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Content

Agricultural Economy

Vasylishyn Stanislav, Yarova Valentyna

ANALYTICAL BASIS OF LIVESTOCK DEVELOPMENT AS A SOCIAL FACTOR
OF ECONOMIC SECURITY STRENGTHENING OF AGRICULTURE 23

Economic security

Markevych Katertyna

FDI IMPACT ON ECOLOGICAL FOOTPRINT: SECURITY CONTEXT 29

Economy

Bochulia Tetiana, Korobkina Irina

INNOVATIVE PROJECT OF ORGANIZATION OF INFORMATION
AND ANALYTICAL PROVISION OF SUSTAINABLE BUSINESS DEVELOPMENT 39

Denis Oleksandr

CONCEPTS, FEATURES AND PRINCIPLES OF THE LOCAL BUDGETARY PROCESS IN UKRAINE 49

Liberyte Manta, Navickas Valentinas

THE IMPACT OF INCOME INEQUALITY ON ECONOMIC GROWTH: LITHUANIAN CASE 55

Nazarenko Oleksandr

ACCOUNTING AND ECONOMIC ASPECTS OF THE CALCULATION
OF THE INTEGRATED ASSESSMENT INDEX OF OUTSOURCING COMPANIES 64

Semenova Svitlana, Vicen Vlastimil

EVALUATION OF FINANCIAL STATEMENTS IN STRATEGIC MARKETING OF LEGAL SERVICES 71

Stezhko Nadiia

CAUSES AND SCOPE OF GLOBAL FOOD SECURITY PROBLEMS IN THE MODERN WORLD 77

Energy and the Macroeconomy

Barna Stepan, Bytsyura Leonid

THE MECHANISM OF ENERGY MANAGEMENT FOR ENTERPRISE OPERATION 83

Brych Bohdan

THE ENERGY SERVICE MARKET PERFORMANCE IN UKRAINE 90

Geopolitics – Analytical review

Hvozd Victor

PANDEMIC AND CRISIS AS FACTORS OF GEOPOLITICS 95

Law

Krolenko Dmitry

KEY ISSUES OF THE DEVELOPMENT AND IMPLEMENTATION OF REGIONAL PROGRAMS
IN THE CONTEXT OF DECENTRALIZATION OF STATE POWER 100

Shulhin Serhii

WRITTEN INSTRUCTIONS OF A PROSECUTOR
AS A SPECIAL FORM OF HIS PROCEDURAL DECISION IN CRIMINAL PROCEEDINGS 105

Musical art

Chornobay Myroslava

CHILDREN'S PIANO MUSIC OF UKRAINIAN COMPOSERS LIVING ABROAD:
PRESERVATION OF THE MENTAL CODE 110

Pedagogy

Chrást Radim

MODERN APPROACHES IN EDUCATION 116

Philosophy

Dubinina Vira

THE "HOUSE OF BEING":
MARTIN HEIDEGGER'S HERMENEUTIC PROJECT (A CRITICAL ANALYSIS). 128

Psychology

Lytvynchuk Lesia, Pomytkina Liubov

PSYCHOLOGICAL CHARACTERISTICS OF SPEECH UTTERANCES
AS A PROBLEM SUBSTING CONTROL MALADJUSTED INDIVIDUALS. 136

Technology

Perekrest Andrii, Molodyka Inna

MODEL OF THE VENTILATION COMPLEX OF EDUCATIONAL PREMISES. 145

INTRODUCTORY WORD OF THE EDITOR IN CHIEF**Angelė Lileikienė, Prof., dr.**

Lithuania Business University of Applied Sciences Klaipėda,
Lithuania

Dear Colleagues,

The journal „European Science“ is dedicated to the publication of new scientific ideas, focused on presenting the results of theoretical-methodological and applied research not only in a European context but also in a broader context. The consistency of the journal, published 4 times a year, allows researchers to present their research results in a dynamic way, as well as to compare scientific conceptualization in the context of research conducted by researchers from other countries.

„European Science“ is a wide-ranging research journal because it covers a broad range of scientific disciplines. Research interests: management, history, law, medicine, political science, economics, pedagogy, cybernetics, public administration, etc.

I invite researchers from EU universities and other scientific institutions to actively publish scientific articles in the journal „European Science“.

INTRODUCTORY WORD OF A MEMBER OF THE EDITORIAL COUNCIL**Larysa Yankovska****Doctor Hub. in Economics, professor**

Honored Worker of Ukraine Education

Member of the ASU, Member of the IAAC

Chancellor of Lviv University of Business and Law Lvyy, Ukraine

Dear reader!

We would like to bring to your attention the scientific journal EUROPEAN SCIENCE containing the findings on topical scientific directions and interdisciplinary research.

The main target of our journal is to create an effective background for discussing urgent scientific ideas, achievements, debating points of theory and practice. The magazine has significantly developed and the geographical representation of authors and readership has expanded throughout its existence. The scientific journal EUROPEAN SCIENCE is currently one of the few scientific periodicals of multidisciplinary nature included into numerous scientometrical bases, and it is characterized by high quality of publications provided by double blind peer review and fulfills an important function of uniting the efforts of scientists from different countries to solve actual problems of modern science and practice.

This issue consists of articles written on topical scientific subjects and focused on solving important scientific and practical problems of various fields.

The materials presented in the publication are useful for scientists and practitioners, students, post-graduate students and doctoral students, public employees, entrepreneurs, statesmen.

We hope that the articles released in the given issue will provoke your interest, expand the range of research interests and image into your scientific and professional activities.

Best regards.

INTRODUCTORY WORD OF THE EDITION FOUNDER



EURÓPSKY INŠTITÚT DALŠIEHO VZDELÁVANIA
EUROPEAN INSTITUTE OF FURTHER EDUCATION

Jozef Zaťko
Dr.h.c. mult., JUDr., PhD., LL.M, MBA,
Honor. Prof. Mult.
President EIDV, Podhajska, Slovak Republic

Dear Colleagues!

European Science journal is a peer-reviewed international scientific publication established by the European Institute of Further Education (Slovak Republic). The European Science Editorial Board increased its membership with respected and distinguished scientists from Ukraine, Poland, the USA, Lithuania and Malaysia in 2019.

This year has brought us many challenges, but we continue to work productively and adapt to the new normal, both in our daily lives and professional activities of the EIDV. The Editorial Board of the European Science journal selects manuscripts for publication, and the Reviewing Editors work on specific recommendations for quality improvement of the scientific papers selected for publication upon peer reviews and subsequent amendments by authors. With this we ensure the scientific rigor of our publications.

As scientific knowledge increases and the boundaries of science moved forward with increasingly ambitious and complex goals; the development of big science projects need the involvement of hundreds if not thousands of scientists from different countries and institutions. To facilitate future scientific works, the construction of large scientific facilities is becoming more and more essential for the achievement of the scientific goals, bringing minds together, discovering and disseminating knowledge, as well as improving society's well-being.

However, no project would be feasible and sustainable without the understanding and support of the international public opinion, fully aware of the importance of its purpose both from a scientific point of view and from that of the technological, economic and social implications. Close collaboration between scientists and science communicators is therefore more relevant than ever to ensure that information on those issues are accurately and thoroughly presented to the scientific community and to the public.

We are delighted to remind our readers and our scientific community that the European Science journal accepts the articles of scientific importance that contribute to resolving topical challenges and contributes to knowledge generation and dissemination, which would continue to progress knowledge and feed our community, society and nations with critical thinking and unbiased information. To this we ensure utmost transparency and integrity in accepting and processing manuscripts submitted for publication with the European Science.

We uphold the principles of scientific integrity in research practices, results achievement and maintenance of balance between the interests of the authors, readers, editorial board, reviewing editors and institutions where the research was conducted. We hope and believe you will continue to enjoy reading and benefitting from this journal, and we take this opportunity to encourage you to reach out to us for opportunities to publish your own thought-provoking ideas in future issues. We are glad to work together with you to bring your thoughts and ideas to benefit our community of readers.

We sincerely extend our respect and gratitude to you for your continuous support and cooperation.

Best regards,

EDITORIAL COUNCIL MEMBER OF THE EUROPEAN SCIENCE JOURNAL**Maria Telovata,
DrSc., Professor,**

Honored Education Worker of Ukraine,
Certified expert of the National Agency
for Higher Education Quality Assurance, Head
of the Accounting and Taxation Department
of the National Academy of Statistics, Accounting and Audit

I extend my sincere congratulations to EIDV President Josef Zat'ko, whose dedicated work ensures high standards of the journal, as well as to the editorial board of the international scientific publication and to authors publishing their findings in European Science.

A feature of the European Science scientific publication was that it was founded by European Institute of Further Education (Slovak Republic). A combination of specifics of higher educational institutions in Slovakia, Ukraine, Poland, the Czech Republic, Serbia and Baltic States allows to improve the quality of selection and review in materials of scientific publications. It is the experienced specialists in the fields of law, economics, management, administration, pedagogy, psychology and philosophy of these universities has constituted the basis of the editorial board of the international scientific publication.

The demand for the international publication in academia, authority among the educational intellectual society, experts and practitioners, doctoral students, graduate students and students, everyone who wishes to be a part of the scientific likeminded unity, suggests that the journal has found its reader. The most essential, acute and urgent challenges of our time are constantly revealed on its pages.

The popularity of the journal is mainly because of the work of the editorial board making every effort to form the journal interesting and useful. I believe that the role of the scientific publication is quite significant, because it is published in English and registered in 20 scientific databases, which gives an opportunity to integrate into the world, European scientific space, and to exchange professional experience, opinions and views for our scientists.

At the same time, the journal strives to promote the development of fundamental and theoretical, scientific and practical researches, ideas for achieving topical targets and its introduction into practice. The editorial board of the European Science scientific publication does its utmost to develop concepts, implement information technology involving young people in science and to prepare the national leadership elite for our countries.

Therefore, I wish you all health, well-being, happiness, prosperity and optimism. May success and encouragement always come your way inspiring to new professional achievements!

ASSOCIATE AND MANAGING EDITOR

Robert Jeyakumar Nathan, Dr., PhD., M.Phil.
Faculty of Business
Multimedia University, Melaka, Malaysia

Biography

Dr Robert Jeyakumar Nathan received his Bachelors in Business Administration (Honours) in Marketing with Multimedia; and Masters of Philosophy (Management) from Multimedia University, Malaysia. He conducted his postgraduate research attachment on leadership with Swinburne University of Technology, Melbourne (Hawthorn Campus) under the Asia Pacific Leadership Project (APEL Australian Government Grant) in Australia. He obtained his PhD (International Marketing) from Universiti Malaysia Sabah, Borneo Malaysia. Robert is a certified trainer with Pembangunan Sumber Manusia Berhad (PSMB) under the Malaysian Ministry of Human Resources. He also holds certified Stanford University Train the Trainer (TTT) for Design Thinking, and has obtained Distinction in IPA Foundation Certificate from the Institute of Practitioners in Advertising (IPA) UK.

Prior to joining the academia, he worked as Systems Analyst for Siemens Semiconductor AG (now Infineon Technologies AG), a semiconductor company based in Munich, Germany. Robert specializes in Manufacturing Statistics and Big Data Analytics and has conducted statistical, data mining, and enterprise knowledge and project management workshops in the Asia Pacific, Japan, Europe and North America. He received Covey's 7 Habits training and mentorship in Siemens as well as IPMA (EU International Project Management Association) Project Management experience, managing Class D, C, B and large scaled A projects in the global operation of the company. He is active in the company Occupational Safety and Health committee and employee safe work initiatives. This includes conducting trainings on Behaviour-Based Safety and Ergonomics at workplace. His training involves bringing together engineers and managers from multiple cultural backgrounds and to unify diverse work teams to perform in unity towards achieving excellence.

Robert is currently attached to Multimedia University in Malaysia as Senior Lecturer with the Faculty of Business and the Head of Department for Marketing Degree Program. He does corporate trainings for executives on Design Thinking and Innovation, Leadership, Service Marketing, Digital Entrepreneurship, Fintech and Digital Banking Solutions, Workplace Communications, Job safety analysis and Ergonomics, and Emotional Intelligence. He participates in academic research projects in Malaysia, Singapore, Europe, Australia and in the Middle East. His research interests include Marketing and Internet of Things; Electronic Commerce & Industrial Revolution 4.0; Empathetic Leadership; Usability and Ergonomics; and Occupational Safety & Health.

Active in research and mentoring, he has published over 80 refereed academic journal papers, book chapters and conference proceedings; most of which are in Web of Science

and Scopus indexed. He believes in quality and depth in academic research and publishing, and has often called on the university to be conscience of the society, and for academics to be a lighthouse to the community. He has penned his thoughts and published two notable works with the Australian Universities' Review calling for academic integrity and honesty in teaching and research. In 2013 he published an article entitled "**Universities at the Crossroad: Industry or Society Driven?**" with the *Australian Universities' Review*, Vol. 55, issue number 2. In year 2019, he wrote "**Publications, Citations and Impact Factor: Myth and Reality.**" *Australian Universities' Review*, Vol. 61, Issue number 1. Both works iterates the importance for academics not to engage in dishonest academic practices, instead focus on improving society through high quality teaching and research with integrity.

Robert serves in the Malaysian Academic Movement (MOVE) as the Assistant Secretary General, affiliated to Education International, Brussels. He promotes quality education and accessibility of education to all in line with the United Nation's Sustainable Development Goal Number 4. He is among the 50 Global Advocate for SDG#4. He also represents Education International as Panel for Education and Research with the United Nation's Agency - World Intellectual Property Organization (WIPO) in Geneva, where the Standing Committee for Copyright and Related Rights meet twice yearly. Robert has been Visiting Scholar with Szent Istvan University, Hungary in year 2019, The University of Newcastle Australia and University of Wollongong Australia in Singapore, and sits in the Academic and Exam Board of Academies Australasia College in Singapore.

TRANSFORMING SOCIETY THROUGH INNOVATION



WE ARE INTRODUCING A MEMBER OF EDITORIAL COUNCIL



Nadiia Shmygol, Prof., DrSc.,
Zaporizhzhya National University, Ukraine

Professional experience

Accomplished expert in preparing and reviewing financial reports, in accounting and audit, possessing computer skills, proficient lecturer successfully using information technologies as an educator, able to work under stress, possessing broad skills in interacting with people directly and in business correspondence as well as having good understanding of administrative work.

Education

Zaporizhzhya State University, Physics and Mathematics Department, major in Applied Mathematics – 1990-1995.

Zaporizhzhya State University, Economics Department, major in Accounting and Audit –1992-1998.

University of Humanities „ZISMA“, 2005 – Master’s degree in Educational Institutions Management and Statistics, 2007 – Master’s degree in English Language and Literature.

In 2005 defended a thesis and obtained a diploma of Candidate of Sciences (comparable to the academic degree of Doctor of Philosophy, Ph.D.) Economics in Economic and Mathematical Modeling. In 2013 defended a thesis and obtained a diploma of Doctor of Sciences in Economy and Management of enterprises. Certificate of professor of Accounting and Audit Department (2014)Employment

Zaporizhzhya secondary school of continuous education No.7, 1995-1999.

Position: teacher in Computer Science.

Zaporizhzhya branch of Interregional Academy of Personnel Education (MAUP), 1999-2003.

Position: senior teacher of the chair of Economics and Management, deputy director for finance.

University of Humanities „Zaporizhzhya Institute of State and Municipal Administration (ZISMA)“, Zaporizhzhya, from 2003.

Position: senior teacher of the Economic Cybernetics and Statistics chair, from February 2005 – assistant professor of the chair, from November 2005 – deputy head of the chair, acting head of the chair.

2007 - assistant professor of the Department of Economic Theory of Zaporizhzhya National University, April 2009 – deputy dean of Economics Department of Zaporizhzhya National University for scientific work.

September 2009 – Doctor of Sciences candidate of the National University of Food Technologies, Kyiv

September 2012 - assistant professor of the Department of Finance of Zaporizhzhya National University
October 2013 – professor, head of Accounting and Taxation Department of Zaporizhzhya National University

Besides, worked part-time in auditing firms and was the chief accountant of companies from various fields of activities.

