors, citizens, and international partners.

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### MANAGEMENT OF ESG-PRINCIPLES INTEGRATION IN AGRICULTURAL ENTERPRISES OF UKRAINE IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT AND EU INTEGRATION

Agri-food business entities play a key role in ensuring the socio-economic stability of the state, as their activities are directly linked to food production, the rational use of natural resources, and the maintenance of food security. At the same time, the agri-food sector is highly environmentally sensitive, which requires enterprises to manage their environmental impacts responsibly, comply with social responsibility standards, and ensure an adequate level of corporate governance. Therefore, the systematic implementation of ESG principles, which form the conceptual foundation of modern sustainable development management, becomes highly relevant.

Effective ESG management involves the formation of a structured management system that includes: the assessment of environmental risks; the identification of social priorities; ensuring transparency in managerial decisions; formalization of policies; the development of monitoring and reporting systems; and the creation of strategies to minimize negative impacts. For agri-food enterprises whose operations are closely linked to the use of land, water resources, biodiversity, and energy resources, it is crucial to shift from a reactive to a proactive approach, which entails preventive management of environmental and social risks [1-2].

In the global economy, there is a persistent trend toward stricter regulatory requirements and growing stakeholder expectations regarding business responsibility. This encourages companies to reassess their business models, transforming sustainability from a «responsibility strategy» into a «competitiveness strategy». Accordingly, the mission of business expands beyond profit generation as the primary goal to encompass the creation of long-term value for a wide range of stakeholders, including employees, communities, investors, partners, suppliers, and customers.

In light of Ukraine's course toward deeper European Union integration, the implementation of ESG principles acquires strategic importance. European directives, particularly the CSRD, the EU Taxonomy, and the SFDR regulation, impose stringent requirements for non-financial reporting, risk assessment, and governance transparency. For Ukrainian agri-food enterprises, this represents not only a challenge but also an opportunity to adapt their management systems to European

standards, enhance competitiveness in international markets, gain access to sustainable finance instruments, and strengthen their positions in global value chains [3-4]. Thus, the adoption of ESG principles as an element of strategic management in agri-food enterprises creates a new development paradigm for the sector, combining economic efficiency, environmental responsibility, and social orientation, ensuring long-term resilience and institutional adaptability of enterprises in contemporary conditions.

Consequently, agri-food enterprises play a strategic role in promoting sustainable development, as their activities have significant environmental, social, and economic impacts. This necessitates a shift to modern management models focused on responsible resource use, minimizing negative impacts, and strengthening public and investor trust. The integration of ESG principles becomes a key component of strategic management, as it systematizes processes for managing environmental risks, social responsibility, and corporate governance. ESG frameworks enable agri-food enterprises to create long-term value and transition from short-term gains to a sustainable development paradigm. The implementation of ESG principles is not only a response to contemporary demands but also a driving force for innovation and long-term development in the agri-food sector. Enterprises that integrate sustainability into corporate management demonstrate higher adaptability, reduced risks, enhanced reputational resilience, and competitive advantages.

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#### VECTORS OF TRANSFORMATION OF UKRAINE'S FISCAL POLICY TO STRENGTHEN REGIONAL ECONOMIC SUSTAINABILITY

The relevance of the research topic is critically high and is determined by the need to simultaneously address three strategic challenges: economic survival, social consolidation and institutional stability.

The current tax model of Ukraine is largely focused on taxation of labor and profit, which creates an imbalance between the revenue function of the budget and the stimulating function of taxes.

The fiscal architecture of Ukraine over the past decades has been based on the traditional model, in which the main tax burden fell on labor and profit of enterprises. In the context of modern challenges - in particular, war, demographic decline, energy transformations - such a model is losing its effectiveness. A high tax wedge (the sum of personal income tax, social security contributions and other mandatory payments) causes a decrease in official employment, stimulates shadowing and reduces competitiveness. Instead, modern approaches focus on reorienting taxation from mobile factors (labor, capital) to less elastic ones (consumption, negative externalities), which ensures both fiscal sustainability and sustainable development.[1]

Tax justice is a key element of sustainable development of the socio-economic system (SES), because it is through it that a sense of public trust, legitimacy of state institutions and support for the redistributive functions of the budget are formed. In conditions of growing social polarization and economic shocks, the concept of fiscal justice - the ability of the tax system to effectively equalize inequality and ensure inclusive growth - becomes extremely important.

Among the main instruments that contribute to strengthening tax justice, the following are distinguished: a progressive income tax scale, the fight against tax evasion and the removal of the economy from the shadows.

Progressive taxation is based on the principle of "ability to pay", according to which the tax rate increases in accordance with the taxpayer's income level. The introduction of progressive taxation will affect the subsystems of the SES as follows:

- reduce aggregate income inequality (Gini coefficient), increase consumer demand among low-income households.
- strengthen trust in the state, ensure a sense of justice and support social solidarity.
- prevent social conflicts that may be caused by increasing income polarization.[2]

In such a situation, the introduction of BEPS (Base Erosion and Profit Shifting) rules is recommended in accordance with the 15 OECD actions; transparency of the business ownership structure (beneficial owner disclosure); automation of the exchange of information on financial accounts according to the CRS standard and the use of Big Data and AI to detect tax minimization schemes. [3]

The shadow economy is a parallel system in which economic transactions take place outside formal regulation and taxation. Its scale in Ukraine exceeds 30-35% of GDP, which poses a critical threat to the stability of the SES. Negative effects of the shadow economy for the SES [4]:

- distortion of competition, unfair advantage of illegal business, losses to the budget;
- decrease in the quality of social services due to lack of funding, instability of labor rights;
- increase in the tax burden on the formal sector, fiscal pressure on small businesses.

The policy of de-shadowing should be aimed at reducing the tax wedge - reducing the SSC and stimulating official employment, simplifying administration - automation, electronic services, digital cash registers, tax amnesty - legalization of assets and income with guarantees, and a motivational campaign - public communication of the value of honest taxation.[5]

Conclusions. In the current conditions of multi-vector transformation of the Ukrainian socio-economic system, tax policy is given a special role as a strategic instrument for regulating sustainable development. It is formed at the intersection of financial stabilization, social balance and stimulating economic growth.

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## **FOOD SECURITY OF UKRAINE: CURRENT CHALLENGES**

According to the STATE OF FOOD SECURITY AND NUTRITION 2025 [1], as 2030 approaches, the world is significantly behind the achievement of Sustainable Development Goal 2 (SDG 2) – to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

The main reasons for this are:

- extreme weather events;
- the COVID-19 pandemic;
- rising food prices;
- geopolitical upheavals, including the war in Ukraine.

These crises have increased global hunger and food insecurity beyond pre-2015 levels, disproportionately affecting low-income populations and threatening other development goals such as poverty reduction and health.

“Food security exists when people have access to enough safe and nutritious food for normal growth and development, and an active and healthy life. By contrast, food insecurity refers to when the aforementioned conditions don’t exist. Chronic food insecurity is when a person is unable to consume enough food over an extended period to maintain a normal, active and healthy life. Acute food insecurity is any type that threatens people’s lives or livelihoods” (Paul Anthem) [2]

According to the 2025 Global Report on Food Crises [3], almost 5 million people in Ukraine faced high levels of acute food insecurity in 2024. This is almost 2.3 million fewer people than in 2023, mainly due to regular humanitarian assistance and fewer people living along the front lines.

The report also noted that the Ukrainian economy showed some positive growth in 2024, but a lack of employment opportunities and low incomes contributed to acute food insecurity.

Rising costs for energy, transportation, and food production continued to push up prices, particularly for food, undermining purchasing power. Many people remained displaced within Ukraine, and new displacements continued to occur as the front line shifted. Displaced populations are particularly vulnerable to disruption of livelihoods, lack of income, and acute food insecurity.

Prolonged conflict, economic instability, and global crises such as the COVID-19 pandemic and the war in Ukraine have severely impacted food prices and nominal wages, widening the gap between incomes and basic expenses.

As wages often fail to keep pace with rapidly rising food prices, households experience a decline in purchasing power, which exacerbates poverty and food insecurity.

The implementation of currency devaluation in late 2020 led to a sharp increase in food prices, while global surges in food and energy prices since the start of the war in Ukraine further exacerbated the situation. Although nominal wages increased slightly but steadily, they remained insufficient to balance the rise in the cost of basic goods [1].

Food insecurity in the world is understood as a situation when a person does not have regular access to a sufficient amount of safe and nutritious food that ensures the normal functioning of the body. And this situation is already a reality in Ukraine today, especially in the war zone. The situation with food insecurity remains acute and very difficult for Ukraine. Overcoming it requires both its own efforts and the assistance of the world community.

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### **DIGITAL DRIVERS OF SUSTAINABLE DEVELOPMENT OF YOUTH: FROM ENVIRONMENTAL AWARENESS TO POST-WAR RECONSTRUCTION OF SOCIO-ECONOMIC SYSTEMS**

In the context of global digitalization and geopolitical shifts, the concept of sustainable development is acquiring new meanings. For Ukraine, which is at war, sustainable development is transforming from a theoretical model of “balance of interests” into a strategy for survival and future revival. The key agent of these changes is young people, whose value orientation is formed in the digital space. Today, social networks have ceased to be just a means of communication; they have become a powerful tool for influencing economic processes, public policy and the formation of social resilience. [1]

Consumer behavior is influenced by digital platforms (TikTok, Instagram, Telegram), which in turn “softly nudge” young people to buy certain goods [2]. This has direct economic consequences for market planning. There is a transition from the ownership model to the sharing economy and the circular economy. The popularization of zero waste, upcycling and conscious consumption trends through influencers is forcing businesses to adapt. Corporations, responding to the demand of the digital generation, are implementing ESG strategies, changing supply chains and reporting on their carbon footprint. Thus, social networks act as a catalyst for market changes “from the bottom up”.

The full-scale Russian invasion of Ukraine has radically changed the environmental discourse. Ukrainian youth use digital tools as an element of the civil defense system and documentation of crimes against the environment.

First, ecocide is being recorded. Social networks have become the main channel for documenting the consequences of Russian aggression. The destruction of the unique ecosystem of Oleshkiv Sands as a result of hostilities, the burning of forests, the occupation and mining of the Zaporizhzhia NPP - these facts are instantly spread around the world with the hashtags #StopEcocideUkraine. According to the Ministry of Environment, environmental damage already exceeds trillions of hryvnias, and it is digital recording that is the basis for future reparations [3].

Second, crisis management. The Russians' blowup of the Kakhovka hydroelectric power station dam, which led to the loss of 18 km<sup>3</sup> of water and a colossal man-made disaster, demonstrated the power of horizontal connections. Youth organized aid logistics, evacuation, and animal rescue via Telegram channels in a matter of hours, effectively replacing certain state functions in the disaster zone. Russia's aggression has gone far beyond the regional conflict, becoming a threat to achieving the UN Sustainable Development Goals (SDGs) on a global scale, in particular SDG 2 (End Hunger) [4].

Ukraine, as the guarantor of food security, has suffered devastating blows. Russia is carrying out targeted missile attacks on grain silos and port infrastructure, mining fertile fields, and stealing

Ukrainian grain from occupied territories. The disruption of the irrigation system in the south is endangering the region's agriculture. These actions have led to rising world prices and the risk of famine in countries of the global South.

It was digital platforms that allowed Ukraine to break through the information blockade, show the world the consequences of Russian terror (the #GrainFromUkraine campaign) and mobilize international support for land demining and the restoration of exports. The war also accelerated the global "Green Transition" in the EU, where the rejection of Russian fossil resources became a security issue.

Therefore, social networks are a critically important element of the modern socio-economic system. They not only shape the culture of consumption, but also act as a tool for global monitoring and crisis response. Planning for the post-war recovery of Ukraine should be based on the principles of "Build Back Better" taking into account environmental standards, because it is this demand that is being formed by active youth, which demands the restoration of the country, free from environmental threats and the imperial influence of the aggressor.

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## **ENVIRONMENTAL AWARENESS, CYBERSECURITY, AND DIGITALIZATION IN TOURISM DESTINATION MANAGEMENT**

The modern tourism industry operates in an environment of uncertainty, which gives rise to a number of strategic challenges for destination management systems. Among the key issues requiring comprehensive responses are the following [1-3]:

- uncontrolled growth of tourist flows (overtourism);
- shortage of qualified personnel;
- cybersecurity threats and the need to protect tourists' personal data;
- geopolitical and macroeconomic instability;
- increasing impact of climate change on tourism infrastructure;
- rapid development of digital technologies and virtual reality;
- global health crises (particularly pandemics).

Despite the complexity of these challenges, they may serve as catalysts for positive transformation. Adaptive responses to crises can promote:

- innovation in service provision and management models;
- increased resilience and flexibility of tourism businesses and destinations;
- development of new formats for tourist engagement;
- formation of destinations focused on sustainability, safety, and inclusiveness.

Thus, modern challenges in tourism should be seen not only as threats, but also as strategic opportunities to rethink approaches to destination management in the context of digital transformation, environmental sustainability, and global responsibility.

Amidst the global climate crisis, the growing environmental awareness of consumers presents both new challenges and unique opportunities for transforming the tourism industry. According to recent studies, approximately 75% of tourists consider environmental safety and the sustainability of destinations as critical factors in choosing where to travel. This necessitates a rethinking of traditional tourism development models through the lens of ecological responsibility.

Particularly significant is the concept of regenerative tourism, which aims not only to minimize negative environmental impacts but also to actively restore natural ecosystems. A notable example of successful implementation is the New Zealand Maori Tourism initiative, which allocates part of its revenue to support conservation programs, simultaneously preserving biodiversity and engaging local communities.

Despite the growing focus on sustainable development, the tourism sector remains a significant source of anthropogenic impact. It accounts for approximately 8% of global greenhouse gas emissions (GHG) and consumes up to 10% of global energy resources. Waste management - especially plastic pollution - remains a pressing issue that requires systemic solutions at both enterprise and governmental levels.

Promising directions for further environmentalization of tourism include:

- strengthening cross-sector cooperation between tourism businesses, government institutions, and environmental organizations;
- applying innovative digital technologies to monitor environmental conditions;
- developing "green" tourism infrastructure;
- implementing approaches to regenerative destination management.

In urban tourist destinations, it is essential to integrate environmentally oriented solutions in architectural and infrastructural planning. A vivid example is Changi Airport in Singapore, which combines innovation with biophilic design, offering a comfortable environment for travelers while maintaining ecosystem balance.

In conclusion, regenerative tourism emerges not only as a response to the challenges of sustainable development, but also as a strategic paradigm for the future of the tourism industry.

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### **THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF SUSTAINABLE ENTREPRENEURIAL DEVELOPMENT AND MANAGERIAL INNOVATIONS**

Sustainable entrepreneurial development in the context of the war in Ukraine is gaining particular relevance, as its capacity and successful performance are increasingly determined by the ability of business entities to implement innovations and apply effective management mechanisms aimed at ensuring economic efficiency, social responsibility, and environmental balance.

Sustainable entrepreneurial development represents a business strategy focused not only on profit generation but also on environmental stewardship and social responsibility. The implementation of sustainable development measures across various areas of business activity

requires modern companies to actively utilize their innovative potential [1, p. 14]. Innovations also serve as an important instrument for the implementation of social and environmental measures, initiatives, and environmental development strategies, ensuring the achievement of outcomes that are significant for various stakeholders and contributing to the resolution of societal challenges. The study of theoretical and practical aspects of the functioning of management mechanisms for innovative support of sustainable development indicates that enterprises share common sustainability objectives and contribute to their achievement in areas where their innovative resources and capabilities are concentrated, as well as where existing problems are closely linked to social challenges and the needs of entrepreneurship [3].

Contemporary challenges of globalization, transformations in environmental, social, and economic spheres, and the destructive impact of military actions require businesses to adapt to new operational realities. In a period when resources are becoming increasingly scarce and environmental threats are intensifying, enterprises must integrate the principles of sustainable development into their strategies in order to ensure long-term viability and competitiveness [4, p. 24]. Moreover, society and markets are placing growing emphasis on social responsibility, environmentally friendly production, and efficient resource utilization, thereby imposing additional requirements on business activities [5, p. 222]. The integration of ESG (Environmental, Social, Governance) principles into managerial decision-making systems creates institutional prerequisites for risk minimization and the formation of a favorable environment for sustainable enterprise development, which in turn enhances the role of innovation as a key instrument for achieving strategic objectives and improving economic performance.

The rapid pace of technological progress, changes in global market conditions, and the continuous evolution of societal demands also generate a growing need for innovation as an essential tool for addressing complex economic challenges. In the digital era, innovation acts as a driving force capable of supporting and facilitating sustainable development. An analysis of recent studies and publications in the field of innovative development indicates that modern economies increasingly seek to employ innovation not only to promote economic growth but also to address complex social issues such as climate change, demographic shifts, and inequality. Innovations based on advanced technologies, including artificial intelligence, blockchain, biotechnology, and others, are becoming crucial instruments for achieving competitive advantages in both international and domestic markets. However, according to M. Hanchuk, innovation in the economy should be understood not only as technological advancement but also as the introduction of new approaches to business organization, resource management, and human capital development [6, p. 102]. The strategic integration of innovative ecosystems thus becomes a key driver of enterprise development in contemporary market conditions.

The mechanism for managing sustainable development is defined as a component of the management system capable of exerting effective influence on the factors that determine the performance outcomes of the managed entity. In this context, the innovative mechanism of business development is defined as a dynamic system whose functioning is driven by innovation impulses and aimed at ensuring purposeful and efficient enterprise development. T. Demyanenko substantiates that, in shaping the innovative development of enterprises, it is essential to be guided by the methodological foundations of the sustainable development concept, as they provide a comprehensive approach to integrating economic, social, and environmental objectives of enterprise activity and contribute to the long-term stability of development [7].

In summary, it should be emphasized that the enterprise management mechanism constitutes an integrated set of tools for purposeful influence on key factors of economic activity, ensuring the alignment of current managerial decisions with the objectives of innovative development. A clear distinction between management mechanisms and development mechanisms makes it possible to substantiate the innovative business development mechanism as a dynamic system oriented toward adaptation to innovation impulses and capable of ensuring the sustainable achievement of strategic enterprise goals. Under conditions of wartime challenges and an unstable market environment, the

effective functioning of such a mechanism is a key prerequisite for financial stability, enhanced competitiveness, and the long-term viability of enterprises.

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### INTERNATIONAL SCIENTIFIC AND TECHNOLOGICAL COOPERATION: GEOPOLITICS, EQUITY, GLOBAL THREATS

International scientific and technological cooperation (ISTC) is fundamentally recognized as an engine for global prosperity, yet its effectiveness is currently challenged by growing geopolitical tensions and persistent structural inequalities [1].

The most acute governance issue is navigating the tension between scientific openness and rising security concerns. The global research ecosystem, reliant on autonomy and free exchange [2], is increasingly fragmented as frontier technologies (e.g., AI, quantum computing) are categorized as «critical» or «security-relevant» [3]. A primary policy concern is governing the intangible transfer of data, information, and know-how from research, especially as basic science is reclassified as potentially dual-use. To sustain integrity and prevent fragmentation, the guiding principle must be to keep scientific engagement «as open as possible and as secure as necessary» [2].