Personal Data

Born in Pavlodar city in Kazakhstan. Graduated from Zaporizhzhya secondary school No. 15 with honors. Married, two children.

Additional Info

Certified Accounting Practitioner (CAP) Certificate from International Council of Certified Accountants and Auditors No.416, Certificate of Accounting Practitioner No. 21 from the Federation of Professional Accountants and Auditors of Ukraine, The certificate of course completion «Institute Program Manager and Facilitator Workshop « - Cisco Entrepreneur Institute (2009). The certificate acknowledges in «Teaching CSR» (2009). The DIPLOMA of the Institute of Professional Financial Managers «Incompetence in IFRS» (2013). English speaking skills (C1 Level), Russian speaking skills (C2 Level), have a document confirming belonging to the Polish nation, Polish speaking skills (B2 Level), have a driver's license.

WE ARE INTRODUCING A MEMBER OF EDITORIAL COUNCIL



Dmytro Lazarenko

Doctor of Economic Sciences, Professor, **Academician** of the Academy of Economic Sciences of Ukraine.

Education

higher, graduated from Donetsk State University, Accounting and Finance Faculty, qualification an **Economist** on a specialty «Accounting, control and analysis of economic activity». In 2013, he was awarded a Doctor of Science degree in speciality. Economy and management of enterprises (by types of economic activity).

Head of the Department of Accounting and Audit of the Slovyansk State Pedagogical University.

Dean of the Faculty of Economics and Management Psychology, Donbas State Pedagogical University.

In May 2017 he became a Professor of the European Institute of Postgraduate Education (Slovakia).

Scientific cooperation of the editorial board of the international scientometric publication European Science with Ukrainian colleagues from the National University of Economics and Trade, Lviv University of Business and Law, Uzhhorod National University, University of the State Fiscal Service of Ukraine, Donbas State Engineering Academy, and other educational institutions continues.

Dmitry Lazarenko became an active co-coordinator of international educational and practical events: the annual International Symposium „Ukraine-Poland- Slovakia - Synergetic Cooperation”, the International Economic Forum in Slavyansk, the Science Festival (Warsaw-Poznan).

The prospect of scientific and academic specialization of higher educational establishments has led to the creation of a new profile educational institution in the region. In November 2018 a structural unit of the National University of the State Fiscal Service of Ukraine was created. Dmitry Lazarenko becomes the organizer of the creation of the Slovyansky Educational-Scientific Institute, and then its director.

Now Dmytro Lazarenko is Managing Director of Legal Clinic of Sloviansk Scientific Educational Institute. This activity was made possible through support provided by the U.S. Agency for International Development, under a grant by the USAID Financial Sector Transformation Project.

Many citizens who live in the de-occupied territory need legal assistance in financial matters. Such services can be provided by a legal clinic.

The Legal Clinic in Sloviansk operates under a grant by the USAID Financial Sector Transformation Project and with support from the Association of Legal Clinics of Ukraine.

Activities

Educating faculty members and students about consumer finance rights, providing legal consultations and representing clients in finance-related cases;

Organizing the work of a mobile office in the remote locations of the de-occupied territory of Ukraine to provide consumer finance education and consultations;

Conducting legal education events on financial issues for the public;

Publishing a practical manual (guide) - Financial Consumer Protection in the De-occupied Territory of Ukraine.

The Legal Clinic of the Sloviansk Scientific Educational Institute is founded based on the organizational model and with methodological support from the Legal Clinic of the University of the State Fiscal Service of Ukraine.

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Valentinas Navickas

Doctor of social sciences (economics), professor at Kaunas University of Technology (Lithuania), the School of Economics and Business.

Author of more than 300 scientific publications (including monographies published in Czech Republic in 2013 and Slovak Republic in 2016, 2018) and scientific articles, published in Lithuania and abroad. Author of five experimental development projects. Prepared 6 doctors of social (economics) science; now he is research adviser of 3 persons maintaining a doctor's thesis of social (economics) science.

Other experience includes diverse activities in both public and private space. Examples include, Lithuanian-Polish Cross Border Cooperation Program executor, head of Strategic planning of Molėtai city district. Also, acted as an independent expert on economics on multiple projects in various industries, such as forestry, real estate and others. Few of the projects include "Analysis of Lithuanian Forest Entities Taxation System and Suggestions for Improvement"; "Development of methodology for setting differentiated profit rate of forest enterprises"; "Methodology for calculating the economic depreciation of real estate" as well as "Analysis of the feasibility of establishing a system to measure changes in the real estate market" and "Determining the significance of factors and risks affecting real estate and business value through expert survey".

Has prepared all or part of 4 textbooks for higher education institutions (universities and other) with few of the following topics "The peculiarities of European Union markets"; "Management Control in Multinational Firms"; "Development Economics" and "Peculiarities of European Markets"

Has received multiple awards, including Acknowledgment of Lithuania's Minister of Economy for leading the best Master's thesis in the 2013 Lithuanian Master's thesis competition in the field of social sciences.

Few other positions includes Expert of the Lithuanian Research Council; Member of KTU Doctoral Committee in Economics; Expert and member of the Academic Council, Eastern European Development Agency (Slovakia); Chief Editor of International Journal of Management: Theory and Applications (US, ISSN 2281-8588); Chief Editor of Journal of Management = ISSN 1648-7974 and also member of Editorial Boards in multiple other journals, including ones in Lithuania, Slovakia, Slovenia, Turkey.

Furthermore, participant and member of multiple scientific committees in international scientific conferences in Lithuania, Slovenia, Slovakia, Turkey, Poland, Indonesia, Taiwan, Japan and elsewhere.

Other positions also include head of expansion in American football club Kaunas "Dukes" in Lithuania.

Able to communicate in 5 languages: Lithuanian, Russian, French, English and Slovak.

Fields of scientific interest: international economics, logistics, clusterization, competitiveness, economical growth, corporate social responsibility.

HOW TO BECOME A SUCCESSFUL AUTHOR OF A PAPER TO BE PUBLISHED IN A WORLD-CLASS SCHOLARLY JOURNAL?



Miroslaw J. Skibniewski
Prof., Ph.D

University of Maryland, College Park, USA

An invited Guest Editorial

JUDr. Jozef Zat'ko, Publisher of *Europska Veda*, has asked me to prepare and convey a set of guidelines for authors who wish to be successful in preparing and submitting scholarly papers for consideration for publication in world-class, globally scoped academic journals, such as those indexed in Elsevier's **Scopus™** and ScienceDirect™ and/or in Clarivate Analytics' **Web of Science™** databases. My guidelines provided below are intended for relatively junior authors, with limited prior experience in publishing, who are preparing their manuscripts in the realm of applied sciences. Some of the issues being raised herein are universal and as such they are equally applicable in other scholarly domains as well. I have based these guidelines on my 25+ years of experience as an editor-in-chief of a high-ranking international research journal in my own academic discipline. The journal has been included for a number of years both in Scopus™ and in the Web of Science™, earning their relatively high CiteScore™ and Impact Factor™ designations.

Academics work in an increasingly competitive environment. With many narrowly defined scientific disciplines, the race to the top has become relentless. There are currently over two thousand academic journal publishers worldwide, publishing over twenty thousand journals. The total number of refereed journal papers now exceeds 1.6 million annually and it is still growing rapidly. The largest numbers of such papers originate from the U.S.A., with China closely behind. A growing, and still largely unregulated, market for open-access publications further complicates the publishing environment. Over 90 percent of academic journal papers ever published will have been published in our professional lifetime. Ethical issues in academic publishing abound.

A successful article should contain the following major components, preferably but not necessarily presented in the stated order.

1. The title:

The title of an article should be as short as possible, but it should reflect the main issue addressed in the paper as well as the paper content. In most cases, the title of the article is decided after the entire content of the article has been completed. The wording of the title should avoid uncommon acronyms or descriptors confining the contents of the paper only to one country or one geographic region.

2. The abstract:

The abstract is an advertisement of your paper. It should be written in clear, short sentences which are easy to understand and should accurately reflect the contents of the paper and its main contribution to the global body of knowledge. One must avoid unnecessary

sentences that belong to the introduction section of the paper. An good abstract should contain only 6 short sentences as follows: 1) The scientific domain and the problem within the domain which is the subject matter of the paper, 2) The research question to be answered in the paper, 3) The means and methods (scientific tools) used to obtain the answer to the stated research question, 4) The answer to the research question, 5) The meaning and importance of the answer and the results obtained, 6) The future research directions based on the results of the completed research reported in this paper. The entire abstract should not exceed one-half of a printed page.

3. The keywords:

Keywords are the labels of your manuscript used in scientific databases containing many thousands of papers. A correct use of keywords will determine if your article is noticed by potential readers, or if it is only glanced over before the reader decides to move on the next article in the database without reading yours. Keywords that are generic in nature are always ineffective.

4. The introduction:

This section should set the stage for what is presented in the article. One must provide a clear description of the problem to be addressed along with detailed explanation of the importance of the problem. One should also define the group of stakeholders – the larger the better – for whom the stated problem is important. This is followed by the definition and detailed description of the specific research question to be addressed. A detailed justification of the importance of the question stated is also essential, along with a description of other related questions which are not being addressed in your paper. A clear definition of the future beneficiaries of the answer to be obtained must also be provided.

5. The literature review:

One must provide a critical, very brief and comprehensive summary of the most relevant prior research by the author(s) of this paper as well as by other writers worldwide attempting to address the same research question or other closely related questions. Such questions may have been addressed within the same subject domain, but also in different domains - sometimes in scholarly fields unrelated to one's own. All cited publications should be critically reviewed; do not cite publications that you have not fully absorbed and have not explained their relevance to the subject matter presented in your paper. Avoid an excessive number of self-citations or citations of publications from the same country or from the same geographic region.

6. The research methodology (your own selection of means and methods/tools employed to answer the stated research question):

This section contains the detailed description of your approach to obtain the answer to your research question. Provide a clear justification of your selection of this approach and briefly discuss any alternate approaches which were also initially considered but ultimately discarded, along with justification of such a decision. Do not regurgitate a detailed description of established, well-known analytical tools, procedures or testing methods – it should suffice to cite relevant sources. Your description should be complete, i.e. it should be possible for a reader to reproduce the results of your research with the use of the stated means and methods used to obtain your research answer. Describe in detail your data formatting and other requirements related to the performance of statistical tests and analyses. Avoid procedural shortcuts which may render your methodology description useless to interested readers.

7. The research results:

Provide a clear, detailed description of your results obtained by you with the use of the research methodology described in item 6 above. Concentrate on the main points and avoid digressing to only loosely related or unrelated topics. Your description should be aided by well-formatted and fully readable tables and figures emphasizing the main points being made. Avoid the inclusion of lettering and labels in a language other than English, as these will be useless for an audience unable to read in that language. Provide clear

evidence and description of the validation of the obtained results by other researchers or in professional practice related to your academic field. Normally, validation attempts with the use of computer simulation only based on arbitrarily constructed models will be considered insufficient by reviewers assigned to evaluate your paper, as such reviewers often prefer the evidence of real-life implementation of your results.

8. The discussion of research results (discussion of the importance of the answer to the stated research question):

This may be the most important section from which the potential reviewers will begin their examination of your paper. Describe what your results mean and why they are important for the audience/readers/stakeholders targeted by this paper. Elaborate in detail on the contribution of your results to the body of new knowledge in your own scientific discipline and beyond.

9. Conclusions and directions for future research:

This section provides a brief summary of the most important findings produced by the presented research. Describe in detail why this finding may be important to a global audience, not merely to your national or regional stakeholders. One must also describe the limitations of the results obtained and suggestions on how these limitations may be overcome with follow-up research. Additionally, one should provide a detailed description of how the results presented will inspire future generations of researchers worldwide aspiring to make contributions in the same or related fields of academic and professional endeavor.

10. The references:

Make sure that all cited items contain complete bibliographic data. Avoid citing an excessive number of references which may be redundant and references in languages other than English. If one feels compelled to cite a non-English language reference, make sure to provide an English translation of the title (in parentheses next to the title in the language of the publication). There is a growing trend to provide a digital object identifier (DOI) for each journal paper or conference proceedings article being cited that has such an identifier, an ISBN for each book reference, and a web address with the date of last access for all other resources. There is also a diminishing emphasis on a particular format of references (as long as the cited items are listed in a consistent manner), as the article typesetting processes at the publishers are currently automated and conversions from one referencing format to another are straightforward.

Most high-ranking journal publishers have been quietly removing strict limitations on the number of pages or words a paper is allowed to contain due to the fact that most paid subscriptions are currently electronic. This removes the burden of the authors to conform to the volume limitations of their articles, allowing for a complete presentation of relevant research results. Additionally, datasets used in the conduct of the research being presented may be stored in cloud-based repositories accessible by all concerned.

Owing to the limitations of space, this guest editorial does not touch upon numerous contemporary issues related to the publication of papers in scholarly journals. However, I often conduct hands-on, full-day workshops in academic settings worldwide for aspiring and active academics interested in sharpening their writing skills and in becoming successful in publishing their papers in top-ranking international scholarly journals. There are ample opportunities to address individual interests and answer specific questions during such workshops. I hope to see many of the readers of this editorial in a workshop to be conducted in the future in a location near you.

Mirosław J. Skibniewski

10 February 2019

University of Maryland, College Park, USA

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WE ARE INTRODUCING A MEMBER OF EDITORIAL COUNCIL



Viktor Beschastnyi

Doctor of Juridical Science, Professor,
Honored Lawyer of Ukraine.



Date of birth: 9 November, 1959.

Education: higher, graduated from Kharkiv Law Institute (now – National University «The Yaroslav Mudry Law Academy of Ukraine»), on a speciality «Jurisprudence», Donetsk State University of Management, on a speciality «Finance». In 2005 he defended the thesis for the scientific degree of Candidate of sciences in Public Administration on the topic: «A mechanism of public administration by professional training of the internal affairs personnel». In 2010 he defended the thesis for the scientific degree of Doctor of Public Administration on the topic: «A mechanism of public administration by the development of higher educational institutions of the system of the Ministry of Internal Affairs of Ukraine». In May 2018, he was awarded a Doctor of Science degree in speciality 12.00.08 «Criminal Law and Criminology; Penal enforcement Law».

Since 1981 he served in the internal affairs agencies. 1983-2003 – service in the internal affairs agencies of Donetsk region. Since 2003 – the rector of Donetsk Institute of Internal Affairs at Donetsk National University (now – Donetsk Law Institute of the Ministry of Internal Affairs of Ukraine).

History

The history of Donetsk Law Institute of the Ministry of Internal Affairs of Ukraine dates back to April 28, 1961, when according to the order No 0109 of the Minister of Internal Affairs of the Ukrainian SSR Stalino (Donetsk) specialized secondary militia school of the Ministry of Internal Affairs of the USSR was established. The cadets of Kyiv specialized secondary militia school of the Ministry of Internal Affairs of the USSR were transferred to Stalino (Donetsk) to continue their studying at the 2-nd course of the newly established educational institution.

In 1964, the educational institution was relocated from a small settlement and the educational institution received its permanent registration in Kyiv district of the city of Donetsk until 2014.

Taking into consideration the socio-political conditions prevailing in the eastern Ukraine, the educational institution was forced to change its location.

According to the order of the Ministry of Internal Affairs of Ukraine No. 1010 dated September 30, 2014, Donetsk Law Institute of the Ministry of Internal Affairs of Ukraine moved to Kryviy Rih, where the higher educational institution-forced migrant provides educational and scientific activities.

Activity

Thanks to the dedication of the staff and personally the rector V. M. Beschastnyi the Institute has firmly entrenched in the educational field of Kryviy Rih district. As at 2018, the higher educational institution has two large training buildings, fully equipped for the educational process and placement of the cadets, a special hostel for teachers and the rest of the staff, a student hostel.



In 2016 Mariupol Training Center (now it is the «Police Academy» of Donetsk Law Institute) joined the Institute. It was a significant event in the life of the Institute that symbolically highlighted the connection with Donetsk region.