Concurrently, ISTC is hampered by deep structural and equity barriers. Scientists identify funding scarcity for international work and institutional obstacles – such as data sharing restrictions and differences in standards – as primary impediments [4]. The most pervasive threat to equitable collaboration is the widening digital divide, with 2.7 billion people still offline and Least Developed Countries (LDCs) lagging severely (27% internet usage). This disparity risks the data economy being «permanently dominated by a few stakeholders from a handful of technologically advanced economies». Bridging this gap requires multilateral action, including the non-politicized transfer of

technologies and financial resources, and the empowerment of local research ecosystems to fulfill the spirit of global equality [5].

Despite these challenges, the relevance of ISTC endures. Historically, cooperative frameworks demonstrate institutional resilience, as seen in the International Science and Technology Center (ISTC), which successfully transitioned from a post-Soviet non-proliferation mechanism to a global mandate for CBRN risk mitigation (Chemical, Biological, Radiological, and Nuclear) [6]. Today, ISTC is indispensable for addressing planetary challenges; it provides the technological foundation necessary to operationalize high-level agreements like the Paris Agreement and the 2030 Agenda for Sustainable Development, making integrated climate action the strongest path toward achieving the SDGs [7]. In global health, cooperation addresses critical issues like antimicrobial resistance, though governance models diverge, ranging from traditional solidarity to conditionality based on performance metrics and co-investment requirements [8].

Ultimately, ISTC is an indispensable diplomatic and operational tool for tackling global systemic risks, from climate change to WMD (Weapon of Mass Destruction) proliferation. The challenge for the international community is to move beyond the high-level consensus on collaboration and decisively bridge the chasm between geopolitical demands for security and development demands for equity. Only through transparent, integrated governance that enforces both security and inclusion can ISTC fulfill its promise as a resilient and transformative engine for a safer, more prosperous world.

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## **THE ROLE OF THE FINANCIAL STRATEGY OF HOSPITALITY ENTERPRISES IN ACHIEVING SUSTAINABLE DEVELOPMENT GOALS**

The modern development of the hospitality industry takes place in conditions of high dynamism of the external environment, global competition and growing attention to the socio-ecological aspects of business functioning. In these conditions, the financial strategy of the enterprise plays a key role in ensuring its stability, competitiveness and orientation towards the principles of sustainable development.

The financial strategy determines the long-term guidelines of the enterprise's activities, directions of use of financial resources, proportions between investments, expenses and incomes, as well as approaches to risk management. For hospitality enterprises, it is the basis for:

- formation of stable financial flows;
- increasing the efficiency of resource use;
- ensuring flexibility and adaptability in conditions of seasonality and market instability;
- implementation of innovative environmental and social projects.

In the context of sustainable development, the financial strategy acquires additional meaning: it must coordinate the economic goals of the enterprise with environmental and social priorities [1].

Hospitality companies are increasingly implementing ESG (environmental, social, governance) principles, which include taking into account:

- environmental aspects (energy conservation, waste reduction, environmentally friendly technologies);
- social responsibility (job quality, staff training and development, guest safety);
- effective corporate governance.

The integration of these components into the financial strategy makes it possible to form a financial model aimed not only at profitability, but also at the long-term sustainability of the enterprise.

The financial strategy of a hospitality company may include the following sustainable development tools [2]:

1. Investment in "green" technologies. Installation of energy-efficient equipment, water saving systems, use of renewable energy sources reduces costs and increases environmental responsibility of the business.

2. Diversification of financing sources. Attracting grants, "green" loans, participation in international programs to support sustainable development expands investment opportunities.

3. Financial planning based on risk management. Taking into account seasonal fluctuations in demand, global crisis factors and new environmental requirements ensures business sustainability.

4. Optimization of costs taking into account environmental criteria. Saving resources through environmental practices contributes to the simultaneous reduction of costs and improvement of the image of the enterprise.

Implementation of a financial strategy focused on sustainable development gives hospitality enterprises a number of strategic advantages:

- formation of a positive image and increased loyalty of consumers, who increasingly value environmental friendliness and social responsibility;
- reduction of operating costs due to energy-efficient solutions;
- increase in investment attractiveness;
- the opportunity to participate in international tourism programs and projects.

As a result, the company receives more stable financial results and strengthens its market position.

The financial strategy of a hospitality enterprise is a key tool in achieving sustainable development goals. It ensures the rational formation and use of financial resources, promotes the implementation of environmental and social initiatives, increases competitiveness and long-term sustainability of the business. Effective integration of sustainable development approaches into financial policy allows hospitality enterprises to respond to the challenges of modernity and implement the strategic goals of responsible economic growth.

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### **FINANCIAL RESOURCE MANAGEMENT IN THE STRUCTURE OF MODERN SPORTS MANAGEMENT OF UKRAINE**

The conditions of full-scale war, the transformation of budgetary policy, and Ukraine's adaptation to European standards of public administration have generated new requirements for the management of financial resources in the field of physical culture and sports [1; 7]. The sector operates under double pressure: the prioritization of defense expenditures, and the simultaneous growth of public demand for sports and rehabilitation services, the development of mass sports, and the support of high-performance athletes [1; 5]. In this context, financial support for sports becomes a strategic factor for preserving and modernizing sports infrastructure, maintaining human potential, and integrating Ukrainian sports into the European space.

The purpose of these theses is to summarize current approaches to financial resource management in Ukrainian sports management, characterize key trends in sectoral financing under martial law, and outline prospects for improving financial policy in the field of physical culture and sports.

Financial resource management in sports should be understood as a system of planning, formation, distribution, utilization, and control of financial flows aimed at achieving the strategic and operational goals of sports organizations [6]. This system encompasses national, regional, corporate, and community levels, as well as the segment of extra-budgetary and private initiatives. Contemporary research emphasizes that financial resources serve not only as a means of covering expenditures but also as an instrument of investment development - facilitating the modernization of sports infrastructure, improvement of personnel training, implementation of innovative formats of sports services, and the introduction of digital management systems [2; 3; 4; 5].

According to the general theory of financial management, key principles include goal orientation, balance of funding sources, economic justification of expenditures, transparency and accountability, diversification of financial flows, risk management, and maintaining long-term financial stability [6]. Under wartime conditions, these principles become even more relevant, as limited budgetary resources require maximally efficient allocation and use.

Since 2022, Ukraine's budgetary policy has undergone significant militarization: defense expenditures have become dominant in the state budget structure, which objectively reduced the capacity for direct financing of sports [7]. At the same time, analysis of public expenditures on physical culture and sports shows that essential support has been preserved for priority areas — Olympic and Paralympic sports, youth sports, and sports within the educational system [1; 7]. Budget indicators for 2023–2026 demonstrate a general upward trend in spending on youth and

sports, despite fluctuations that affect the stability of financial planning (data from the Ministry of Finance of Ukraine) [8].

Along with positive budget dynamics, comparative data reveal a number of systemic challenges: uneven allocation of funds between regions and sports, discrepancies between planned and actual expenditures, delays in budget disbursement, and limited opportunities for capital investment, especially in war-affected regions [7]. There is also an insufficient level of transparency in the use of funds and a low degree of digitalization of budgeting processes in the sports sector [4].

Promising areas for improving the system of financial resource management in sports include the development of a long-term national financing strategy, expansion of public-private partnership mechanisms, creation of specialized extra-budgetary funds, implementation of educational programs in financial management for leaders of sports organizations, and the development of an integrated digital environment for financial information exchange [2].

Thus, the synthesis of theoretical contributions and the analysis of current trends provide grounds to assert that financial resource management in Ukrainian sports management plays a strategic role under martial law and during post-war recovery [1]. The effectiveness of financial policy will depend on the ability to combine budgetary and extra-budgetary tools, ensure transparency and accountability of financial processes, strengthen human capacity, and implement digital solutions aligned with contemporary principles of public administration [2].

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### IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE SYSTEM AS A COMPONENT OF INNOVATIVE LOGISTICS MANAGEMENT SYSTEM OF ENTERPRISE

Modern market conditions require logistics companies not only to perform operations quickly and accurately, but also to be highly adaptable to fluctuations in demand, seasonal peaks, and constantly increasing competitive pressure. Customers expect shorter delivery times, transparent processes, and consistent service quality, which significantly increases the load on warehouse infrastructure. Under such conditions, traditional approaches to warehouse process management,

based on fixed regulations and manual analysis, are increasingly proving to be insufficiently effective. They do not provide the necessary flexibility, scalability, and speed of decision-making, forcing companies to look for innovative technological solutions.

One of the most promising areas of logistics development is the introduction of artificial intelligence systems capable of transforming large amounts of operational data into informed management decisions in near real time. In this context, the use of the DIDO platform, which combines machine learning methods, intelligent analytics, and digital twin technology for the comprehensive modernization of warehouse operations, is particularly relevant. Its application allows not only to optimize current processes but also to form long-term strategic advantages for the enterprise. The integration of such solutions makes it possible to move from reactive management to predictive and proactive control of logistics processes. By continuously analyzing data on inventory levels, order flows, equipment utilization, and workforce performance, the DIDO platform can identify bottlenecks in advance, forecast demand fluctuations, and recommend optimal resource allocation scenarios. This significantly reduces operational risks, minimizes downtime, and increases the overall transparency of warehouse activities. Moreover, the use of digital twins enables the simulation of various development scenarios without disrupting real operations. Enterprises can test changes in layout, staffing models, or automation levels in a virtual environment, evaluating their impact on key performance indicators before implementation.