The strengthening of the personnel potential has allowed to gradually restore the structure of the educational institution. Today the Institute includes 4 faculties, 12 departments where the educational process is provided by a powerful team of teachers, among them there are 16 doctors and 60 candidates of sciences.

In spite of temporary personnel losses, Donetsk Law Institute has remained a very powerful research center. So, the Research laboratory on problematic issues of law enforcement activities continued its work. In addition, the Specialized Academic Council on five specialties functions in the Institute.

The Institute obtained a license for training of Doctors of science in the field of «Law» which was approved by order of the Ministry of Education and Science of Ukraine on 4 July, 2016.

Today Donetsk Law Institute has a powerful Education and Training base as in Kryvyi Rih (a total area is 11608, 79 sq. M), so and in Mariupol (a total area is 1,704,14 sq. M), and makes every effort to provide modern innovative development of the educational process of training of future policemen and lawyers.

Donetsk Law Institute is the only institution of higher education in Kryvyi Rih district where a full course of training of future lawyers is provided – from the Bachelor’s degree to the Doctor of science degree.

Our address: Kryvyi Rih, Stepana Tilgi Street, 21, Spivdruzhnosti Street 92a
Mariupol, Budivelnykiv Avenue, 145



ANALYTICAL BASIS OF LIVESTOCK DEVELOPMENT AS A SOCIAL FACTOR OF ECONOMIC SECURITY STRENGTHENING OF AGRICULTURE



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JEL M48, Q10

Abstract. Agribusiness is one of the most risky forms of the enterprising capital investment due to the presence of the significant threats to the economic security of the economic entities. These are a number of the factors of the changing external and internal environment, the study of the impact and leveling of the threats which is an important part of economic work. The reasons for the decline in the overall efficiency of the production process were many factors that have both economic and social origin. The purpose of the research is to substantiate the dependence of the level of the economic security of the branch and agricultural enterprises on the social and economic indicators of livestock development. The level of the economic activity of the rural population of Kharkiv region, the degree of variation of employment in agriculture and economy of the region, the dynamics of the number of the employees of the agricultural enterprises in the plant-growing and livestock branches are analyzed in the first part. Using the method of analytical grouping the impact of the social and economic indicators of livestock development on the level of the economic security at the micro level is analyzed in the second part.

Keywords: *economic security, employment of the population in livestock and plant-growing, perspective extrapolation, analytical grouping, agriculture, enterprise.*

Introduction

Agribusiness is one of the most risky forms of the enterprising capital investment due to the presence of the significant threats to the economic security of the economic entities. These are a number of factors of the changing external and internal environment, the study of the impact and leveling of the threats

which is an important part of economic work. The reasons for the decline in the overall efficiency of the production process were many factors that have both economic and social origin.

The successful solution of the social issues of the rural residents depends on the development of the livestock branch. From the point of view of the economic security, we have the following important points: first, this branch solves the problem of providing the consumers with the indispensable high-quality food products, ensuring the proper level of their consumption, expanding the opportunities to export the livestock products abroad. Secondly, the social result of its functioning is to ensure the employment of the rural population and their stable income from work. Third, the level of livestock development depends on the efficiency of the processing industry and the employment of the workers in this area.

The need to develop the methodological bases for the analysis of the dependence of the level of socio-economic security on the level of development of the livestock branch in agriculture of Kharkiv region (Ukraine) is caused by the fact that the scientists are developing mainly the methods for analyzing the financial and investment components of the security. This led to the choice of the research topic, determined its purpose.

The purpose of the research is to substantiate the theoretical and methodological foundations of the development of the analytical basis for the development of the livestock branch at the level of the economic security of agriculture.

Literature Review. The issue of assessing the economic security, the relationship between the economic and social components of the agricultural security in general and individual agricultural enterprises is the subject of the research by a number of the economists, including Arkhireiska N., Vivchar O., Kurkin M., Nazarenko D., Pozdieiev V., Ponikarov V. and other scientists. The socio-economic efficiency of the development and social significance of the livestock are studied by O. Mazurenko, O. Ksionova, N. Stoliarchuk, M. Kozak.

Academician V. Andriichuk identifies the following components (subsystems) of the economic security: financial, personnel, technical and technological, political and legal, information, environmental law enforcement and land use security. The personnel component is achieved through the effective personnel management and development of the intellectual potential of the enterprise (Andriichuk, 2013).

The clarification and characterization of the socio-economic security factors at the macro and micro levels will be carried out by us on the basis of the structural and functional analysis. This conceptual direction is based on the idea of the functioning of the society as a system of the interconnected elements.

In the researches of O. Vivchar the need to form a mechanism for managing the socio-humanitarian factors as a basis for strengthening the economic security of the enterprises is substantiated (Vivchar, 2018). Neglect of the social factors of the economic security can lead to the catastrophic consequences: the decline of the industries, bankruptcy of the enterprises, undermining the livelihood of the state. The implementation of the actions to strengthen the economic security of the enterprise should begin with a study of the risks of the social and humanitarian component.

Investigating the current problems of the analysis of the economic security of the enterprise, V. Pozdieiev offers an approach that allows identifying the threat as a stage of the risk development. The scientist investigates the methods of determination of the threshold values of the indicators and opens the areas of their application (Pozdieiev, 2016, p. 16).

Research Methodology. The methodology of the research of the social factors of maintenance of the economic safety is based on the separate initial positions, among which are the following: account of the specificity of functioning of the agricultural enterprises which develop both plant-growing and livestock branches; study of the isolation of the impact of the socio-economic indicators of livestock on the economic security; separation of the information security as a component of the economic security and organizational regulations for its protection; introduction of the diagnostics of the economic security on the basis of the econometric modeling and forecasting of the economic phenomena's and processes.

Since 2017, the statistical report "Report on the main economic indicators of the agricultural enterprises" (form 50 agriculture) removed the indicator "Average number of full-time and average number of part-time employers in agricultural production" (including plant-growing and livestock). This creates some difficulties in analyzing the further trends. The missing indicators on the number

of the employees by the branches on the farms in Kharkiv region were calculated by us by the method of the perspective extrapolation. The number of the employees in the plant-growing branch for 1998 - 2016 was aligned by the logarithmic function $y_t = 57628 - 14868 \ln(t)$ ($R^2 = 0,9263$). According to the parameters of the equation, we calculated the theoretical (forecast) number of the plant-growing workers at the enterprises of the region for 2017 - 2019. The trends in the number of livestock workers for 1998 - 2016 were identified using the power function $y_t = 110425t^{-0,9288}$ ($R^2 = 0,9406$).

The analytical grouping allowed studying the variety of the connections between the economic security of the enterprises and the social factors. The advantages of using the method of the analytical groupings over others is that it does not require compliance with certain conditions for its use, except for one - the qualitative homogeneity of the studied population.

Research results. According to the statistical yearbook "Kharkiv region in 2018", the number of the available rural population, which at the time of the census was in the rural areas of the region, including temporary residents, as of the 1st January, 2019 made up 507.2 thousand people vs. 684.2 thousand people at the beginning of 1990 and 555 thousand people in 2009. Over 30 years, the population has decreased by 177 thousand people or 25.9%, over the past 10 years – by 47.8 thousand people or 8.6%. The economically active population, which offers its work for the production of goods and services, is included in the UN System of National Accounts. In Kharkiv region, the number of the economically active rural population aged 15-70 in 2018 amounted to 238.9 thousand people, which is less than in 2009 by 42.9 thousand people or 15.3%. As we can see, the rate of decrease in the number of the economically active rural population is significantly ahead of the rate of decrease in the existing population - 15.3% vs. 8.6%.

Among the objective sectoral features of agriculture, which affect the mechanism of strengthening the economic security of the agricultural sector, we call the interdependence and complementarity of the branches and subsectors of the production. Taking into account this factor should be the basis for strengthening the economic security of the enterprises in agriculture and will avoid the negative trends in the financial state of the agricultural enterprises. According to the statistical reports, we analyzed the employment of the workers in the plant-growing and livestock branches for 1998 - 2019 (Figure).

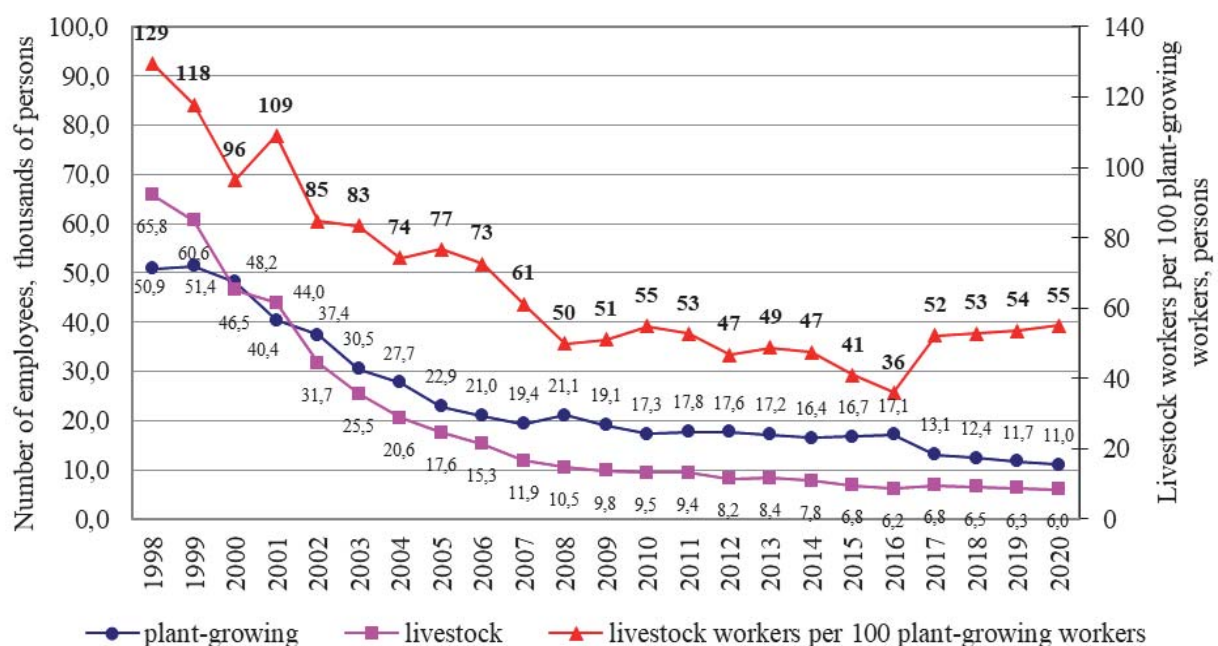


Figure: Dynamics of number of employees employed in plant-growing and livestock at agricultural enterprises of Kharkiv region, 1998 – 2019

Negative tendencies to change the number of the employees are observed both in the plant-growing and livestock branches. In agriculture, the number of the employees decreased by an average of 1,899 people or 7% per year. In the livestock branch of Kharkiv region, the rate of decrease in the number of the employees for 1998 - 2019 is much higher: on average for the year by 2848 people or 10.6%. Such circumstances make it impossible to meet the needs of the population in livestock products of their own production and lead to a decrease in the overall efficiency of the production process and weaken the level of the economic security of the agricultural branch.

Discussion of research results. The agricultural enterprises of Kharkiv region ($N=542$) were grouped into five analytical groups according to profitability. The main condition for the application of the grouping method is the qualitative homogeneity of the studied population. The degree of the variation in the level of profitability of the surveyed agricultural enterprises of Kharkiv region in 2018 is significant and is 41.77%. With such a high value of the coefficient of the variation, the assessment of the average level of profitability of the sales of the agricultural products in the region can be considered unreliable ($25\% \leq CV \leq 50\%$). This significantly exceeds the normative value of the variation coefficient. According to Shmoilova R., the population is homogeneous if the variation coefficient does not exceed 33% (Shmoilova, 1998, p. 192). Other scientists allow the value of 40% (Spyryna, 1997, p. 106).

The specificity of livestock development in Ukraine is determined by the predominance of the share of households in total livestock production. In 2018, the enterprises of the population of Kharkiv region produced 60.3% of meat (in slaughter weight), 54.4% of milk, 59.3% of eggs, and 90.4% of wool. The economic crisis reduced the output of the industry and the number of the employees employed in it. In 2000, the livestock of the agricultural enterprises of Kharkiv region employed almost 50% of the employees, in 2005 - 43.4%, in 2010 - 35.4%.

While analyzing the socio-economic indicators of the livestock branch, it was found out that in 2018, out of 542 enterprises in Kharkiv region produced and sold milk at 111 enterprises, produced and sold beef to 113 enterprises (table).

Table 1.

Dependence of profitability of agricultural products on socio-economic indicators of livestock development on farms of Kharkiv region, 2018

Indicator	Groups of enterprises by profitability level of agricultural products, %					In aggregate
	I	II	III	IV	V	
Number of enterprises	54	60	150	172	106	542
The average level of profitability of agriculture products by group, %	8,69	30,43	43,64	58,6	83,2	47,8
Profitability of livestock production, %	-0,3	-41,4	6,9	3,7	-0,01	2,3
Share of enterprises in which livestock are kept, %:						
- cows	20,4	15,0	22,0	24,4	15,1	20,5
- cattle	24,1	18,3	20,7	25,0	14,2	20,8
Share of livestock workers, %	33,9	21,7	33,0	30,4	29,0	29,0
Livestock workers per 100 crop workers	51	28	49	44	18	41
Livestock per livestock worker, conditional heads	5,62	9,88	9,70	11,44	14,59	10,18
Livestock density and 100 ha of agricultural land lands, conditional heads	4,07	4,33	7,05	8,54	3,28	6,33
Labor productivity in livestock	203,9	229,8	501,8	283,2	204,4	333,9

(cost of production per employee), thousand UAH						
Produced per 100 hectares of agricultural lands, centers:						
- milk	111,6	128,6	247,4	283,9	60,5	201,8
- growth of cattle	5,8	6,8	10,3	12,9	3,0	9,1

According to the calculations in the table, in the region we have problems with livestock development, which provides employment for a third of agricultural workers. Only every fifth enterprise in the region is engaged in dairy farming. The smaller is the share of workers employed in animal husbandry, the higher is the profitability of agricultural production. If in the first group (with the lowest level of profitability 8.69%) per 100 crop workers there are 51 livestock workers, in the fifth group (with the highest level of profitability 83.2%) - 18 people (2.8 times less). Profitability in livestock is generally lower than in plant-growing (2.3% vs. 56.7%). At the same time, as noted by Tulush L., the level of capital investment and payback period in livestock far exceeds the corresponding indicators for plant-growing (Tulush, 2015).

However, despite the identified "disadvantages" of livestock, it can be affirmed that there is a pattern of positive impact of the branch development on the economic security of the agricultural enterprises. As the indicators of the level of intensity of the branch, we have calculated the number of cattle per worker and the density of livestock per 100 hectares of the agricultural land. Livestock workload per employee increases from the level of 5.62 conditional heads in the first group to 14.59 conditional heads in the fifth group (the range of variation of the conditional heads, the oscillation coefficient is $K_o = 88,1\%$). The similar trends with the change in the density of livestock per unit area of land, the scope of variation is $R = 4,47$ of the conditional heads, the oscillation coefficient is $K_o = 70,6\%$.

According to the average indicators of the livestock efficiency by the groups of the enterprises, there is a tendency to increase both milk and growth of cattle per 100 hectares of the agricultural land. Moreover, the oscillation coefficients of the efficiency indicators exceed the corresponding coefficients of the intensity levels and are, respectively, 110.7% and 108.8%. The growth rate of cattle growth per 100 hectares of the agricultural land outpaces the growth rate of livestock density in the second group by 10.2%, in the fourth group - by 3.4%. In the third group, the growth rate of milk production per 100 hectares of the agricultural land is 192.4%, which is 18.2% higher than the growth rate of livestock density per 100 hectares of the agricultural land.

The indicator of labor productivity in livestock as a factor in the management of the socio-economic security of the agricultural enterprises does not work properly and increases to the level of 501.8 thousand UAH. On the enterprises of the third group, and then tends to decrease. Increasing the labor productivity of livestock should be achieved by increasing production in two interrelated ways - expanding the mechanization of production processes and increasing animal productivity. The identified patterns confirm that the development of the livestock industry has significant reserves in the management of the socio-economic security of the agricultural enterprises.

Conclusions

The lack of a common vision of the essence of the economic security and a perfect analytical basis for its strengthening and definition of its components, both in the scientific literature and in the legal framework, creates a number of the contradictions and inaccuracies of the methodological approaches to calculating its level which actualizes the improvement of the existing accounting and analytical support of the complex management processes.

The main principles of the structural and functional approach to the management of the socio-economic security at the macro and micro levels are: the study of the economic security as a multilevel integrated system consisting of the interconnected and interdependent financial, economic, social and environmental subsystems; the analysis of the socio-economic relations within the subsystems; defining the role, features and functions of a particular socio-economic element. The study of the social component of the economic security should precede and underlie the adoption of the strategies, tactical decisions, justification of methods and tools to be used to

strengthen the economic security of the agricultural enterprises and the agricultural sector in general.

Livestock is becoming a social sector and is important for the functioning of the agricultural sector. This branch determines the level of the food security more than plant-growing (because it provides the population with the key food products - milk, meat and eggs). The state of the livestock branch development is closely linked to solving the problem of employment in the rural areas. The livestock branch is more labor-intensive and creates a significant number of jobs, while work in the plant growing branch is seasonal and mostly short-term.

We have proposed and developed the system of the socio-economic indicators of livestock development, which indirectly affect the economic security level of the agricultural enterprises and agriculture in general, Kharkiv region, which strengthens the analytical basis of the economic security management of the agricultural enterprises.

The prospects for the further research are the development of the multifactor econometric models of the impact of the factors on the level of the economic security of the agricultural enterprises and forecasting its level on a strategic basis.

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FDI IMPACT ON ECOLOGICAL FOOTPRINT: SECURITY CONTEXT



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JEL F21, F52

Abstract. The article presents a study that summarizes the features of foreign direct investment (FDI) and its impact on environmental: key determinants, global trends, as well as the current state and prospects of FDI mobilization in environmentally friendly sectors. Besides, the article consistently analyses the theoretical basics (advantages and disadvantages) of FDI from the perspective of ecological security.

Attention particularly is paid to new phenomena - "green" FDI. The global economy "trajectory" is changing towards sustainable development and draws increasing attention to governments, TNCs, institutional investors, and households to the need to mobilize "green" investments in low-carbon and climate-resilient infrastructure, RES development, industrial energy modernization, etc. The global trends of "green" FDI and its input notably in the renewable energy sector are considered separately.

This research presents the results of a sociological survey of executives related to the principles and prerequisites of "green" investing in Ukraine. In particular, their views and approaches to attracting and accumulating such investments. On balance, some steps on environmentally friendly FDI attraction have been formed.

Keywords: *FDI, "green" FDI, TNCs, national economic interests, environmental friendliness, ecological security, investment policy.*

Introduction

Strengthening of world economic ties, expansion of integration processes, deepening of the international division of labour and industrial cooperation, a gradual liberalization of investment activity, intensification of TNCs functioning, technological progress, increasing competition, and companies` entering in new foreign markets – the driving forces that influence international investment process intensification. At the end of the XX – the beginning of the XXI century, international investment flows have been increased at a rapid pace, exceeding the world trade`s growth rate. The FDI inflows as a percentage of gross fixed capital formation began to grow rapidly: in the 1980s it was 2-3%, in recent years it has approached 10%; in some transition economies, its share varies between 24-28% and in developing countries - 30-40% (UNCTADStat).

However, the impact of FDI is quite difficult to estimate precisely – FDI net benefits are not automatic and do not increase equally in each country, sector, or region, and its volume depends on the foreign investor. On the one hand, enterprises with FDI bring to the recipient country technical assistance that improves product quality and increases the technological level of the production process. FDI can play an important role in the promotion of environmentally friendly goods and services. On the other hand, FDI can create negative consequences, particularly in the ecology sphere: foreign investors could move environmentally dirty production capacities to the FDI recipient country or attract old and unusable technology (Markevych, 2020). Consequently, the state faces the challenge: on the one hand, it should attract FDI, but on the other hand – minimize FDI`s possible negative impact on economic security (from the ecology point of view).

Analysis of recent research studies and publications. FDI has become the object of numerous theoretical and empirical studies, many of which explain the FDI phenomenon and the factors behind its placement. Most new FDI theories extend and complement the ideas of previous scientific developments. The dynamism of the world economy, digitization, and the introduction of the sustainable development concept have contributed to the emergence of new ideas related to the attraction of desired capital or vice versa - protection country from its influx.

Until recently, the role of FDI in sustainable development and its impact on "green" growth has not discussed in an expert, scientists, or other knowledge-holders. FDI role in the ecological security system has become the subject of scientific works of foreign scientists (Gallagher K., Gray K., Fortanier F., Lyuba Z., Maher M., O'Connor S.), as well as experts from several international organizations – UNEP, OECD, UNCTAD – that have focused on the dualist impact of FDI and its security aspects.

Research methodology. The methodological basis of the scientific paper is formed by a set of general scientific and special methods, the use of which is caused by the purpose of the research. In particular: methods of analysis and synthesis – in determining the place of FDI in the system of ecological security and its impact on the national economic interests; methods of logical generalization – in determining the main benefits and risks of FDI for ecological security; method of comparative analysis and graph-analytical methods – in visualizing systemic representations of FDI in the economy; structural-functional method – in determining the directions of FDI regulation in the economic security system.

The purpose of the article is to highlight the factors, dimensions, and consequences of environmentally friendly FDI, the opportunities for its multiplication, as well as the features/practicality of such investments in Ukraine. The article is aimed at developing practical recommendations for the FDI regulation in terms of ensuring the ecological security of Ukraine.

Research results. Real-world experience shows that in an open economy, FDI is one of the major factors in the socio-economic development of the recipient country, which is intertwined with the domestic economy and

becomes an integral part of the reproduction process. FDI has several advantages: (1) accumulation of additional capital; (2) increase of production capacity; (3) transfer of new technologies and best practices in management and marketing; (4) creation of additional jobs and increase of employees' earnings; (5) augmentation of budget revenues; (6) stimulation of competition in the internal market, that contribute to lower prices and product quality improvement ; (7) provision of national economy effective integration into the world (through the expansion of critical imports and export potential), *etc.*

One of the important tasks of the international agenda - is the achievement of the UN Sustainable Development Goals (SDGs), approved in September 2015. Sustainability is a new paradigm for the development of a modern society that combines economic, social, and environmental determinants. Gradual achievements of the SDGs have begun to be implemented in the state's investment policy: through the introduction of instruments aimed at promoting FDI in sustainable development.

Because of the lack of public financial resources and the absence of sufficient private investments, "green" projects` implementation requires considerable investments. Besides, an imperfect and underdeveloped banking system in most transition and developing economies does not give an opportunity to bring these projects into life. Changing the trajectory of countries towards sustainable development increasingly draws governments' attention to the need for "green" investment mobilization in low-carbon infrastructure, clean energy production, and industrial production processes (Markevych, 2020).

Globalization and increasing TNCs' influence (TNCs are the main producers of FDI and their number since the 1970s has grown from about 7 000 to 60 000 today) have gradually shifted the focus of the sustainable development concept from the national level to the corporate. Today, an increasing number of TNCs integrate social and environmentally responsible principles in their corporate strategies through ESGs factors (Environmental, Social, Governance). The scale of sustainable investing assets is huge: at the beginning of 2018 (latest available data), sustainable investment assets (globally)

comprised \$30,7 trillion (2018 Global Sustainable Investment Review, 2019).

Taking all the above trends into consideration and countries' gradual transition to "green" growth and sustainable development, there is raised an important question: how and in what way FDI can affect sustainable development.

In recent decades, TNCs have firmly strengthened their positions and have taken an important place in the internationalization of the world economy. Their international output has grown at a faster rate comparing world gross product or world trade. Today TNCs function as autonomous economic entities that regardless of the country's

economic priorities define the strategy of their economic behaviour.

The FDI impact on the environment – both potentially positive and negative – has increased interest in the "green" FDI concept. Different international economic and financial organizations – UNCTAD, OECD, UNEP, etc. – and the specialized agencies as FDI Intelligence and Bloomberg have taken steps to identify "green" FDIs, calculate its flows and overall levels (Table 1). Understanding "green" FDI allows governments to assess the FDI influence environmental and to make a decision concerning its stimulation; potential investors - to determine whether such investments are environmentally sound.

Table 1.

Interpretation of "green" FDI

Organisation/ agency	Term	Interpretation
UNCTAD (2008) [1]	"Green" FDI	FDI combines investment that (1) focuses on high environmental standards than it is required by the host country legislation; (2) aimed at eco-friendly goods and services production. This definition applies to production processes (how/in what way such products have been manufactured) and types of goods/services (that are manufactured).
UNCTAD (2010) [11]	Low-carbon FDI	FDI in new ("greenfield") renewable energy projects (e.g. solar and wind power plants' construction, waste management, low-carbon, and technological production). UNCTAD focuses on low-carbon FDI as an important subset of "green" FDI and defines its as "the transfer of technologies, practices or products by TNCs to host countries – through equity (FDI) and non-equity forms of participation – such that their own and related operations, as well as the use of their products and services, generate significantly lower GHG emissions than would otherwise prevail in the industry under business-as-usual circumstances".
OECD (2011) [6]	"Green" FDI	FDI has been accumulating in ESG-sectors in order to reduce environmental risks, attract cleaner and energy-efficient technologies. FDI can be invested in (1) environmental goods and services. It can cover a number of sectors, which typically include renewable energy production and environmental services: water and wastewater treatment, waste management, and disposal, air pollution control, soil and water recovery, noise reduction; (2) processes that reduce environmental damage (using cleaner and/or energy-efficient technologies). Emphasis is focused on FDI in sectors that positively affect the environment: agriculture, forestry, mining, transport, construction, energy, and water management sector.
OECD (2015) [15]	"Green" FDI	FDI is primarily targeted at (1) "green" and ecology infrastructure; (2) sustainable management of natural

		resources and services; (3) environmental activity and different "green" value chains.
<i>fDi Intelligence</i> (2016) [3]	FDI in RES	New ("greenfield") FDI in solar and wind power plants, biomass production, hydropower, geothermal, offshore, and other RES.
UNEP (2017) [8]	"Green" FDI	FDI contributes to environmental and climate goals, protection, and sustainability; and neutralizes environmental or climate impacts
<i>Bloomberg New Energy Finance</i> (2017) [5]	Global investment in clean energy, low carbon services and "smart" energy technologies	"Greenfield" and M&A investment in renewable energy (e.g. biofuels, thermal power plants, wind farms, and solar power plants), clean energy services (e.g. carbon markets), and energy smart technologies (e.g. digital energy, energy efficiency, and energy savings).

At the same time, it is still not possible to give an unambiguous assessment of FDI effect in recipient countries. As an economic phenomenon, FDI could have both positive and negative effects. There is no consensus concerning the FDI impact on the realization of the host countries' national economic interests. It depends also on the country's legislative, political, financial, and cultural peculiarities. In order to understand the "positive" and "negative" sides of FDI in the host country, it is extremely important to determine its impact on the national economic interest with regard to ecology (Table 2).

Table 2.

**FDI impact on the environmental-economic aspects
of the host country**

<i>Benefits</i>	<i>Threats</i>
<ul style="list-style-type: none"> ➤ Modernization and automatization of existing production lines that help to conform to world quality requirements. ➤ Establishment of environmentally friendly and safe enterprises aimed at reducing greenhouse gas emissions. ➤ Development of resource- and energy saving, improvement of energy efficiency level. ➤ Increase of innovative development through the expansion of innovative products manufacturing. ➤ Implementation of energy conservation and widespread use of RES. ➤ Development of resource-saving, science-intensive, and environmentally friendly technologies. 	<ul style="list-style-type: none"> ➤ Placement of environmentally hazardous, harmful, and energy-intensive industries in the host country that may pose a threat to ecological security. ➤ Limitations of the recipient country to evolve technologically because of the availability of "second-hand" technologies (TNC affiliates have relatively older technology). ➤ Possible irrational use of natural resources and excessive exploitation (it depends on the legislative framework). ➤ Possible environmental pollution (it depends on the legislative framework).

The threat to the environment may not be felt immediately, but risks can be accumulated and may lead to environmental catastrophes, which will take enormous costs and time. The findings show that FDI can have a different (positive and negative) impact on the host country's economy and different effects on the state's ecological status. Let us see in detail.

Improving environmental quality. FDI can have great potential for solving both energy and environmental issues. Investing in new ("greenfield") renewable capacities increases the availability of using renewable energy and concurrently reduces its cost to consumers. Such investment can be a guarantee of an improvement (or invariability) of the environmental performance (for instance, through forest conservation or restoration projects, or investment in adaptation or enhancing the local infrastructure resilience). Finally, FDI can be a channel for promoting best practices: FDI can transfer critical technology to local businesses in order to manage and mitigate environmental impacts. Indeed, one of the main advantages of FDI is that it could facilitate technology transfer and

give an opportunity for the host country to move from a less efficient and highly polluting phase of development to a “clean” and resource-efficient one. TNCs' decisions regarding industrial and energy production process modernization can exacerbate mitigation or reduce negative environmental impact.

GHG emissions reduction. FDI can have a significant impact on GHG emissions through its mobilization into effective methods of energy production and consumption. An important role plays the decisive of top management (whose activities are related to fossil fuel extraction) regarding equity “reorientation” in low-carbon R&D. Such measures as production upgrades or switching to alternative fuels can also be taken into consideration in order to reduce GHG emissions. Finally, investments in technologies that capture GHG emissions or facilitate the transition to alternative fuels from carbon-based sources have also a positive impact on climate change in the long term.

Some researchers identify channels through which FDI influence environmental (Gallagher & Lyuba, 2007): (1) transfer of clean technologies – more efficient and less polluting; (2) technological leapfrogging – transfer of pollution control technologies; (3) transfer of best environmental management practices to TNC`s affiliates and suppliers. Mostly, these channels have a positive impact (*Fig. 1*), although it is considered that FDI may influence the formation of negative footprints in the recipient country.

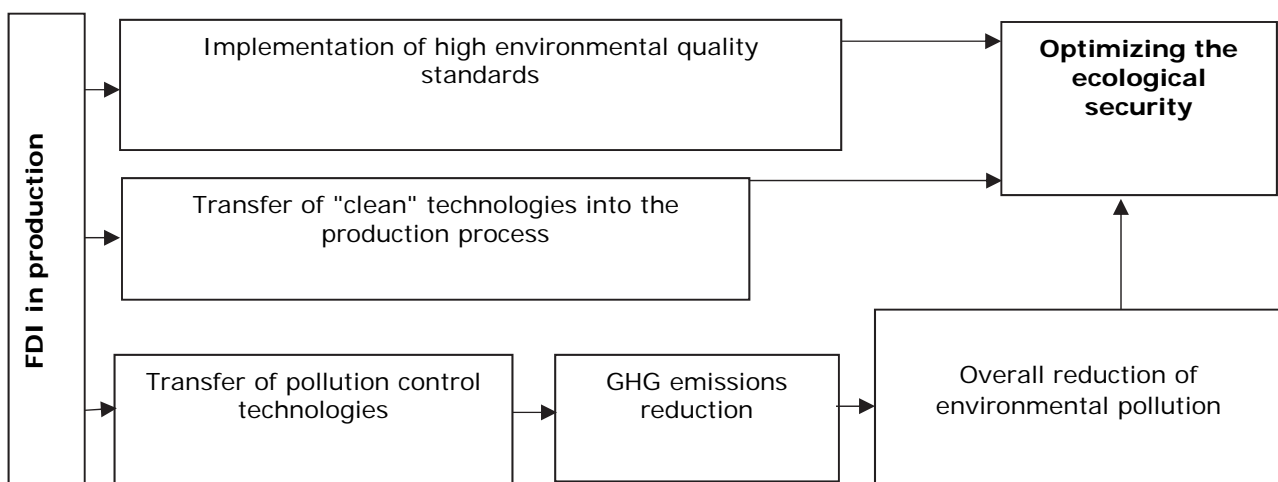


Figure 1. FDI influence the ecological security

Thanks to attracting and effectively using “green” FDI, host countries could avoid an energy crisis, thereby, could construct its energy security on an environmentally sustainable basis (as a result – reduction of GDP energy intensity). In particular, FDI contributes to:

- ✓ the introduction of large-scale deployment of new technologies that improve the efficiency of fossil fuel production and processing;
- ✓ the attraction of energy-saving technologies that have a positive impact on the reduction of the energy component in the cost of the final product in metallurgical, chemical and machine-building industries;
- ✓ the replacement of obsolete equipment at thermal power plants by new ones with a higher efficiency ratio.