The need to integrate artificial intelligence technologies into Omega LLC's logistics processes is driven by a combination of interrelated factors, the key ones being growing competition in the distribution market, a steady increase in the volume of orders processed, and the need to reduce operating costs while improving the level of logistics service. The company's current warehouse system is operating at the limits of traditional management methods, which creates risks of reduced productivity, bottlenecks during peak periods, and loss of flexibility in conditions of unstable demand. In such circumstances, artificial intelligence ceases to be just a digital fad and becomes a practical tool capable of significantly improving key performance indicators of the enterprise.

The DIDO (Data In, Design Out) platform is a high-tech intelligent complex for planning, modeling, and continuous optimization of warehouse operations [1]. Unlike classic warehouse management systems (WMS), which mainly record the current state of processes and perform control functions, DIDO is focused on analytical forecasting and active formation of optimal management decisions. It uses modern artificial intelligence algorithms to analyze data and transform it into recommendations for warehouse spatial organization, storage logic, movement routes, and resource loading.

An important advantage of the DIDO platform is its ability to function not only as a one-time optimization tool, but also as a system for continuous improvement of warehouse processes. Thanks to the constant flow of up-to-date data from the operating environment, the platform adapts its models to changes in demand, assortment, and load, ensuring dynamic restructuring of logistics solutions. Thus, the warehouse ceases to be a static structure and becomes a flexible, self-learning system capable of responding to internal and external challenges in near real time.

A particularly innovative element of the platform is the use of a digital twin of the warehouse—an accurate, dynamic virtual copy of the real object, in which all parameters of the warehouse infrastructure and processes are reproduced in detail: the geometry of the premises, the configuration of the racks, the characteristics of the storage areas, the work of personnel, and automated equipment. The digital twin serves as a safe test environment in which various scenarios can be tested: changes in picking routes, the introduction of new cargo handling technologies, the redesign of areas, or an increase in order volumes. In a short period of time, the system can simulate thousands of operational cycles and provide a quantitative assessment of the effectiveness of each scenario [2].

A key stage in the functioning of DIDO is simulation, during which options generated by artificial intelligence algorithms are tested in a digital twin of the warehouse. This allows for the most accurate assessment of the consequences of implementing each solution in conditions close to real life, even before its physical implementation. This approach helps to avoid significant financial

losses. At the final stage, the platform selects the optimal option for placing goods, organizing flows and routes, which can be integrated into the real warehouse of Omega LLC.

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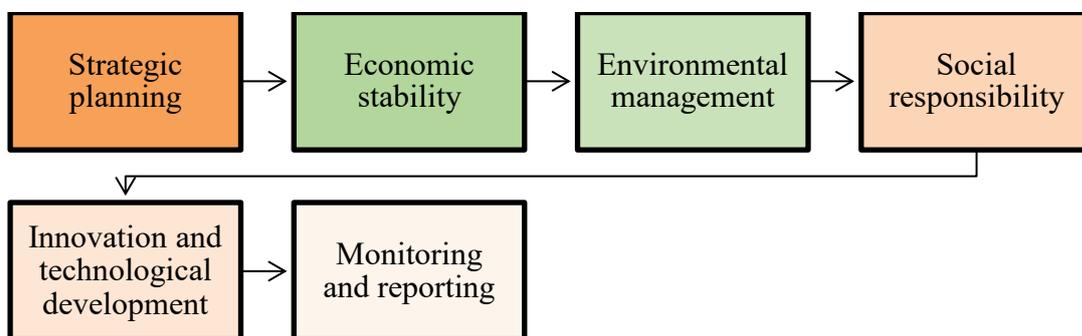
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## USE OF STRATEGIC MANAGEMENT TOOLS TO ENSURE SUSTAINABLE DEVELOPMENT OF AN ENTERPRISE

Sustainable development of an enterprise is implemented as a response to the increasing complexity of economic conditions, intensified competition, and the need to combine economic performance with social responsibility and environmental safety. Enterprises are increasingly focused on long-term stability, which requires the implementation of systematic management approaches capable of ensuring a balance between profitability and the rational use of resources. Within this approach, sustainability is understood as the enterprise's ability to maintain operational efficiency in a changing environment [1].

The components of ensuring sustainable development of the enterprise are shown in the figure 1.



**Figure 1.** Components of sustainable enterprise development [1]

Strategic management is a fundamental tool for achieving sustainable development goals, as it ensures the alignment of long-term planning principles and adaptability within the managerial decision-making process. It encompasses the definition of strategic objectives, the formulation of the enterprise's mission, and the development of mechanisms for their achievement. The functioning of strategic management contributes to strengthening the enterprise's competitive position and creating conditions for its stable development.

One of the key instruments of strategic management is strategic planning, which ensures a systematic determination of an enterprise's development directions and priorities. It includes the analysis of the external and internal environment, the identification of opportunities and threats, the development of alternative development scenarios, and a well-grounded selection of the optimal model of enterprise functioning. Strategic planning helps minimize the level of uncertainty, improve the efficiency of resource allocation, and enhance the soundness of managerial decisions that support stability, competitiveness, and long-term development of the enterprise [2].

The formation of enterprise strategy under uncertainty is crucial for sustainable development. Tools such as SWOT analysis, risk management, and scenario modeling help identify threats and

opportunities and formulate flexible strategic guidelines, enhancing adaptability and long-term operational capacity. Strategic management also supports the creation of long-term business value through strategic control, management by objectives, and effective performance measurement, aligning operations with priorities and ensuring transparency. Assessing sustainable development using financial, production, environmental, and social indicators provides a comprehensive view of performance and an information base for strategy adjustment and more informed decision-making [1].

In an unstable external environment, particularly during periods of crisis phenomena and military threats, strategic management becomes critically important for ensuring the continuity of enterprise operations. The application of crisis management tools, adaptive strategies, and business diversification enables enterprises to maintain viability, reduce risks, and preserve competitive positions under conditions of heightened uncertainty. Strategic instruments allow for timely identification of external challenges, prompt response to environmental changes, and informed managerial decision-making. As a result, they contribute to strengthening organizational resilience and supporting sustainable enterprise development in the long term [3].

Thus, the application of strategic management tools is a decisive condition for achieving the sustainable development of an enterprise. The systematic use of strategic planning, analysis, control, and evaluation enables enterprises to attain economic stability, improve resource efficiency, and ensure balanced long-term development. Moreover, an integrated strategic management approach enhances adaptability, mitigates risks, and strengthens competitive position, serving not only to achieve current objectives but also as a foundation for long-term value creation and sustainable growth [1].

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## DIGITAL TOOLS IN MARKETING MANAGEMENT IN ENSURING SUSTAINABLE DEVELOPMENT

The modern stage of development of socio-economic systems is characterized by unprecedented volatility and the rapid digitalization of all spheres of business. In the context of the transition to the fifth technological order and the challenges of the digital economy, marketing management is transforming from a supporting function into a central element of a company's strategic resilience. However, this process reveals a fundamental contradiction described by Scott Brinker as "Martec's Law": technology changes exponentially, while organizations adapt only logarithmically.<sup>1</sup> This gap creates a "tactical trap"—a situation where management focuses on short-term operational tasks and isolated digital tools (e.g., SMM, SEO) without proper strategic justification. For Ukrainian enterprises operating in conditions of high uncertainty, overcoming this gap is critical for ensuring economic stability and sustainable development. The purpose of this paper is to substantiate a comprehensive mechanism for improving marketing management based on the integration of the SOSTAC® planning model, the implementation of a Customer Data Platform (CDP), and the development of Agile competencies of personnel.

**Strategic Planning Framework.** To overcome the chaotic nature of marketing actions, a transition from intuitive management to a structured strategic approach is required. The research proposes using the SOSTAC® framework (Situation, Objectives, Strategy, Tactics, Action, Control) as a basis for ensuring sustainable marketing management.<sup>2</sup>

The first stage, Situation Analysis, requires a deep audit of the digital presence and the "digital footprint" of competitors. In the Objectives stage, it is critical to move away from abstract goals (e.g., "increase traffic") to the SMART criteria, tying marketing indicators to business results (e.g., "increase the number of Marketing Qualified Leads (MQL) by 15% within 6 months while maintaining Customer Acquisition Cost (CAC)").

A key element of the Strategy is the shift from a multichannel approach to an omnichannel one. Unlike multichannel marketing, where a brand is simply present on various platforms, an omnichannel strategy ensures a seamless and consistent customer experience (CX) regardless of the touchpoint. This is supported by deep segmentation (STP) based not on demographics, but on behavioral data and psychographics, which allows for optimizing resource use and reducing information noise, aligning with the principles of sustainable consumption.

**Technological Infrastructure and Data Ecosystem.** A significant barrier to sustainable development is the problem of information "silos"—isolated data repositories that arise from the fragmentation of the marketing technology stack (MarTech). To solve this, the integration of a Customer Data Platform (CDP) is recommended. According to the CDP Institute, a CDP is packaged software that creates a persistent, unified customer database accessible to other systems.

Ensuring sustainable development requires a shift to proactive, data-driven management supported by multi-level dashboards. These dashboards enable monitoring of key metrics at strategic, tactical, and operational levels, from business outcomes to day-to-day marketing performance.

At the same time, "Last Click" attribution is insufficient in a complex digital environment. Data-Driven Attribution models based on algorithmic analysis provide a more accurate assessment of channel contributions, enabling better budget allocation and preserving channels that are crucial at the awareness and interest stages of the funnel.

**Human Capital and Agile Transformation.** Technology alone cannot ensure competitive advantages without the appropriate development of human capital. The "MarTech Competency Chasm"—the gap between the capabilities of tools and the skills of staff—must be bridged. The paper substantiates the need for developing "T-shaped" marketers—specialists with deep expertise in one area (e.g., PPC) and broad knowledge in related disciplines (analytics, content, strategy).

To ensure adaptability in a turbulent environment, the implementation of Agile marketing methodologies is proposed. This involves organizing work in short iterations (sprints), cross-functional collaboration, and regular retrospectives.<sup>5</sup> An Agile approach allows enterprises to test hypotheses quickly ("fail fast, learn faster"), adapt to changes in consumer behavior in real-time, and minimize the waste of resources on ineffective campaigns, which directly contributes to the economic sustainability of the business.

The proposed mechanism for improving marketing management ensures the synchronization of strategic goals with tactical tools. By integrating SOSTAC® planning, unified data infrastructure (CDP), and Agile methodologies, enterprises can overcome the "tactical trap," increase the return on marketing investments (ROMI), and ensure sustainable development in the face of global digital transformation.

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## **FINANCIAL AND ECONOMIC ASPECTS OF ENSURING SUSTAINABLE DEVELOPMENT IN PUBLIC SECTOR INSTITUTIONS: SPECIFICS OF ACCOUNTING AND MANAGEMENT REPORTING**

The issue of ensuring sustainable development in the public sector has gained particular importance at the present stage, as it relates not only to the economic efficiency of public institutions but also to the formation of social stability and the rational use of resources in the long-term perspective. In light of the global trends defined by the 2030 Agenda for Sustainable Development [1], the role of public institutions is increasing, since they are responsible for policymaking, resource allocation, and the provision of public goods. Achieving these goals is possible only when high-quality accounting and information support is in place, forming a foundation for well-grounded managerial decisions.

In this context, the financial and economic aspects of sustainable development are directly linked to the organization of accounting and management reporting, which generate the main information flows in the public sector. Scholars emphasize that the financial system of public institutions should ensure not only the registration of transactions but also their analytical processing, which allows for assessing the effectiveness of managing public resources [2]. Therefore, the quality of accounting data directly affects the state's ability to achieve strategic sustainability goals.

The specifics of financial accounting in the public sector are determined by the nature of government activities, where the primary objective is not commercial profit but the fulfillment of public functions. Accounting is maintained in the context of budget programs and appropriations, which strengthens the role of control over the targeted use of resources. Unlike the private sector, the assets and liabilities of public institutions belong to the state, which necessitates a different approach to valuation, management, and recording of operations. The accounting system must ensure not only the documentation of economic events but also support strategic management focused on efficiency, effectiveness, and sustainability [3].

Management reporting plays a crucial role in decision-making, as it provides detailed and analytical information needed to assess the alignment of an institution's activities with its strategic objectives. Based on GRI guidelines [4], management reporting in sustainable development should cover economic, social, environmental, and governance indicators that characterize the institution's impact on society and resources. In Ukraine, non-financial reporting in the public sector is still evolving, but its implementation is an important prerequisite for integration into global transparency and accountability standards.

Despite ongoing reforms, the accounting and reporting system in the public sector faces several challenges. Frequent legislative changes and the fragmented nature of regulatory acts complicate the practical application of accounting rules. Insufficient digitalization of accounting processes results in low efficiency and increases the risk of technical errors. Non-financial reporting lacks an adequate level of standardization, making comparative analysis difficult. Furthermore, a shortage of qualified personnel with competencies in data management and IPSAS literacy slows down the effective implementation of reforms [5].

Improving the accounting and reporting system in the context of sustainable development involves several strategic directions. Among them, full harmonization of accounting standards with IPSAS and the development of unified non-financial reporting standards adapted to the specifics of the Ukrainian public sector are essential. Digitalization of accounting processes is a necessary condition for improving the timeliness, reliability, and analytical quality of accounting information. Strengthening the analytical function of accounting is also important, as it transforms accounting from a tool for data recording into a mechanism for resource management and performance

evaluation. The integrated implementation of these measures will contribute to the formation of a high-quality information base for decision-making that aligns with sustainability principles.

In conclusion, the financial and economic aspects of sustainable development in the public sector are based on an effectively organized accounting and reporting system that ensures transparency, accountability, and efficient use of public resources. Modern transformations related to harmonization of standards, digitalization, and improvement of management reporting create the necessary preconditions for the further development of the public sector in accordance with international sustainability standards. Implementing these approaches will help strengthen public trust in state institutions and enhance the achievement of socially significant goals.

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### INFORMATION SUPPORT FOR SOCIAL DIMENSIONS OF SUSTAINABLE DEVELOPMENT PLANNING IN THE AGRARIAN SECTOR

In the contemporary context of globalization and climate change, the agrarian sector plays a pivotal role in ensuring food security, economic stability, and societal well-being. The sustainable development of agriculture requires a balanced integration of economic, environmental, and social dimensions. Social considerations include employment opportunities, education, rural health, gender equality, and community cohesion. In this regard, information support emerges as a key instrument for effective planning, as it enables the systematic collection, analysis, and dissemination of data necessary for evidence-based decision-making. The relevance of this topic is driven by the need to adapt agrarian systems to urbanization, demographic change, and digital transformation, all of which require the integration of advanced information technologies into social planning processes.

The social dimensions of sustainable development in the agrarian sector encompass a broad range of issues related to human capital. These include equitable access to resources, the continuous improvement of skills among farmers and rural residents, and the monitoring of social risks such as poverty, migration, and inequality. Information support for socially oriented planning involves the establishment of integrated data collection and processing systems. Advanced technologies, including artificial intelligence, machine learning, and cloud-based platforms, are increasingly used to analyze socio-economic indicators. At the strategic level, information systems support the modeling of development scenarios that incorporate social variables, such as the effects of climate change on rural employment. A critical component of this process is the development of comprehensive databases covering demographic trends, education levels, access to healthcare, and indicators of social mobility.

A key area of advancement is the development of digital platforms that facilitate public participation. Online forums, mobile applications, and other interactive tools enable rural residents to provide feedback, ensuring that local needs and perspectives are reflected in planning processes. In several European Union countries, including Germany and France, systems for monitoring the social sustainability of farms have been introduced, allowing real-time analysis of working conditions, wage levels, and social benefits. In Ukraine, comparable initiatives could be implemented through the creation of a national information network for the agro-industrial sector, integrating data from public registries, satellite monitoring systems, and sociological surveys.

Despite the considerable potential of information support systems, several challenges remain. First, the lack of standardized social data across regions complicates strategic planning, as unified databases on the social conditions of farmers are often absent. Second, digital inequality persists, since limited access to internet infrastructure and digital tools in rural areas increases the risk of social exclusion.

Addressing these challenges requires a multi-level approach. At the national level, public policy should encourage investment in information infrastructure and promote digital literacy through targeted training programs for farmers and rural communities. At the regional level, the establishment of local information support centers is recommended, where data on agricultural production can be integrated with information from social services to support coordinated decision-making.

The methodology for planning sustainable development in the agrarian sector, with a particular focus on social dimensions, is grounded in systems analysis. Analytical tools such as SWOT analysis, combined with GIS technologies, are applied to assess the strengths and vulnerabilities of the social environment in rural areas. In addition, social sustainability indicators developed by international organizations, including the FAO and the OECD, are used to evaluate key parameters such as rural employment rates, gender equality in agriculture, and levels of social capital.

In the Ukrainian context, where agriculture represents a substantial share of national GDP, information support for social planning can be further strengthened through integration with European policy frameworks, including the Common Agricultural Policy (CAP). This integration involves the development of a unified digital platform that links social indicators with environmental and economic data, thereby enabling more accurate forecasting of social risks, such as the potential social impacts of land reform.

Future advances in information support for social dimensions of agrarian development are closely linked to the transition toward smart agriculture. The use of Internet of Things (IoT) technologies enables the collection of real-time data, supporting the more precise targeting of social programs. For example, educational initiatives for young farmers or support schemes for women in rural areas can be tailored to specific local needs. Moreover, the adoption of blockchain technologies can enhance transparency and accountability in the allocation of social assistance.

#### Conclusion

Effective information support constitutes a cornerstone of sustainable development in the agrarian sector, as it facilitates the alignment of social priorities with economic and environmental objectives. The successful implementation of the proposed approaches requires coordinated action among public authorities, businesses, and local communities. Ultimately, such collaboration contributes to improved living standards and greater social resilience in rural regions.

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## **MERGERS AND ACQUISITIONS AS A TOOL FOR ENSURING BUSINESS STABILITY IN CONDITIONS OF ECONOMIC UNCERTAINTY**

The modern economic system is characterized by growing uncertainty and instability due to the aggravation of geopolitical, climatic, social factors, and crisis phenomena. Because of this, companies need to adapt to a changing environment in order to grow and maintain their positions in various markets. Given the rapid technological development and digitalization of the economy, caused in particular by the COVID-19 pandemic, innovation is now one of the main drivers of competition. Mergers and acquisitions are an effective mechanism for stimulating innovative development and eliminating the risk of competition from small companies and startups.

In the field of technology and digital services, it is acquisitions that ensure the stable positions of the largest market players. For example, between 2000 and 2024, Alphabet carried out 222 acquisitions, Microsoft 140, and Apple 102 [1]. Thanks to these acquisitions, companies are also expanding the range of services they provide to their customers, creating their own digital ecosystems. Such ecosystems include not only a network of gadgets, but also software and applications that work as a single system. The creation of such ecosystems is possible in particular thanks to mergers and acquisitions, as companies obtain the necessary innovative technologies that they implement in their own products. For example, Microsoft's acquisition of Dynamical System Research [2], Forethought [3], and Visio Corporation [4] helped create Microsoft Windows, PowerPoint, and Visio by adapting these companies' developments into their own full-fledged programs.