Sometimes, FDI can establish negative environmental footprints. In the absence of proper environmental protection measures, the unfair behaviour of foreign-capital companies may have adverse effects on the host country. Negative consequences may arise provided that: (1) foreign-invested enterprises relocate environmentally “dirty” production capacity or; (2) FDI in the form of technology is old and unusable. Such consequences may occur in jurisdictions that have a lack of stringent environmental regulations and requirements.

According to the theory of the “pollution haven effect” (Gray, 2002), FDI is “looking for” areas where environmental standards are distorted. TNCs' decision to locate their manufacturing facilities abroad is driven by a desire to reduce the cost of environmental compliance. At the same time, according to the “regulatory cooling” hypothesis (Fortanier & Maher, 2001), not all countries have the desire to impose rigorous environmental standards, because governments are afraid of losing its

competitive advantage in attracting FDI among countries. Today, the negative environmental impact of FDI in recipient countries (mainly in developing countries) is a rarity.

Consequently, the national interest of the recipient country related to FDI attraction should be aimed not only at the tactical stance of profit increasing but also at a far-sighted philosophy of social responsibility that would not harm the environment.

An analysis of FDI impact on the environment components leads to the conclusion that FDI is an important source of funding for the transmission of technology between countries. However, the impact of "green" FDI is extremely difficult to assess precisely, since the net benefits of such investment are not automatic and do not increase equally for each country, sector, or region, and its volume depends on the foreign investor. Moreover, little is known about the FDI contribution to "green" growth. The limited understanding of the FDI role in "green" growth is largely explained by the lack of availability of relevant data at the international level. "Green" FDI is considered to emerge in areas where its environmental impact (energy efficiency, pollution control, and reduction, waste disposal) is the largest.

At the macroeconomic level, the FDI impact on the recipient countries' environment is determined by the structure of the sectors to which FDI is invested, as well as conditions of intensive pollution of industries (what is extremely difficult to calculate). The most relevant areas for GHG emissions that contribute to global warming and have a negative impact on the environment are agriculture, mining, manufacturing, transport, and construction.

In 2010 the World Bank published the first statistic information about "sustainable" FDI. According to the report, the levels of investments in sustainable development (RES, recycling, and low-carbon processing) amounted to approximately \$90 bln (UNCTAD, 2010). In 2016 the OECD's Working Group on International Investment Statistics attempted to improve the "green" FDI dimension (O'Connor, 2016) using the "green" FDI stocktaking method. Based on this methodology, the UK has estimated the accumulated "green" FDI in 2013: such FDI amounted to £8.1 bln or 0.8% of the overall FDI.

However, today flows statistics in sectors related to SDGs (in emerging economies) are provided by UNCTAD (Table 3).

Table 3.

**FDI flows to developing countries related to SDGs
(by sectors), \$bln**

	<i>Number of economics</i>	<i>2012-2014 (average)</i>	<i>2015-2017 (average)</i>
Water, Sanitation, and Hygiene	10	0,40	0,42
Food and agriculture	38	19,4	15,4
Health	23	1,9	1,4
Education	19	0,5	0,3
Energy sector	39	13,9	20,1
Transport infrastructure	41	11,0	10,0
Telecommunications	33	7,0	19

Source: formed according to [16]

In the absence of complete and detailed information on sustainable FDI (its flows), the argument regarding the FDI contribution to a particular industry may not be perfect. For instance, the largest volume of FDI in the energy sector that has been accumulated in developing countries - more than \$20 bln – may not conform to "greening" criteria. This is partly because investment in this sector includes flows to the "dirty" extractive industries. It concerns the electricity sector, as it involves the production of electricity generated from conventional energy sources (e.g. gas, coal, oil) and nuclear fuel. In this regard, FDI in the energy sector is probably overestimated.

The most open and comprehensive statistic on FDI flows related to sustainable development - is FDI to the renewable energy sector. Overall, RES investment competes with fossil fuel investment in several countries. According to the 2019 fDi Intelligence ranking, the number of FDI projects in the renewable energy sector has reached its highest level since 2008 [4]. In total, in the world, more than 360 projects (Table 4) were registered, with a total capital investment of \$82.4 bln.

Table 4.

**Top 10 destination countries for FDI in renewable energy by project numbers
2015-2018**

<i>Country</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>
USA	13	33	19	36
Spain	0	1	1	23
Vietnam	6	8	10	23
Australia	4	14	25	20
Mexico	6	21	27	19
UK	31	25	20	15
Brazil	12	9	8	12
India	28	23	3	12
Japan	22	20	9	12
France	5	3	7	11
Other	188	176	126	181
<i>Total</i>	<i>315</i>	<i>333</i>	<i>244</i>	<i>364</i>

Source: formed according to [4]

In June 2017, when President Trump's administration announced its intention to withdraw from the Paris Agreement, the number of FDI projects in the RES sector reduced by 42%. In 2018 the number of projects increased again to 36 (the cost of the announced projects was nearly \$6.7 bln) and even exceeded the record number of projects in 2016.

Among the sectors, the largest number of projects are concentrated in solar and wind power sectors. In the hydropower sector, only 2.57% of total FDI in the RES sector was invested in 2018. \$27.2 bln was invested in the wind industry – one-third of the world's investment in the RES; \$25.3 bln was invested in the solar sector. The biomass project number increase caused by the significant development of technologies in this area.

Today, there is a need to develop an expanded information base on the scope and trends of "green" FDI in order to pursue the goals of "green" economy policy. In particular, countries need to publicize more information about FDI in sectors: renewable energy, water, and waste management, wastewater treatment, sustainable agriculture and forestry, education, and health.

As mentioned above, the country's national economic interest regarding FDI attraction should be targeted not only at achieving profit increase but also at a far-reaching philosophy of social responsibility that would promote environmental protection. In this regard, countries try to encourage "green" FDI through providing different investment incentives: income tax rate

reduction, tax breaks (application of income tax zero rates to a company that works, for instance, in the renewable energy sector), tax benefits and accelerated depreciation, duty exemptions on imported equipment, *etc.*

On the other hand, in order to ensure economic security, governments impose foreign equity restrictions in certain sectors. The restriction indicators are based on a calculation of the OECD's FDI Regulatory Restrictiveness Index. According to the Index, regulatory constraints are quite low in some leading developed and developing countries, with the exception of some sectors. FDI is rather limited in electricity and agriculture. Developing countries generally have a high level of FDI restrictions, while North American and European countries have a low level, and this applies to a large extent to the "green" economy sectors. Closed sectors for foreign investors may indicate their "strategic" nature, which has to be controlled by the government. For instance, in Ukraine, the OECD FDI Restrictive Index is higher than its average in OECD member countries but lower than in the non-OECD countries, and in 2018 was 0.124 (OECD FDI Regulatory Restrictiveness Index – OECD). The most closed sectors of the domestic economy for foreign investors are the transport, defence, air and sea transportation, real estate, and media sectors.

In order to understand the attitude of different enterprise managers to the "green" investment in Ukraine, we decided to hold a sociological survey. In particular, management expressed its views and approaches to attracting and accumulating a "green"

investment. An expert survey had been conducted by the Razumkov Center's Sociological Service during the 12th September – 9th October 2019 within the framework of the project: "Green" Investments in Sustainable Development: International Aspect and Ukrainian Realities". The survey was conducted in 22 regions of Ukraine and Kyiv, which provided a fair geographical representation of respondents (80 respondents send their answers) (Centr Razumkova, 2019).

One of the first questions concerned the concept of sustainable development, in particular: «Do you carry out a "green" investment in your enterprise?». Two-thirds of respondents - 75% - reaffirmed that they carry out a "green" investment, which remains the main topic in their daily investment practice. The result indicates the consistency of Ukrainian business with the global trend of increasing attention to environmental issues, the energy efficiency introduction, and modernization measures.

The survey's results showed that the overwhelming majority of respondents were aimed at investing in energy-saving technologies' introduction – 52.5%, industrial modernization – 42.5%, and energy modernization – 40% (question: "In what measures do you carry out a "green" investment?"). This result indicates, primarily, the investors' desire to reduce energy consumption and utility bills in the short and medium-term, and, more importantly – in the case of modernization – to develop modern, dynamic, and high-tech products with value-added.

37.5% of respondents identified the importance of investing in the disposal of hazardous waste (that includes medical waste, plastic products, petroleum residues, organic waste, gas and dust emissions, etc.) because of generating and accumulating waste during manufacturing processes.

This result underscores the popularity of "green" investing, despite the many obstacles that stand in the way. Companies gradually adopt business strategies that aim at resource efficiency maximization and clean production through the implementation of an R-strategy (Reduce, Recycle, and Reuse). This strategy redirects an enterprise's cash flows (profits) into the maximization of energy efficiency and raw material use, expanding the greener materials use, and modernization of line production in order to prevent environmental pollution.

Along with financial gain, there is a growing public perception that short-term commercial and entrepreneurial interests should not outweigh long-term environmental considerations. Companies that keep up environmental standards and requirements assume responsibility for future environmental impacts, which in turn can lead to significant costs at the first stages of the investment process, but in the future – it will improve the environment and may increase business profitability. It is important that companies that have already reached the required level of environmental friendliness can attract new environmental investment much more quickly (thanks to their practical experience) from the outside.

Conclusions

Due to the scale and its growth in the recent decade, FDI has become an important source of funding. Besides, such investment has the potential to transfer clean technologies and practices that make a contribution to environmental progress directly. There are reasons to hope that "green" FDI has a positive contribution to the economic growth of most countries around the world. Nevertheless, in order to achieve real breakthrough (receive more benefits), it is important to formulate an accurate and sustained definition of "green" FDI and increase commitments related to solving the environmental problems by foreign investors. FDI can be a useful financial tool to set up enabling conditions for environmentally sound economic and social development.

It is advisable to develop tools for the "green" FDI policy. Steps that can help to attract such investment include:

- ✓ harmonization of initiatives that help to promote and embed FDI in line with the global SDGs and the Paris Agreement requirements (this includes scrutiny of strategic orientation of FDI recipient country policy and its investment position);
- ✓ focusing attention on a "green" reinvestment;
- ✓ increasing the FDI efficiency as a channel of transmission of "green" technologies;

✓ stepping up the Investment Promotion Agencies work which means the identification of sectors for "green" FDI attraction with the purpose of further economic recovery.

What is more, government policy, financial technologies (fintech), and emerging market practices (such as "green" banking or climate risk disclosure) can also create additional opportunities and expand the "green" FDI demand.

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INNOVATIVE PROJECT OF ORGANIZATION OF INFORMATION AND ANALYTICAL PROVISION OF SUSTAINABLE BUSINESS DEVELOPMENT



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Abstract. The article is devoted to the research of new perspectives in the innovative development of information systems of enterprises, due to the trend of digital transformations in business and the spread of behavioral technologies in decision-making systems. The progressiveness of digital and managerial innovations in the development of the information system of the enterprise with the characteristic of a new type of data is grounded, which allows forming information with high qualitative parameters. The suggestions and recommendations set forth in the article are formulated for the innovation development of information systems, information processes and, accordingly, information provision of development of the competitive sustainability of modern business.

Introduction

The establishment of information economy caused not only a complex of changes and transformations for the conditions of economic activity, but also established a new ideology of activity of enterprises for which an aggressive competitive environment was formed that can be compared with natural selection. In order to be competitive, need to move faster than others in the

right direction. The ambivalence (ambiguous) of modern entrepreneurial conditions is manifested in the creation favorable technical and technological environment for the activities of business entities, but the other side is the excessive dynamics of changes, consequently, the definition of new vectors of development, which should be followed and which should be adapted.

The purpose of the article is to form a new view on methods, tools, principles, measures and factors of fundamental changes concerning forming new type of information system that provides a large-scale project for business transformation under the conditions of innovative development projects.

Literature review. The issue of development of information-analytical provision of management is relevant and is considered in the papers of various scientists who have their own position on the conceptual provisions, principles and technologies of organizing the innovative information system for business. In particular, leading scholars of our time [1-10] identified a new stage in the development of management strategy and business model based on modernization of information processes. However, less attention is paid to namely the formation of a new view at the methods, tools, principles, measures and factors of radical change in the formation of a new type of information system. This encourages the intensification of research of a new nature for the development of an innovative project for the organization of information and analytical provision of sustainable business development.

Research methodology. The totality of general scientific methods of knowledge processes and phenomena that take place in the modern economy under the influence of innovations in the organization of information systems and the trend of digital technologies has become theoretical and methodological basis of scientific research. At scientific research used: system-structural method for specifying of digital transformations in business; method of analogy for forming a road map of information transformation in enterprise management; theoretical generalization and comparison methods for determining prospects and directions of business development project development on the basis of information provision.

Research results. Innovations, first of all, in information and analytical processes take a place key role in stimulating development and competitiveness in business. Previously, to achieve the result there was enough implementation of supporting technological decisions, but today now need much more – it

is necessary to manage capabilities and potential through the implementation of radical decisions (Charles, Tushman, 2002). Empirical studies have shown that in radical innovations there is a much bigger potential for business success than in supporting improvement of processes and products (Gassmann, Frankenberger, 2015).

The growth of business means the complexity of its organization structure, and therefore the task is to make responsible decisions at all levels of management systems in accordance with the development strategy and business model. The valuables of an enterprise should be the valuables of each employee, which involves targeting a single goal and agreed rules and with equal responsibility for the decisions made.

In order to provide valuables, resources that are material and non-material are required. Resources are the most flexible factor of innovations and can be combined in accordance with different development models with constant updating.

Formation of strategy begins with determination and assessment of problem situation that for core competencies is implemented by formulation of five basic tasks of its management: definition of priori (existing) core competencies; development of programs acquisition of core competencies; generation of core competencies; expansion of core competencies; monitoring and development of measures to protect core competencies with preservation of leadership (McGrath, 2013). Companies need a new alternative approach, according to which a combination of stability and constant change is formed that correspond to the tendencies of development of the world economy (Hamel, Prahalad, 1996).

Access to big volumes of information resources increases the chances of management personnel to respond in a timely manner to any changes. The management system takes into account precisely the information resources when assessing the

prospects and constraints of development of enterprise. Assessment of resources necessarily should be accompanied by the organization of appropriate procedures that involves the construction of an individual model of development with the transformation of source resources into a competitive advantage.

Information modeling can be called derived element integration of restructuring, adaptive update and implementation of innovations, because it is on the basis of the formation of information models that changes the traditional methods, principles and procedures with the transformation of the outdated business model. Exactly the information modeling allows seeing the prospects and really evaluating resources, risks, opportunities and constraints. On the basis of information modeling, resources are mobilized, a system of goals is formed, and constructions of managerial decisions are generated.

The structure of integrated information and analytical management systems is characterized by multilevel information communications and relations between management subsystems (at the micro level) and business entities (at the macro level). Increasing the efficiency of systems is a prerequisite for the achievement of synchronized development of the enterprise and reducing the risks and the state of uncertainty in its operation, since timely and complete information and analytical provision of management enables the formation of a model for responding to changing of conditions of management. In the conditions of technological determinism, the intellectual and technological development of information and analytical management systems that can become an alternative to information systems inherited with the traditions of monovariate generation of data for decision making is especially in demand. This is the announcement of transition to a new level of management of information processes, communication relations, self-diagnosis of databases with an increase in the level of efficiency, provision and evaluation of which requires additional development of organizational and methodological nature.