Mergers and acquisitions offer a number of advantages for companies, including strengthening their competitive position and increasing their market share, increasing scale, and enabling product diversification. It is also important to note that in the case of conglomerate concentration, the company gains opportunities to enter new markets. For example, after acquiring Pixar Animation Studios, Disney was able to develop its animation film business and establish itself in this market by creating a number of cult cartoons, such as Toy Story [5].

Despite a number of advantages, mergers and acquisitions may not always achieve the desired results. Merger and acquisition deals must be carefully prepared to maximize benefits and minimize risks for the companies involved. Along with the high cost of such transactions, problems may also arise in management processes, miscalculations of costs and benefits, causing ambiguity and uncertainty for the staff. For concentration processes, it is important to follow the transaction procedure established by the relevant antitrust authorities to avoid violating antitrust laws, which could result in fines or blocking of the transaction. Antitrust authorities will impose restrictions or block mergers and acquisitions that threaten market competition and are monopolistic in nature. Therefore, before concluding a transaction, it is important to calculate costs, assess potential profitability and benefits, thoroughly research the counterparty and the markets involved, and comply with the notification mechanism of the antitrust authorities.

In conclusion, mergers and acquisitions are an effective mechanism for ensuring the sustainability and competitiveness of companies by attracting innovation, achieving economies of scale, facilitating entry into new markets, and increasing market share. At the same time, it is important to carry out such transactions in accordance with the instructions and recommendations of antitrust authorities in order to avoid prohibitions and other restrictions. Achieving synergies, attracting new talent, developing new areas of activity, optimizing costs, and ensuring financial stability through concentration helps companies become more adaptive and flexible to changes in the economic environment.

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## FINANCIAL AND ECONOMIC CHALLENGES OF SUSTAINABLE DEVELOPMENT IN A GLOBALIZED WORLD

In the 21st century, sustainable development has become one of the key priorities of the world economy, as globalization processes, financial integration, technological transformations, and the aggravation of environmental and social problems significantly change the conditions for the functioning of national economies. The financial and economic challenges of sustainable development are becoming particularly acute in the context of increasing interdependence between countries, instability in global financial markets, rising debt burdens, and uneven economic growth.

Sustainable development represents a fundamental paradigm in contemporary economic science, encompassing balanced economic growth while addressing social and environmental needs of society. Financial and economic mechanisms play a decisive role in achieving sustainable development goals, as programs of modernization, innovation, and social initiatives are implemented through financing.

The relevance of researching financial and economic aspects of sustainable development stems from global challenges of modernity: climate change, depletion of natural resources, growing social inequality, and the necessity to ensure the welfare of future generations. According to UN data, achieving the Sustainable Development Goals by 2030 requires annual investments of 5-7 trillion US dollars, which underscores the scale of financial needs.

The aim of this research is to analyze financial and economic instruments for ensuring sustainable development and identify promising directions for their improvement in modern conditions.

Research objectives include examining theoretical foundations of sustainable development financing, analyzing existing financial mechanisms, evaluating the role of healthcare in sustainable development, and exploring information technologies in development planning.

The concept of sustainable development is based on three interconnected components: economic growth, social justice, and environmental responsibility. Financial and economic support for these components requires a comprehensive approach combining state regulation, private investment, and international cooperation.

1. Sustainable development is based on three interconnected pillars: economic growth, social justice, and environmental responsibility. Financial support for these areas requires coordinated efforts from governments, private investors, and international institutions [1, p. 12-17].

Key funding sources include public budgets, private investments, international assistance, and innovative financial tools. Governments finance social infrastructure, education, healthcare, and environmental programs, while the private sector contributes through public-private partnerships,

green bonds, and responsible investments. Green finance has grown rapidly: the global green bond market expanded from 11 billion USD in 2013 to over 500 billion USD in 2023 [5, p. 22-24].

International financial institutions – such as the World Bank, IMF, and regional development banks – provide technical and concessional support for sustainable projects [3, p. 9, 14]. New financial mechanisms, including impact investing, blended finance, and sustainability-linked loans, align profitability with social and environmental outcomes.

Economic instruments play a key role. Fiscal policy promotes eco-friendly behavior via tax incentives and pollution taxes. Preferential loans, venture financing, and sustainable development funds support innovative projects. Carbon pricing – through taxes or emissions trading – creates incentives to reduce emissions. Regulatory frameworks, green taxonomies, and sustainability reporting help direct capital toward truly sustainable activities.

Healthcare is essential for sustainable development, as a healthy population drives economic and social stability [4, p. 33-40, 52]. Developed countries spend 8–10% of GDP on health. Modern medicine prioritizes prevention, digitalization, and telemedicine, which reduce long-term costs and improve access. Environmental factors also influence health, requiring investments in cleaner air, water, and soil. The “One Health” approach emphasizes the connection between human, animal, and environmental health.

Digital technologies strengthen sustainable development planning. Big data, GIS, and AI support monitoring, forecasting, and informed decision-making [5, p. 31, 40-43]. Blockchain enhances transparency of financial flows through smart contracts and reduced corruption risks. Open data platforms and digital inclusion increase public participation and accountability.

Remote sensing and satellite data help track environmental changes and support evidence-based policy. Integrating different data sources enables comprehensive analysis of sustainability challenges and guides strategic responses. Therefore, the study of financial and economic problems of sustainable development in a globalized world is extremely relevant, as it contributes to a deeper understanding of modern transformations of the world economy and the formation of effective mechanisms for ensuring balanced development at the national and global levels.

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## **IMPLEMENTATION OF AFFORDABLE DIGITAL SOLUTIONS AS A FACTOR IN THE SUSTAINABLE DEVELOPMENT OF AMATEUR SPORTS INFRASTRUCTURE**

Sustainable development of socio-economic systems includes not only industrial growth but also the support of social institutions, culture, and sports. Amateur motorsports communities often face significant economic barriers due to the high cost of professional infrastructure. Commercial timing systems, while accurate, require substantial financial investment and specialized maintenance, making them inaccessible to small clubs and local organizations [1]. This creates a technological gap that hinders the development of amateur sports as a social phenomenon.

The purpose of this study is to justify the feasibility of introducing low-cost hardware and software systems based on IoT technologies to ensure the sustainability and accessibility of sports events. The replacement of expensive industrial equipment with open-source solutions is a key trend in the “sharing economy” and resource optimization.

To solve the problem of high costs, a telemetry system architecture based on the ESP32 microcontroller was proposed. This choice is economically justified: ESP32 combines low energy consumption, high performance, and built-in Wi-Fi/LoRa modules [2]. This allows minimizing the physical infrastructure (cables, massive servers) and reducing the energy footprint of the event, which aligns with the principles of sustainable development.

A comparison of the economic and technical efficiency of the proposed solution versus traditional systems is presented in Table 1.

**Table 1.** Comparative analysis of telemetry systems in the context of accessibility

Criterion	Professional Commercial Systems	Proposed System (ESP32 based)	Impact on Sustainable Development
Cost	High (\$2000+)	Low (<\$100)	Reduces economic barriers for communities
Infrastructure	Complex, requires cables	Wireless, portable	Mobility, less material consumption
Openness	Proprietary (Closed)	Open Source	Knowledge sharing, community support
Energy Efficiency	High consumption	Autonomous (battery)	Energy saving

From a socio-informational perspective, the proposed system utilizes open software standards. The server part is built on the FastAPI framework, ensuring speed and ease of scaling without the need for expensive software licenses [3]. This approach demonstrates how information technology can democratize access to professional-level tools.

The development results confirmed that the proposed system ensures sufficient accuracy for amateur competitions while reducing organizational costs by more than 10 times. The use of infrared sensors and wireless data transmission allows for the rapid deployment of a sports track in any location, promoting the decentralization of sports events.

Conclusions. The introduction of affordable hardware and software complexes based on ESP32 is an effective tool for the sustainable development of amateur sports infrastructure. It solves the problem of the "digital divide," making professional timekeeping technologies accessible to a wide range of users. This contributes to the social activation of communities and the economic efficiency of organizing mass events.

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## HOUSEHOLD FINANCE IN ENSURING THE SUSTAINABLE DEVELOPMENT GOALS

The modern paradigm of sustainable development is based on the interconnection of economic, social and environmental goals, which has been institutionally enshrined in the United Nations Sustainable Development Goals (SDGs) for 2030. Traditionally, research on the achievement of the Sustainable Development Goals has focused on the role of public finance, the corporate sector and international organizations. At the same time, households are fully fledged economic agents that not only form a significant share of final demand in the economy, but also ensure the reproduction of labour and intellectual potential and act as holders of savings that can be

transformed into long-term investments aimed at financing sustainable development projects. The role of household finance in ensuring the Sustainable Development Goals is not only a subject of Ukrainian, but also of global academic discourse, as evidenced by the studies of Arshad N. A. and Ozili P. K. [1; 2].

Within the framework of the UN Sustainable Development Goals, a significant part of the goals is directly or indirectly related to households' financial decisions, namely: "No poverty", "Good health and well-being", "Quality education", "Gender equality", "Affordable and clean energy", "Decent work and economic growth", "Reduced inequalities", "Sustainable cities and communities", "Responsible consumption and production", "Climate action".

Thus, household finance can be viewed as the microeconomic foundation for the implementation of the Sustainable Development Goals, within which each household is a bearer of a particular model of financial and consumption behaviour.