The essence of the modern information and analytical system goes beyond the traditional understanding of the processes of processing, transmission and storage of data and is

determined by the intricate structures of information relationships with the basis of rational and irrational interpretation of information for its further transmission in order to form knowledge and make managerial decisions.

Modern technological and intelligent decisions allow enterprises to have detailed information and form a multifunctional database with an information output that allows coordinating information flows and automatically updating data by involving large data systems that constitute a promising information resource for generating managerial knowledge. The database should be updated with information about the state of the enterprise environment from external sources that contributes to the greater constructiveness of the hypotheses, their reality, the link to the conditions and trends of the environment. It is important to take into account external evaluations, because it is additional knowledge that is different from the impartiality of the enterprise environment, its relations with the groups of influence and the developed image. The scope of information requests of an enterprise cannot be limited to information that reflects its material condition, but takes into account reputational benefits, business prototype of the business entity, the value of its intangible assets. Such information is now a priority for objectivity in decision-making, since it allows diagnosing an enterprise for its prospects of development and stability of a competitive position in the external environment.

The informational stage of the development of economy and society, which characterized by the intensity of information exchange and globalization, put forward new requirements for the approaches used in the formation of strategies. First of all, this is due to the fact that today the external environment is changing much faster and deeper than before, and the degree of uncertainty of the influence of various factors on the future increases. Approaches to the development of innovative strategies evolutionarily changed under the influence of new conditions of world development, the internal source of which is a person with its psycho physiological features and the ability to transform thinking (Figure 1).

Lower level takes strategy that based on available resources, that is, an option in which the strategic thinking of a management

system is limited to assets that are available for use. Such an approach could be considered effective at the beginning of the last century, when land, capital and assets were the priority factor in production.

Owning a larger volume of assets guaranteed the enterprise a competitive edge, and the strategy was to save capital and

provide increase of asset. Of course, in today's economic conditions, such an approach is not only ineffective, but also dangerous for business. The asset framework is a narrower approach to development that is unable to meet the current requirements of compliance with competitive dynamics in the external economic environment.

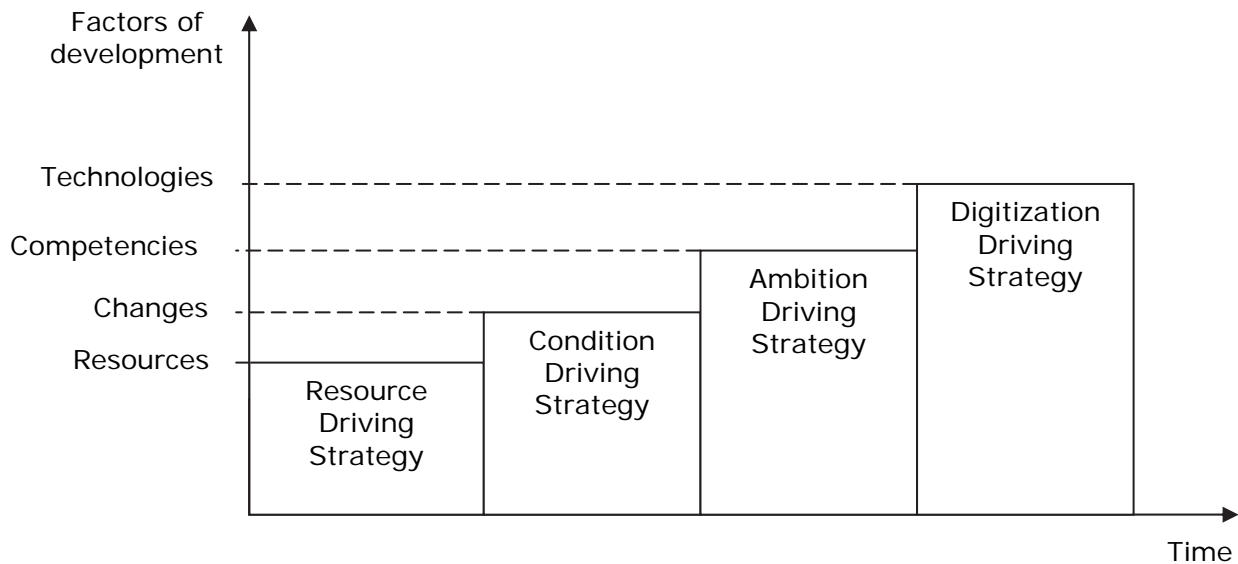


Figure 1. Evolution of approaches to strategy development

The next step towards the transition to innovation management is the approach to developing a strategy that based on the conditions of activity. In contrast to the previous approach, it is anticipated that achievement of competitive stability is ensured not through the ownership of assets but by the speed of adapting the enterprise to new environments with the ability to develop assets and create new products and services. Such approach allows timely response to past and current changes in the external economic environment, taking into account the internal conditions inherent in business. Accordingly, the planning process involves the collection of Big Data on the state of the market and the trends in its change, as well as on the activities of the enterprise at the current time and in the recent past. However, one should not forget that the changes taking place rapidly on the market make the future increasingly uncertain and less predictable.

The traditional process of strategy development is, first of all, analytical activity, the result of which is the choice of one of the most acceptable scenarios for the development of the enterprise, which will then

be transformed into a business plan and specific planning indicators. At the same time, the risks inherent in such a strategy are not at the development stage, but in the process of its implementation, and the main obstacle to its successful implementation is that before the management system, there are two complex tasks, which have to be solved simultaneously, – risk management in conditions of uncertainty and support of strategic decisions by personnel of the company.

The following approach (Ambition Driving Strategy) does not reject the analytical methods of the traditional approach, based on the conditions of development. At the level of strategy development based on ambition, analytical methods and procedures are integrated with the processes and tools that provide creativity, dynamism and interest from the staff of the enterprise. Distinctive features of this innovative approach are: the ambition of goals; behavioral management context; continuity of change management. Enterprises that are focused on ambitious development strategies determine the competence that is a complex of developed

skills, knowledge, technologies, patterns, ownership, which guarantees the company the achievement of a stable competitive position in comparison with other economic entities. A combination of core competencies provides the uniqueness (individuality) of business models and draft decisions, repeat (simulate) which competitors cannot, which is provided not only by a set of technological solutions, but by a number of knowledge, ideas, professional competences, skills, information.

It is the low dynamic ability, the inability to quickly adapt to changes in the market and manage knowledge is one of the most significant reasons for the weak competitive position of enterprises. A company that strives for leadership should provide a high innovation potential in developing a strategy that responds appropriately to the development of new products and services, human resources management, customer relationship management policy, implementation of innovation in the management model.

Today, the most effective approach is to develop a strategy based on digital technologies, since exactly technologies are promising competence of an enterprise that is oriented towards innovative development. Enterprises have discovered that new relationships are not limited to their employees and consumers – the real opportunity was to become part of many new global networks that unite companies, people and things in various industries around the world. This situation and the extent of its impact on the transformation of modern business opens up a new era of economic and social relations – «The Economy of All of Us», when enterprises become part of a single «digital fabric» that combines all aspects of business.

Intelligent equipment becomes a kind of bridge connecting the digital enterprise and the physical world. Today, within the framework of the concept of Industrial Internet of Things, many companies implement «smart» sensors in a variety of digital devices and bind them together.

After that, customers can get more than just new products and services, namely the benefits and the results they want. In this sense, the market is fundamentally changing under the influence of the development of new type companies with an innovative strategy, which involves offering the customer not a products or services, and the result of using a combination of digital technologies of the enterprise with intelligent end devices that used by the client. This is evolution not only in the strategy of development, but in the economy – the economy of the final result.

Thus, the next level of production efficiency will be the result of latest discoveries in the field of intelligent software. This can contribute to a new stage of evolution in all areas of business structures.

Digitization Driving Strategy is a serious step towards radical changes. Such strategy cannot be defined by a modernization tool that integrated with general business strategy. Digital changes are global transformations that are based on a digital basis, with the incorporation of their basic provisions into the development strategy, business model, operational activities and corporate culture of the enterprise.

The construction of the Digitization Driving Strategy is based on traditional factors of competitive growth, with the strengthening of key competencies that are updated in accordance with the requirements of the digital sphere (Figure 2).

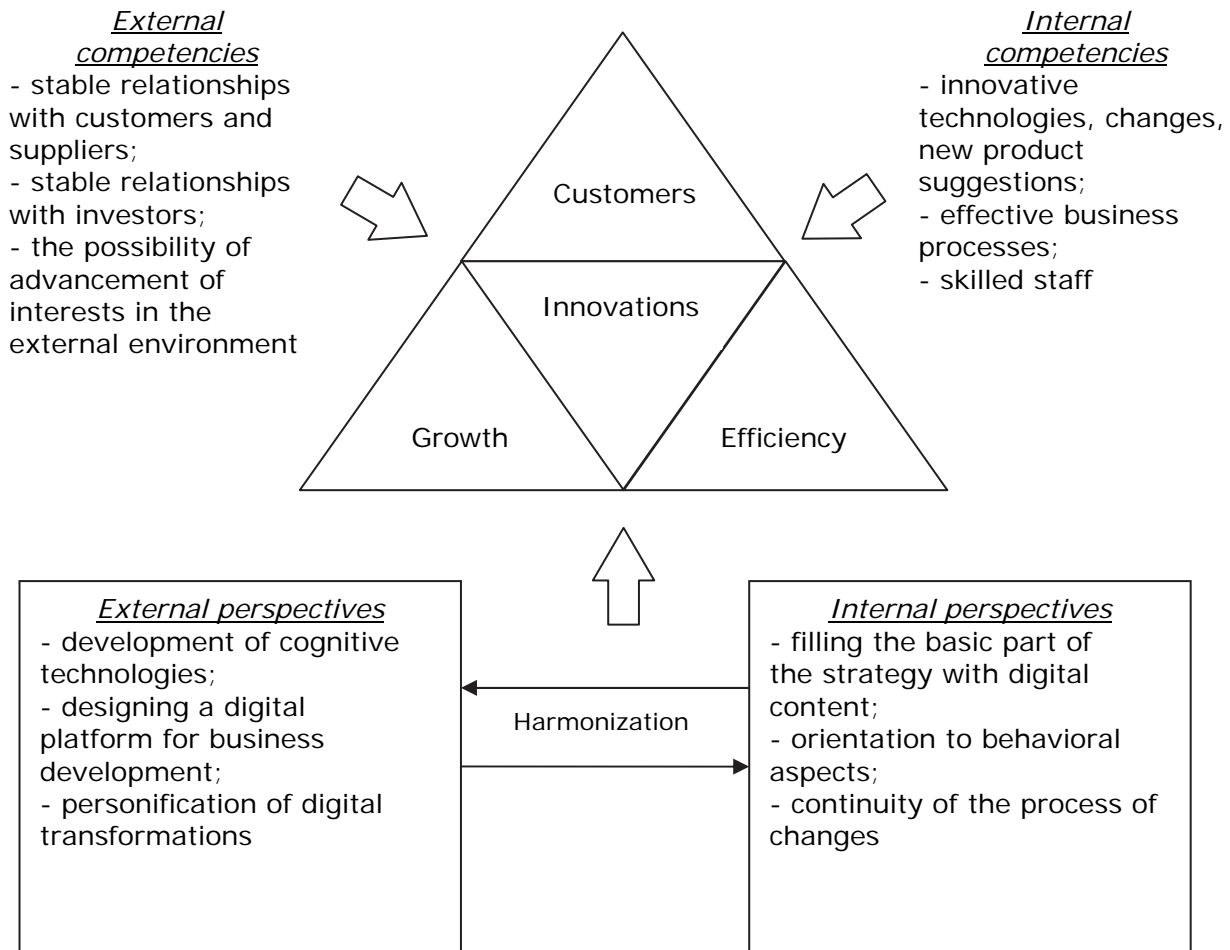


Figure 2. Totality of factors, competencies and perspectives in shaping the model of digital transformation

The central factor in digital transformation is innovation, which today is an obvious feature of a digital-oriented business, and therefore increases the amount of information processing by expanding the networks of interconnections and promoting new products through the digital platform.

The factor of innovations is directly related to the factor of customers by direct and indirect links. Innovation is being developed for customers, who are the main driver of digital-transformation as technology finally begins to directly affect revenue generation.

Focusing on digital technologies in customer relationships allows anticipating their expectations and offer products earlier than competitors. Modern business has to change the approach of client-centricity on digitalization, that is, transform the behavioral aspect of customer perception not only as an object of the business model, but as participants in the chain of joint creation of valuables.

Customers have become a basic business objective for business, as they ensure the growth of the enterprise. Growth is not only the goal of business, but the objective need to maintain the viability of the business entity with a transition to a higher level of global changes.

Efficiency is a mirror image of growth that based on digital transactions. Compliance with digital principles means creating as much value as possible for each amount of funds that enumerated by customers. Thus, the expansion of the target audience is achieved with an increase in the scale of the proposal, which is a new basis of effectiveness.

Discussion of research results. In a modern economy, competition is increasingly becoming event of not resources, and strategies and investments by companies are increasingly geared towards creating core competencies and ensuring their dynamic abilities. Digital transformation, innovative potential, ability to form more effective

strategies and constantly developing the company, updating its structure and key business processes in response to the challenges of the external environment play an increasingly important role. The desire to win in a competitive struggle brings new requirements to managers who have to set ambitious but achievable goals, shape the vision of the future company and make it the property of all employees, stimulate the search and find new non-trivial decisions in transforming enterprise activity on digital platform.

Information in the complex organization of the management system is considered from the point of view of the processes of collecting data, their accumulation, distribution, summation, transition to a new quality, updating, systematization, to transform them into a usable form.

Managing information as an organizational resource allows making timely adjustments to the activities of the enterprise and obtains better economic results. Modern forms of information organization provide a new environment for management objects – the only information space that management provides for the dynamics of business.

The formation and development of the information system of the enterprise is carried out in accordance with the project, which should take into account organizational, functional, technological and managerial characteristics taking into account the parameters of the business strategy.

Managing a project of information system is a separate branch of knowledge requiring appropriate training and skills. This is not only action programs, but a set of interrelated measures designed to achieve a specific goal for qualitative changes in information management. Forming the project of information system is based on three determinants – time, quality, cost.

The information has always been subject to increased requirements, which is why these factors are key to ensuring the qualitative characteristics of the data used for the activity and development of the enterprise.

These factors should also ensure the distinctive feature of the project – uniqueness. The development of the information system project is carried out taking into account the organizational, control, managerial factors that provide the appropriate parameters of information, taking into account the individual aspect of business.

The project of information system is an element of a general business development project, which uses the result of modernization of information provision of management. At each stage of the business development project, there is a need for some information that forms solutions in the subsystems and integrates with the data in other subsystems of the enterprise, thus forming an information management grid (Figure 3).

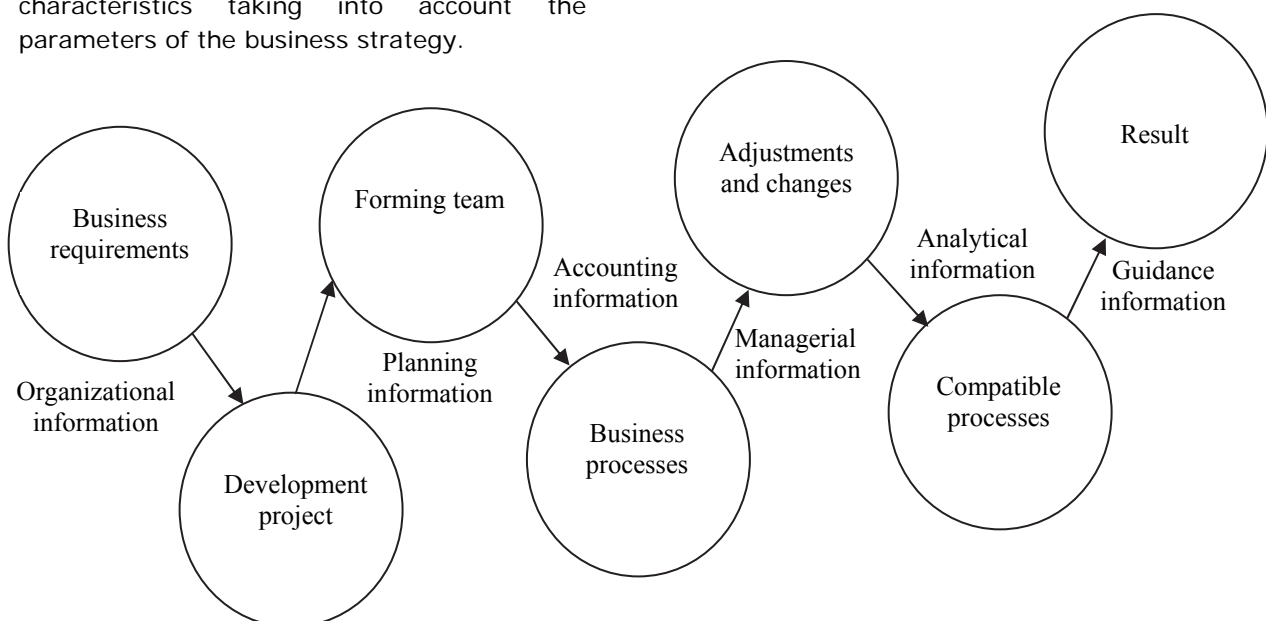


Figure 3. Schematic interpretation of development of business development project based on information provision (Bochullia, 2019).

The project of information system is also an important factor in the roadmap of information transformation in the management of the enterprise. Before starting to develop a roadmap, it is necessary to determine the general starting point and the direction in which the enterprise plans to move. Since the roadmap of information transformation is a complex system of informational, economic and professional relations in the enterprise environment.

The successful transformation of information provision of management involves implementation of a new system of competences, taking into account innovative technologies and trends in the field of activity.

At formation of a roadmap is important to adhere to the principle of confrontation, which allows you to go beyond the usual style of information management and find new ways and approaches for innovation in information processes. The roadmap should be designed to activate (initialize), design and integrate information processes for their combination with the general model of business development as a single information system that provides all subsystems of the enterprise's activity with integration with the external environment (Figure 4).

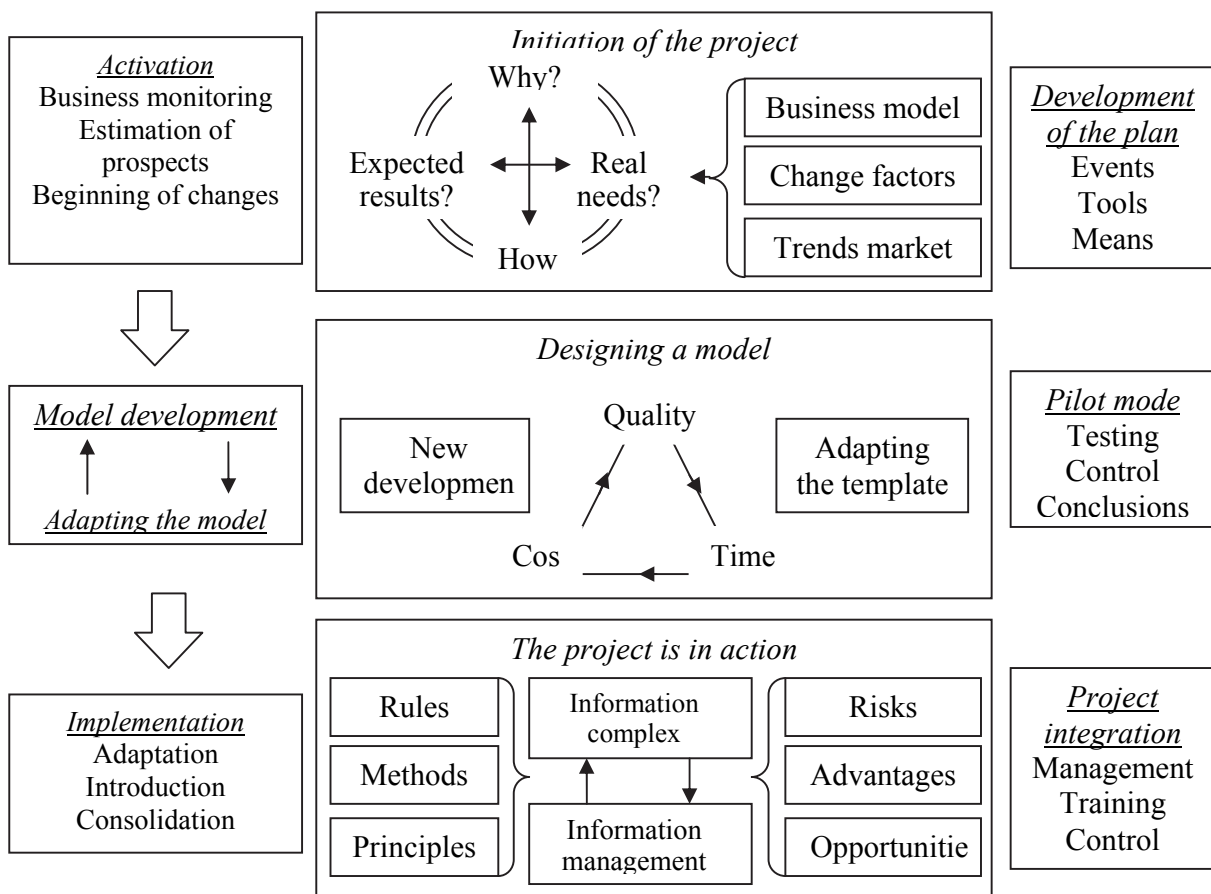


Figure 4. Roadmap of information transformation in the managing an enterprise (formed by Berger, 2016; Bochulia, Melnychenko, 2019; Bolman, 2003; Johnson, 2014; Laszlo, Zhexembayeva, 2011).

Formation of a roadmap allows providing a comprehensive transformation in the information system of the enterprise with the organization of a new level of information relations.

Each of the stages in the roadmap can vary according to the needs and requirements of the business.

At each stage, it is necessary to evaluate the result and only after recognizing it satisfactory to move to a new stage. The model of «cascade» and «web» is implemented in roadmap.

The first model allows managing all processes gradually during the development and implementation stages. The model «web» involves establishing close links between processes in all subsystems of the enterprise, which allows us to form a complex system of relationships and bring information management to a qualitatively new level.

Road map of information transformation is intended for measurement, calculation, formation, processing, transmission and storage of information about: current indicators of business processes; maximum allowable values of parameters in accordance with business goals and strategies; planned indicators in accordance with the set of decisions as a unity of capabilities, potential, risks and the originally chosen development strategy; generalized reporting indicators of the enterprise; data for objective decision-making. Roadmap of information transformation covers information and communication connections of all processes of enterprise activity.

With the help of the roadmap, the information provision of management process is developed in accordance with the distinctive features of the enterprise, the general tendencies of its development and the external context that providing the expected competitive advantages.

Conclusions

Thus, a theoretical research is carried out in the article and the scientific task of developing an innovative project of organization of information and analytical provision for sustainable business development is solved. For this purpose, proposals for the development of information management with increasing the efficiency of information processes concerning the proposal of optimal data for the system of sustainable business development were formed.

The map of the description of the development of the organizational system of the enterprise is proposed, on the basis of which a view on the enterprise is formed as an open socio-economic system with a complex mechanism of interconnections and integration of elements of the internal and external environment. The map of enterprise development is based on the principle of conformity (congruence) of organizational behavior, which explains interconnections between subsystems of the enterprise – changes in one subsystem affect the changes in all the constituent elements of the enterprise. The roadmap is proposed for activation (initialization), designing and integration of information processes for their combination with the general model of business development as a single information system, which provides all subsystems of the enterprise with integration with the external environment.

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CONCEPTS, FEATURES AND PRINCIPLES OF THE LOCAL BUDGETARY PROCESS IN UKRAINE



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Abstract. This article considers the concept, features, and principles of the budget process at the local level in Ukraine, characterizes the radical changes taking place in socio-economic life and financial activity, puts an issue of the new development of administrative and legal regulation of the budget process on the agenda. It shows that the socio-economic essence of the budget lies in the fact that it is the most important means of distribution and redistribution of funds between the production and non-production sectors.

Budget relations reflect the distribution and control function of finance. It is determined that a budget is a form of organization of the movement of financial resources. Budgeting is a form of organizing the movement of funds. Thus, the budget as an economic category is a set of social relations in the formation, distribution and use of a centralized monetary resource at the level of the state and local self-government bodies necessary for the state and local self-government to fulfil their tasks and functions. Budget legislation establishes the basic principles of the budget process, in particular, the principles of sustainability, unity, feasibility, efficiency, and effectiveness, subsidiarity, targeted use of budget funds; justice and impartiality; publicity and transparency.

Compliance with budget legislation, auditing and evaluating the effectiveness of budget management in accordance with the law are monitored at all stages of the budgeting process. Participants of the budget process are bodies, institutions, and officials vested with budgetary powers (rights and responsibilities for managing budgetary funds).

Keywords: *budget, budget process, Budget Code of Ukraine, budget system, principles of the budget process, stages of the budget process.*

Introduction

In modern conditions of reforms taking place in Ukraine, there is an urgent need for financial support of organizational and managerial activities aimed at fulfillment tasks and functions defined by the Constitution of Ukraine. The necessary funds are allocated from budgets, being centralized funds of financial resources. Effective financial management of the state budget and local budgets is a prerequisite for introducing the necessary reforms in the state, as well as for ensuring sustainable economic growth of the whole country and its individual regions. This necessitates additional studies of the budget process at the local level in Ukraine.

Literature review.

Radical changes taking place in the socio-economic life of Ukraine in particular in its financial system put the issue of a new development of administrative and legal regulation of the budget process on the agenda. That is why such scientists as O. Bandurka, O. Bandurka, O. Getmayets, O. Kyrylenko, N. Kucheryavenko, V. Melnyk, S. Petkov, S. Popova, L. Savchenko,

S. Simovyan, and others have devoted their works to the issue of the budget process development. However, many issues associated with the further development of the budget process at the local level remain unresolved.

Research methodology.

The methodological basis of the study is a set of general and special methods and techniques of scientific knowledge.

With the help of the logical-semantic method, the method of convergence from the abstract to the concrete, the conceptual apparatus of the budget process is deepened. The statistical method was used in the study and analysis of information on budgeting at the local level, budget indicators, identifying patterns of successful implementation of budget development. The theoretical and prognostic method was used to provide proposals for changes in the legislation of Ukraine, in particular to the Budget Code of Ukraine, to improve the categorical apparatus of budget law.

The purpose of this article is defining the concept of the budget process and determining its features at the local level, studying the principles of the budget process and analyzing the budget legislation of Ukraine.

Research results.

In order to understand the concept of the budget process fully, it is necessary to define and characterize the terms "budget" and "process" separately. The concept of "**budget**" in educational and scientific literature is usually used as a material, economic and legal category. From a material point of view, the budget is a centralized monetary resource (for a state or local self-government body of a certain region), which is used to ensure the performance of their functions.

The socio-economic nature of the budget lies in the fact that it is the most important means of allocating and redistributing funds between the production and non-productive sectors. The budgetary relations reflect the distribution and control functions of finance. Allocating budgetary resources between production and non-productive sectors (in the process of receiving and using funds), the **budget** serves as a means of controlling these processes, as well as the functioning of finance in general. Budgeting is a form of organizing the movement of funds. Thus, the budget as an economic category is a set of social relations in the formation, distribution and use of a centralized monetary resource at the level of the state and local self-government bodies necessary for the state and local self-government to fulfill their tasks and functions.

All relations that arise in the field of mobilization, distribution and use of budget funds are governed by budgetary and legal

(as a type of financial and legal) rules. The material support of state functions carried out with the help of the state budget is of great importance, therefore only the Verkhovna Rada of Ukraine approves it in the form of the law provided for by Article 92 of the Constitution of Ukraine, and local budgets are approved by the relevant acts of local councils. Thus, the budget as a legal category is a law of Ukraine, adopted by the only legislative body the Verkhovna Rada of Ukraine, and locally - by local authorities, which approve the main financial plans for the formation and use of funds for the state as a whole or for individual regions (Rol, Sergienko and Popova, 2011, p. 87 – 88).

The word "process" (from Latin *processio* - movement; *procedo* - passage) should be understood as an official order of actions, performance, discussion of something, as a course, development of a phenomenon, a successive change of state in the development of something (Rol, Sergienko & Popova, 2011, p. 112).

There are many points of view regarding the nature and content of the budget process. But most scientists, focusing on Article 2 of the Budget Code of Ukraine, define the budget process as a process regulated by budget legislation and aimed at drawing up, reviewing, approving, executing budgets and reporting on their execution, as well as monitoring compliance with the budget legislation (Budget Code of Ukraine dated July 8, 2010 No. 2456-VI).

Budgeting should be carried out by the competent authorities and within the specified deadlines established by law. Failure to meet the deadlines is a threat of non-preparation of the law on the State Budget of Ukraine before the start of the new budget period established by the Constitution of Ukraine. In a legal state, a new budget period, as indicated in the Constitution of Ukraine, should begin on January 1 and end on December 31 of the same year, and all expenses that inevitably involve the functioning of the state should be financed from the new budget approved by the Law on the State Budget of Ukraine in the amount established by this law.

It should be remembered that the budget of the state or local self-government body would become effective only after the adoption of the law or decision by the relevant representative bodies - the Verkhovna Rada of Ukraine or local councils. Neither the budget

nor the relevant act approving statutory revenue and expenditure metrics is legally binding before such approval (Rol, Sergienko and Popova, 2011, p. 112).

In fact, the Budget Code of Ukraine stipulates that budget legislation consists of the following:

- The Constitution of Ukraine
- The Budget Code of Ukraine
- The Law on the State Budget of Ukraine
- Other laws governing budgetary relations
- Normative legal acts of the Cabinet of Ministers adopted on the basis of and pursuant to the Budget Code of Ukraine and other laws
- Normative legal acts of executive bodies adopted on the basis of and pursuant to the Budget Code of Ukraine, other laws of Ukraine and normative legal acts of the Cabinet of Ministers of Ukraine
- Decisions on the local budget
- Decisions of bodies of the Autonomous Republic of Crimea, local state administrations, and local authorities adopted in accordance with the Budget Code of Ukraine, and normative legal acts specified in the Budget Code of Ukraine.

If other normative legal acts determine budget relations in Ukraine differently than in the Budget Code of Ukraine, the relevant norms of the Code shall be applied (Budget Code of Ukraine dated July 8, 2010 No. 2456-VI.).

The Budget Code of Ukraine determines the structure of the budget system. The budget system of Ukraine consists of state and local budgets.

Local budgets are the budget of the Autonomous Republic of Crimea, regional, district and local government budgets.

As local budgets are an integral part of the budget system, the budget process at the local level is the budgetary legal relations regarding the formation and use of financial resources to ensure the functions and powers of state authorities, authorities of the Autonomous Republic of Crimea, local authorities during the budget period (Zhihar and Kyrylenko, 2016).

The entire budget process is divided into certain stages, that is, stages of activity resulting in new qualities of the budget.

There are several statements about the number of stages in the implementation of budget activities in scientific literature. Article

19 of the Budget Code of Ukraine establishes **four stages of the budget process**:

- 1) Preparation of draft budgets
- 2) Consideration of the draft and adoption of the law on the State budget of Ukraine (decision on the local budget)
- 3) Budget execution, including amendments to the law on the State Budget of Ukraine (decision on the local budget)
- 4) Preparation and consideration of the report on the budget execution and relevant decision-making (Budget Code of Ukraine dated July 8, 2010 No. 2456-VI.).

Compliance with budget legislation, auditing and evaluating the effectiveness of budget management in accordance with the law are monitored at all stages of the budgeting process.

Participants of the budget process are bodies, institutions, and officials vested with budgetary powers (rights and responsibilities for managing budgetary funds) (Budget Code of Ukraine dated July 8, 2010 No. 2456-VI.).