In general, the following key channels through which household finance affects the achievement of the Sustainable Development Goals can be distinguished:

1. **Household income, poverty and social justice.** The level and stability of household income are crucial for the achievement of Goals 1, 8 and 10. Low income and high inequality increase the risk of poverty and social exclusion, limit the possibilities of financing education, health care and quality housing, and hinder the formation of savings and long-term investments. From the standpoint of sustainable development, not only the dynamics of average income is important, but also the structure of its distribution among population groups, as well as the degree of employment formalization and social protection.

2. **Household consumption and energy consumption behaviour.** Households' financial resources determine their ability to invest in housing energy efficiency, to choose means of transport with a lower environmental footprint, and to support the demand for environmentally certified goods and services. Responsible consumption behaviour is an important factor in achieving Goals 7, 11, 12 and 13.

3. **Savings, investment and financial inclusion.** Household savings accumulated in bank deposits, pension, investment and insurance funds can become a source of financing for infrastructure projects, innovation and digital transformation, as well as "green" energy and energy efficiency.

4. **Financial inclusion and financial literacy.** The level of financial inclusion and financial literacy determines the extent to which households are able to protect themselves against unforeseen risks, to invest in entrepreneurial activity and their own development, and to participate in "green" lending programmes.

5. **Investment in human capital.** Households' financial capacities determine the quality of investment in education, health, professional retraining and mobility. These investments are directly linked to the achievement of Goals 3, 4, 5 and 8, as they affect labour productivity, the innovativeness of the economy, gender equality and social mobility.

Thus, household finance is an important but still underutilized element of the system for ensuring the Sustainable Development Goals. Through decisions on income generation, the structure of consumption, savings and investment, households influence the level of poverty and inequality, the quality of human capital and social stability, shape the demand for "green" and socially responsible goods and services, and provide a domestic source of investment for financing sustainable projects.

At the same time, a number of challenges – in particular low household incomes, the shadow economy, insufficient financial literacy, limited access to financial services, as well as the consequences of the war – significantly constrain households' potential in this area.

To realize the potential of household finance in ensuring the Sustainable Development Goals, a comprehensive policy is required. It should combine the improvement of public financial and social policy, the development of the financial sector with a focus on sustainable-development-oriented products for the population, systematic enhancement of financial literacy and support for collective and community initiatives.

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## STRATEGIC CHOICE BETWEEN DIRECT AND INDIRECT EXPORT IN THE INTERNATIONAL ACTIVITIES OF AVIATION INDUSTRY ENTERPRISES

In the context of globalization and liberalization of international trade, enterprises of the aviation industry are increasingly entering foreign markets in order to expand sales geography, enhance financial stability, and strengthen competitive positions. One of the key instruments of international expansion is the export of products and services, which enables aviation companies to integrate into global production and logistics chains [1–3].

The choice between indirect and direct export significantly affects the effectiveness of foreign economic activity, the level of managerial control, cost structure, and long-term strategic development prospects. Under conditions of intensifying competition, global market volatility, and regulatory constraints, aviation companies require a clear understanding of the advantages and risks associated with different export models.

Indirect export involves selling aviation products or services through intermediaries such as export trading houses, agents, or brokers, who assume responsibility for sales organization, logistics, and partially for marketing activities. This form is characterized by low entry costs and reduced commercial risks but provides limited control over distribution processes and excludes direct contact with foreign customers. Indirect export is particularly suitable for small, medium-sized, or newly established aviation enterprises with limited international experience.

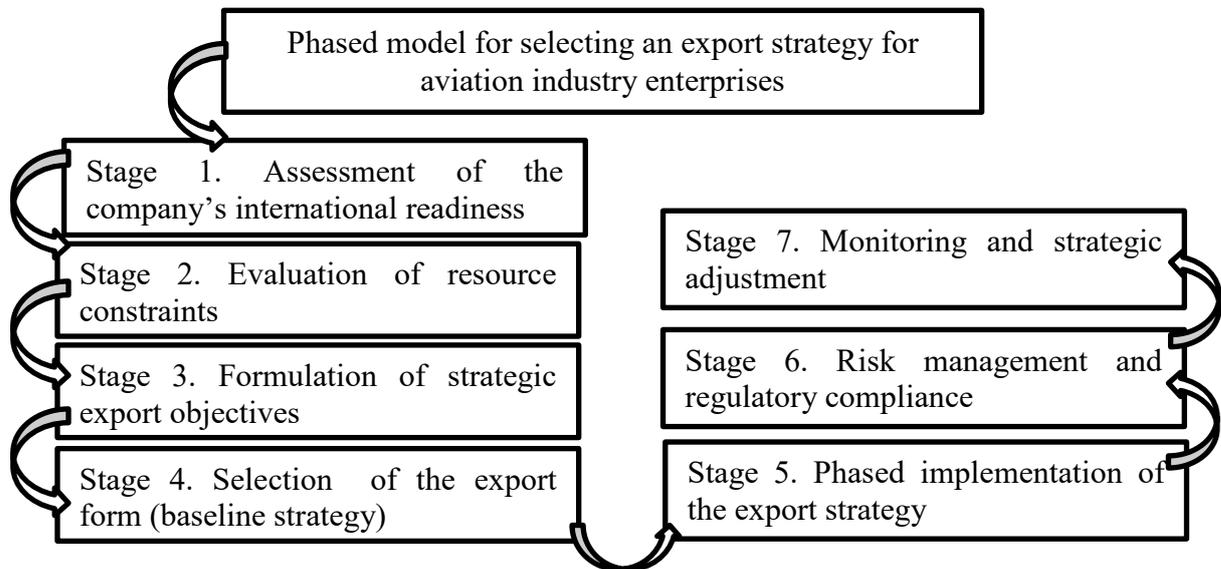
Direct export implies that a company independently conducts foreign sales by establishing direct relationships with international buyers, airlines, or distributors. Its advantages include full control over marketing activities, pricing, and logistics, as well as higher profitability due to the elimination of intermediaries. However, this model requires substantial financial resources, specialized personnel, and developed infrastructure, and is associated with higher risks, which are offset by significant strategic potential in the long term.

The study identifies key challenges faced by aviation enterprises in export activities and outlines possible solutions. Insufficient awareness of foreign markets can be mitigated through the involvement of international consultants, participation in specialized aviation exhibitions, and cooperation with chambers of commerce. High costs associated with direct export may be optimized by applying a phased market entry strategy, gradually moving from indirect to direct export. Legal barriers and export restrictions necessitate the establishment of an internal legal department or outsourcing legal support. Insufficient personnel competencies can be addressed through systematic training and professional development in international marketing and logistics.

Thus, the choice between direct and indirect export for aviation enterprises depends on their level of readiness for international operations, financial capacity, and strategic objectives. Indirect export serves as an effective initial tool for internationalization with minimal risks, whereas direct export lays the foundation for sustainable long-term growth and global market expansion. A gradual

development model, transitioning from intermediary-based operations to full control over international activities, is considered the most optimal approach.

A Phased model for selecting an export strategy for aviation industry enterprises (fig.1).



**Figure 1.** Phased model for selecting an export strategy for aviation industry enterprises\*  
\* developed by the authors

**Stage 1. Assessment of the Company's International Readiness**

Purpose: to determine the initial capacity of an aviation enterprise to enter foreign markets.

Key assessment criteria: previous export experience; level of financial stability; compliance of products and services with international aviation standards (EASA, ICAO, FAA); availability of personnel competencies in international marketing and logistics; readiness of management systems for cross-cultural business operations.

Outcome: classification of the enterprise according to the level of international readiness: low; medium; high.

**Stage 2. Evaluation of Resource Constraints.**

Purpose: to identify realistic limitations affecting export activities.

Key resources considered: financial resources (investment in certification, logistics, marketing); human resources (export managers, legal advisors, logistics specialists); infrastructure resources (IT systems, service centers, warehousing and logistics facilities); time resources (duration of market entry).

Outcome: definition of acceptable risk levels and the intensity of international expansion.

**Stage 3. Formulation of Strategic Export Objectives**

Purpose: to align export activities with the overall development strategy of the enterprise.

Possible objectives: short-term: generation of foreign currency revenues, utilization of production capacity; medium-term: consolidation in selected regional markets; long-term: development of a global brand and establishment of an international service support network.

Outcome: determination of the planning horizon and the desired level of control over foreign operations.

**Stage 4. Selection of the export form (Baseline strategy) (tabl.1).**

**Table 1.** Selection of the export form (Baseline strategy)

Level of readiness	Resource availability	Strategic orientation	Recommended export strategy
Low	Limited	Short-term	Indirect export
Medium	Moderate	Medium-term	Combined export model
High	Significant	Long-term	Direct export

The combined export model implies: the use of intermediaries at the initial stage; gradual development of proprietary export channels.

Stage 5. Phased Implementation of the Export Strategy

Purpose: to ensure a controlled transition between export forms.

Implementation phases:

- a) adaptation phase – indirect export, accumulation of market knowledge and experience;
- b) transition phase – partial direct export, pilot contracts, establishment of initial direct relationships;
- c) strategic phase – full-scale direct export, creation of foreign representative offices or service centers.

Outcome: risk mitigation combined with increasing export profitability and strategic autonomy.

Stage 6. Risk management and regulatory compliance

Purpose: to minimize the negative impact of external environmental factors.

Key instruments: legal support of export contracts; currency risk management and insurance mechanisms; strict compliance with international aviation regulations and certification requirements.

Stage 7. Monitoring and Strategic Adjustment

Purpose: to ensure adaptability and long-term effectiveness of the export strategy.

Key performance indicators: export profitability; share of international sales; degree of control over distribution channels; achievement of strategic export objectives.

Outcome: managerial decisions regarding scaling, deepening, or adjusting the export strategy.

Integrated logic of the model (Conceptual flow)

**International readiness → Resource constraints → Strategic objectives → Export form selection → Phased implementation → Monitoring and adjustment**

Scientific and Practical Value of the Model. The proposed phased model enables aviation industry enterprises to:

- avoid premature engagement in high-risk export forms;
- ensure strategic coherence between export activities and corporate development goals;
- enhance the efficiency, resilience, and sustainability of international expansion.

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## **TOURISM AS A MANIFESTATION OF SUSTAINABLE DEVELOPMENT OF A SOCIO-ECONOMIC SYSTEM**

Today, the sustainability of socio-economic systems is demonstrated through the presence of successful development directions. One of them is tourism, which reflects the attractiveness of such a system for representatives of other systems, as well as the ability of its own members to satisfy their tourism-related needs.

By its nature, tourism is a mirror reflection of the sustainable development of a socio-economic system. It can develop only under certain conditions:

- the overall well-being of a country, where favourable conditions are created for foreign visitors, while domestic tourists have opportunities to visit other countries and, accordingly, other socio-economic systems;
- the positive dynamics of the entire socio-economic development complex;
- stability and safety, including economic security, and the absence of wars, military conflicts, or other risks that hinder tourism activities.

The development of a socio-economic system requires sustainable tourism. This is a holistic concept aimed at meeting the needs of tourists and the tourism industry without harming local communities, recreational resources, or future generations. It represents a balance between economic, social, and environmental aspects of tourism, ensuring the rational use of regional resources, the preservation of cultural heritage, and the long-term viability of development processes [1].

Its key principles include:

1. Economic sustainability – tourism must benefit the local economy in the long term;
2. Social sustainability – tourism should take into account the socio-cultural characteristics of local communities;
3. Environmental sustainability – minimising negative environmental impacts and using natural resources responsibly.

The main pathways to achieving sustainable tourism involve:

1. Comprehensive planning;
2. Stakeholder engagement;
3. Continuous monitoring and adjustment;
4. Raising awareness.

According to the World Tourism Organization, this year's motto is "Tourism and Sustainable Transformation", positioning tourism as a catalyst for social progress that promotes education, employment, and new opportunities for all.

This is particularly relevant for Ukraine, which, being in a state of war, is currently unable to benefit fully from tourism as a factor of socio-economic sustainability. It is worth recalling the words of the well-known American analyst Salvatore Babones regarding the rapid economic recovery of Ukraine, including tourism, after the end of the war [2].

Additionally, research highlights that sustainable tourism development is interconnected with broader socio-economic and educational processes, including the role of human potential and professional readiness in ensuring long-term social progress [3].

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### **WAYS TO IMPLEMENT SUSTAINABLE MARKETING PRINCIPLES TO INCREASE COMPETITIVENESS**

In today's competitive environment, food industry companies face not only the need to ensure financial performance, but also to meet consumer expectations regarding quality, safety,

ethics, and environmental friendliness of production. Integrating sustainable development principles into marketing activities is a tool for strategically strengthening market positions, expanding the target audience, building trust, and enhancing reputation capital [2].

Sustainability issues have a direct impact on brand perception. Therefore, companies have the opportunity to use sustainable development not as a «fashionable trend», but as a practical tool for marketing differentiation and competitive advantage. For the real implementation of long-term approaches, it is necessary to create an internal document – a «Sustainable Development Policy».

The sustainable development policy will become the basis for certification, participation in grants and international partnerships, and the formation of a reputation profile. The environmental component involves practical steps for production and marketing. To improve the energy efficiency of production processes, it is advisable to implement a number of technical solutions aimed at reducing resource consumption and optimizing costs [1].

The proposed measures do not require significant investment, but they provide a tangible economic effect in the short term. To improve resource efficiency and responsible use of water and materials, it is advisable to implement a number of practical measures aimed at reducing losses and improving the environmental culture of production.

To reduce the environmental impact and modernize approaches to product packaging, it is worth focusing on the transition to more sustainable and informative solutions. To assess the potential of switching to eco-friendly packaging formats, it is advisable to summarize the expected marketing results and key areas of communication with the audience. This allows you to systematically show how environmental initiatives translate into value for consumers and a competitive advantage for the brand [3].

The systematic implementation of eco-pack solutions not only helps reduce environmental impact, but also creates a clear competitive advantage in the market. Transparent communication, backed up by facts and visual formats (series of posts, videos), helps to strengthen trust in the brand and opens up additional opportunities for cooperation with retail chains focused on responsible manufacturers. This approach contributes to the long-term strengthening of the company's reputation and increases the loyalty of key consumer segments.

The expected effect is a 12-15 % annual reduction in disposal costs, as well as an increase in the company's chances of obtaining the status of a «responsible manufacturer», which will strengthen its market reputation and consumer confidence [1]. To increase staff motivation, improve working conditions, and create a positive image of the employer, it is advisable to implement practical initiatives such as creating an «Employee Support» program, which provides free medical examinations, bonuses for ideas to improve production, mini-courses on food safety, and the launch of a «young specialist school».

Communication of initiatives will be carried out through social media posts about employees («Our people – our taste»), video interviews with technologists, and infographics from the «5 facts about our responsibility» program, which will emphasize openness and the value of human capital for the company [3].

In order to strengthen corporate social responsibility and build trust among the local community, the company should expand its participation in socially useful projects. Expected marketing effect: increased brand awareness, positive image building, and the opportunity to attract local media. To increase consumer confidence and production transparency, communication about product quality and origin should be strengthened.

In order to consistently build a reputation as a responsible and modern manufacturer, a company needs to create a comprehensive communication strategy for sustainable development. Such a strategy should not only inform consumers, but also demonstrate the company's real actions, build trust, and engage the community. To effectively highlight the company's environmental, social, and ethical initiatives, it is important to develop a systematic content plan that will help consistently communicate the brand's strategic values. This approach not only informs the audience but also builds trust, strengthens the image of a responsible manufacturer, and expands interaction with consumers.

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## FINANCIAL SECURITY OF THE STATE AS A STRATEGIC PREREQUISITE FOR SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT OF UKRAINE

Ensuring financial security under the conditions of deep structural transformation of Ukraine's economy, driven by the full-scale military aggression of the Russian Federation, emerges as a crucial prerequisite for sustainable socio-economic development. Financial security is not only an integral component of national security but also forms the foundation for macro-financial stability, investment attractiveness, and the state's capacity to implement strategic development priorities. In contemporary academic discourse, financial security is increasingly examined through the lens of resilience—namely, the ability of an economic system to adapt to abrupt external shocks while maintaining the functionality of critical financial institutions and resource distribution channels [1].

According to IMF estimates, during 2022–2024 the cumulative volume of Ukraine's direct and budget-related losses exceeded USD 155 billion, while annual needs for financing the state budget deficit surpassed USD 40 billion - a figure unprecedented for the European region. Simultaneously, the share of defence expenditures in the state budget structure increased to 48–52%, significantly constraining the government's ability to finance sustainable development policies, innovation, and infrastructure modernization. Under such conditions, the resilience of the budgetary system, prudent public debt management, effective tax regulation, and transparency of financial flows become decisive factors underpinning the financial security of the state.

International experience demonstrates that countries which successfully navigated crises and large-scale reconstruction - including Poland, Lithuania, South Korea, and Israel - prioritised the development of institutional models of financial security capable of ensuring both defence capability and long-term economic growth. For example, Poland, during its institutional modernization in 1990–2005, increased tax revenues from 31% to 35% of GDP while simultaneously directing expenditures toward infrastructure and innovation, allowing GDP per capita to more than triple. Israel, having operated for decades in a high-risk security environment, created a multi-component system of financial resilience, where diversification of funding sources, active engagement of the private sector, digitalization of public finance, and the development of high-tech financial solutions became central pillars.

In the context of Ukraine, three strategic vectors become particularly important: (1) institutional modernization of the financial system; (2) digital transformation of mechanisms for resource control and management; and (3) expansion of financial capacity for sustainable development through mobilization of international assistance and private investment. In 2023–2024, the volume of international financial support allocated to Ukraine exceeded USD 74 billion, which helped prevent macro-financial destabilization but simultaneously underscored the critical dependence on external funding and the urgent need to strengthen fiscal autonomy.

An essential component of strengthening financial security is the development of financial technologies that enhance transparency and accelerate decision-making processes. The experience of Estonia and Poland shows that the implementation of integrated digital platforms for public finance monitoring and investment project management enables governments to reduce inefficient public expenditures by 8–12%, which is particularly significant for economies undergoing post-crisis recovery. Equally important is the fight against financial crime and non-compliant practices, which pose systemic threats to financial security. According to World Bank estimates, Ukraine's shadow economy accounted for 28–32% of GDP during 2021–2023, significantly exceeding the levels observed in Poland (17%), Lithuania (15%), and the Czech Republic (11%). In view of this, enhancing analytical systems of financial monitoring, integrating artificial intelligence into suspicious transaction detection models, and harmonizing national regulations with EU standards should become priority areas of state policy [2-3].

Thus, the financial security of the state constitutes a fundamental prerequisite for sustainable socio-economic development, as it shapes the resource base and institutional capacity for economic recovery, infrastructure modernization, human capital development, and integration into the European economic space. Strengthening Ukraine's financial security requires multidimensional solutions - ranging from reforms in budgetary and debt management policy to the development of advanced digital financial instruments and reinforcement of institutional capacity under conditions of prolonged wartime and economic turbulence. Building a resilient post-war financial development model must be based on a synthesis of international experience, national priorities, and innovative mechanisms for financial risk management.

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