Certain scientists, in particular O. B. Zhikhar, O.P. Kyrylenko, referring to the Budget Code of Ukraine, define ten principles determining the basic, initial provisions and rules of activity of participants in budget relations. All principles are interrelated, regulating budget relations and the activities of participants in the budget process at both the state and local levels. Compliance with these principles determines the effectiveness of the budget process at all levels. The authors distinguish the following principles on which the budget system of Ukraine is based: principles of unity, sustainability, independence, completeness, feasibility, efficiency and effectiveness, subsidiarity; targeted use of budget funds; justice and impartiality; publicity and transparency (Zhihar and Kyrylenko, 2016).

In particular, the principle of unity determines the unity of the legal framework, the existence of a unified monetary system, a unified regulation of budget relations, a unified budget classification, a unified order of budget execution, accounting and reporting. The unity of regulation of budgetary relations provides for a single basis for the financial activities of the state and local authorities and local self-government bodies within the framework of the current legislation

In accordance with the principle of independence, the budget process, which is carried out at the local level, is a separate

relatively independent component of the national budget process, carried out on the basis of the priorities of the respective territorial community. The budget process is an integral part of the budget policy of local authorities and local self-government bodies.

As the budget process at the local level is closely related to the state budget process, the degree of interdependence determines the degree of financial decentralization of the respective regions. According to legal norms, Ukraine has created conditions for an independent and free-standing budget process at the local level. However, these opportunities remain practically unrealized for the following main reasons:

- Excessive centralization of the budget system of Ukraine
- Instability of the domestic regulatory framework
- Attribution to the competence of local authorities of the powers to carry out public expenditures without providing them with the necessary sources of financing, that is, the existence of so-called "unfunded mandates"
- Insufficient level of tax autonomy of local self-government bodies;
- Insignificant fiscal role of local taxes and fees;
- High level of dependence of local budgets on transfers from the state budget
- Introduction of treasury services to local budgets in a form that significantly limits the ability of local self-government bodies to manage budget funds, etc. (Kyrylenko, 2006).

Authors such as V.F. Rol, V.D. Sergienko, S.M. Popova note that the principles of the budget system of Ukraine established by the Budget Code of Ukraine are definitely the principles of the budget process, however, the budget process has its own principles, in the absence of which its existence in a modern state would be impossible (Zhihar and Kyrylenko, 2016, p. 113).

All stages of the budget process are based on uniform principles **of budget activity organization** and have the corresponding legal regulation. The rules for the preparation and execution of budgets are approved in the manner prescribed by the Cabinet of Ministers of Ukraine. They should fully display revenues and expenses of budgets. Their offsetting and compensation are prohibited, except for the exceptions defined in the laws of Ukraine.

Moreover, the transfer of budget funds from one budget to another budget of the same level is prohibited (Zhihar and Kyrylenko, 2016, p. 113).

An important point in the budget process is the **principle of separation of powers** between the Verkhovna Rada of Ukraine, the Verkhovna Rada of the ARC, state authorities and local self-government bodies. This principle means that each body that takes part in the budget process has a certain limited competence. The intervention of other bodies and organizations in the process of drafting, approval, and execution of the budget is not allowed, except as specified in the law (Zhihar and Kyrylenko, 2016, p. 114).

The principles of the budget process include the principles of **publicity and openness**. The Budget Code of Ukraine combines the principle of publicity with the principle of **transparency**. It is believed that the principle of openness is wider and includes transparency. The principle of openness involves the obligatory discussion of budget materials at any level by representative bodies. This principle is adhered to with respect to the state budget, however, at lower-level budgets, it is not always implemented. As for the observance of the principle of publicity and transparency, they are identified with the principle of visibility (Zhihar and Kyrylenko, 2016, p. 114).

At all stages of the budget process, the principle of **specialization of indicators of budget revenues and expenditures** at any level is used. It is implemented using budget classification. A budget classification consists of four parts:

- 1) Classification of budget revenues
- 2) Classification of expenses (including lending minus repayment) of the budget
- 3) Classification of budget financing
- 4) Debt classification (Budget Code of Ukraine dated July 8, 2010 No. 2456-VI.; Zhihar and Kyrylenko, 2016, p. 115).

In addition to the above, a number of authors highlight such principles that serve as the basis of the budget process. They are a feasibility of introducing revenue and expenditure indicators into the budget; **visibility**, that is, the reflection of budget indicators in conjunction with general economic indicators in Ukraine and abroad by using means of maximum information content of the results of a comparative analysis, determining the pace and proportions of

economic development; as well as comparability, which lies in the systematization and functional grouping of budget revenues and expenditures according to certain criteria that allow for national and international comparison of budget data. The above list of principles cannot be considered as exhaustive (Zhihar and Kyrylenko, 2016, p. 116).

S. Melnyk, I. Scherbyna, J. Hansen recognize the following main principles of the budget process:

- Setting common goals for decision making
- Developing approaches to achieve goals
- Developing budget, which is consistent with approaches to achieving goals. It is necessary to formulate and approve a budget that will ensure the achievement of these goals, despite the limitation of available resources
- Evaluating the effectiveness and changes to the financial plan. A financial plan must be constantly evaluated and amended in order to achieve certain goals (Zhihar and Kyrylenko, 2016; Melnyk, and others 2002).

It should be noted that the budget process often does not coincide with the budget period, because it is a long-term process that covers a period of more than two years. The budget process is a national scale procedure and has political, managerial, planning, communication, and financial dimensions. An effective budget process has the following important features:

- Includes a long-term perspective
- Establishes a connection with general organizational goals
- Focuses on results and consequences for budget decisions
- Includes and encourages effective dialogue with interested parties
- Stimulates entities to make the right decisions (Melnyk, and others 2002).

The scientific literature defines the concept of the budget cycle in terms of timing. The budget cycle covers the period of the budget process, which lasts more than two years and ensures the implementation of all four stages of the budget process.

In accordance with international standards, one of the important means of successful budgeting is:

- Analysis of indicators of the previous budget period

- Management of the budget process of the current year
- Preparation of the budget for the next year (Zhihar and Kyrylenko, 2016).

According to the Constitution of Ukraine, the budget period for the State budget of Ukraine in special circumstances may be different. Given the unity of the budget system of Ukraine and the provisions of the Budget Code, the same may be applied to the local budgets.

Special circumstances when the State Budget of Ukraine and local budgets can be approved for another budget period involve the introduction of martial law and the state of emergency in Ukraine (Zhihar, Kyrylenko, 2016).

On September 14, 2018, the Cabinet of Ministers of Ukraine approved and transferred to the Verkhovna Rada of Ukraine a draft budget for 2019. It provides for a reduction in the costs of maintaining the executive and legislative branches of Ukraine: the Administration of the President of Ukraine, the Cabinet of Ministers of Ukraine and the Verkhovna Rada of Ukraine.

In the budget for 2019, the government laid down an increase in health care sector financing by almost one and a half times - by 41% compared to 2018. In total, it is proposed to allocate UAH 37.3 billion for the health care sector, 15.3 of which - for the provision of primary medical care. In particular, the government proposes to increase expenditures for these purposes by almost twice. The government allocated exactly as much as in 2018 (UAH 389.9 million) for the treatment of citizens abroad.

The total education expenditures proposed by the government in the draft budget for 2019 should increase by 19% and amount to UAH 378 billion. The lion's share falls to the academic scholarships for students (UAH 3.4 billion). In general, the amount of funding for scholarships in 2019 should grow by 7% compared to 2018; however, compared with 2017, the costs of scholarships will decrease by 15%.

The government proposes the most increase in expenses for the maintenance of military and security services of the executive branch. In particular, it is planned to spend a quarter more than in 2018 (UAH 82.3 billion) on the Ministry of Internal Affairs. The government provides for UAH 101.4 billion for defence.

At the same time, the costs of maintaining new anti-corruption institutions (NABU, National Anti-Corruption Agency, and the Anti-Corruption Court) are 24 times less than the costs of maintaining the GPU police and the security Service of Ukraine and almost six times less than the costs of maintaining the tax authorities.

The government plans to allocate UAH 177.4 billion to the social sphere, which is UAH 27 billion more than in 2018. The lion's share of social spending is covering the deficit

of an unprofitable pension fund. The government will allocate UAH 166 billion for this rose, which is 20% more than in 2018.

In addition, the government plans to reduce the cost of subsidies for housing and communal services to the population by UAH 16 billion (more than 20%) compared to 2018. At the same time, it is noted that in the near future gas tariffs for household consumers in Ukraine will increase, as it is a key IMF requirement for Ukraine to provide another tranche (Vinokurov Ya., 2018).

Conclusions

A system of effective financial management of the state budget and local budgets is an essential condition for carrying out the necessary reforms in the state, as well as for ensuring sustainable economic growth of the whole country and its individual regions. The budget process at the local level is a procedure for ensuring the socio-economic development of a separate administrative-territorial unit of the state and is regulated by administrative and legal norms.

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THE IMPACT OF INCOME INEQUALITY ON ECONOMIC GROWTH: LITHUANIAN CASE



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JEL Classification: E64, F43, O47.

Abstract. Income inequality has a profound impact on both microeconomics and macroeconomics. According to the data of *Oxfam*, only 62 people around the world own as much wealth as the world's 3.5 billion poorest people. Many of the various problems that occur in urban or rural areas are identified as side effects that can be *positive* or *negative*. Importantly, a negative side effect can affect the economy by reducing or slowing its growth. Comparing the Gross Domestic Product (GDP) per capita in Lithuania in 2010 with the third quarter of 2019 it can be noticed that the average GDP has increased by 1.959 times. Economic growth in Lithuania is evident, however demographic problems have persisted not only in Lithuania but worldwide.

Keywords: *income inequality, economic growth.*

Introduction

Economic growth is one of the most important tasks and goals in every country, in order to improve the standard of living of the population and to ensure the well-being of the whole country. One of the most important components of the economy is income, which is often unequal between countries and regions. Income inequality affects both microeconomics and macroeconomics. Income differentiation breaks down societies, creates tension between cities and regions, and threatens sustainable economic growth and well-being of the population. One of the consequences of income

inequality may be the unsustainable development of economic growth. Having analysed the impact of income inequality on the economy and its growth the real threats to the economy can be assessed. The purpose of this chapter is to discuss the importance and impact of income inequality on economic growth, to review factors that reduce economic growth and to provide a method to assess the impact of income inequality on economic growth in Lithuania.

The Importance of Income Inequality for Economic Growth. The global economy has grown tremendously over the last 30 years, but it still lacks equality. The greatest inequalities are found among the richest and poorest people in the world. According to *Oxfam*, only 62 people around the world own as much wealth as the world's 3.5 billion poorest people. 1 per cent of the wealthiest American population receives nearly a quarter of the nation's income each year [1]. The author states that this inequality between the richest and the rest of the society exists because the aforementioned 1 per cent of the country's population is seeking for it. These figures show that income inequality in the world is extremely high and has become a global problem. The World's poorest countries are found in the African continent, in some parts of the South American continent and in the southern Asia. The richest countries are in North America, Western Europe and in some parts of the Asian continent [2].

Gross domestic product (GDP) per capita is an indicator that helps to objectively assess the economic situation in a country, level and situation of the state, as well as perfectly reflects the economic development of the economy. As it can be seen in Figure 1, the global GDP indicator is extremely contrasting. The United States (USA) and China are the leading countries in terms of GDP, with more than \$13 million. The second-ranked countries such as France or Germany have more than twice smaller gross domestic product (GDP) index, which appears from 2.5 million up to 5 million US dollars. The countries in the South America, most of the African continent and a large part of the European continent hold the lowest position in the world. According to *Reddit.com* data, Lithuania ranks among the countries with the lowest GDP, which is less than 50,000 US dollars.

Since 2010 gross domestic product in Lithuania has increased slightly but steadily (see Figure 1). Comparing 2010, when the average GDP per capita was less than 2.5 thousand EUR with the third quarter of 2019, the average GDP increased by 1.959 times [3,4].

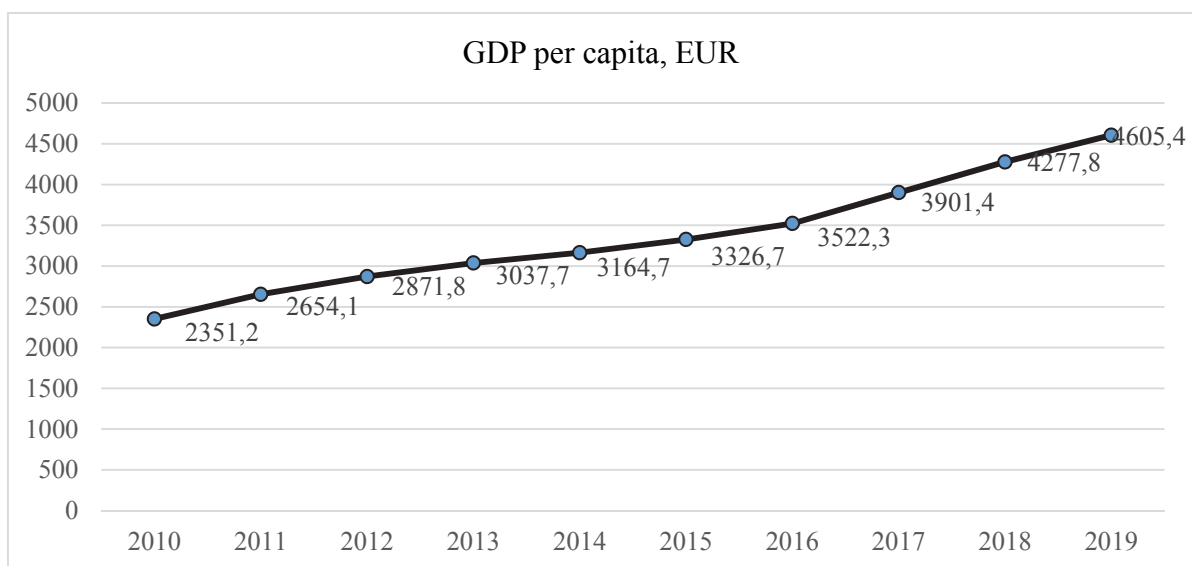


Figure 1. Gross Domestic Product per Capita in Lithuania at Current Prices

Although economic growth is obvious in Lithuania, demographic problems remain both in Lithuania and worldwide. One of the biggest problems in Lithuanian is emigration unemployment. The majority of working-age citizens emigrate from Lithuania for one reason or another. The number of employed people is particularly important in economic terms. The more people are employed, the greater the country's population contributes to the country's economic prosperity (GDP). The

population of Lithuania is constantly decreasing and this indicator influences on the number of employed people change (see Table 1).

Table 1.

Population and Working Population in Lithuania

Indicator/ year	2010	2012	2014	2016	2018	2019	2020
Population,	3 141 976	3 003 641	2 943 472	2 888 558	2 808 901	2 794 184	2 794 329
Working population, thousands.	1 541,5	1 462,0	1 470,2	1 470,4	1 463,4	1466,9	-

As Table 1 shows, the population has been falling steadily over the last decade. In 2010, the number of people living in Lithuania was over 3 million, while in 2020 the number of inhabitants decreased to 2 794 329. Similar indicators can be seen in the working-age population as well. Although the population of working age increased in 2012 - 2016, however the result - in 2019 - the number of employed was almost 100 thousand lower compared to 2010, and the number of working citizens in Lithuania made only 49 per cent of the total population of Lithuania [5].

The economy and its growth are more or less affected by various environmental factors: population, number of working people, number of educated people, birth rate, etc. Various socio-demographic variables influence the size and differentiation of personal income and it is therefore important to consider income and *income inequality* when assessing economic growth.

Income is one of the most important components of the economy. At the Economic Conference in October 2017, Vitas Vasiliauskas, Chairman of the Board of the Bank of Lithuania, expressed his views on the Lithuanian economy, its growth and income. Although the economy has been growing recently, the benefits of the growth are certainly not felt by the entire population, income disparities have widened, which could have a severe impact on the country's future economic development [6]. The problem is identified in the country, when the indicator exceeds 30 per cent, while in Lithuania the income inequality indicator is constantly increasing and in 2014 even reached 35 per cent.

The Gini coefficient is the most widely used in the world when measuring income inequality. As it can be seen in Figure 2 [7], according to the Gini coefficient, income inequality is among all the compared countries.

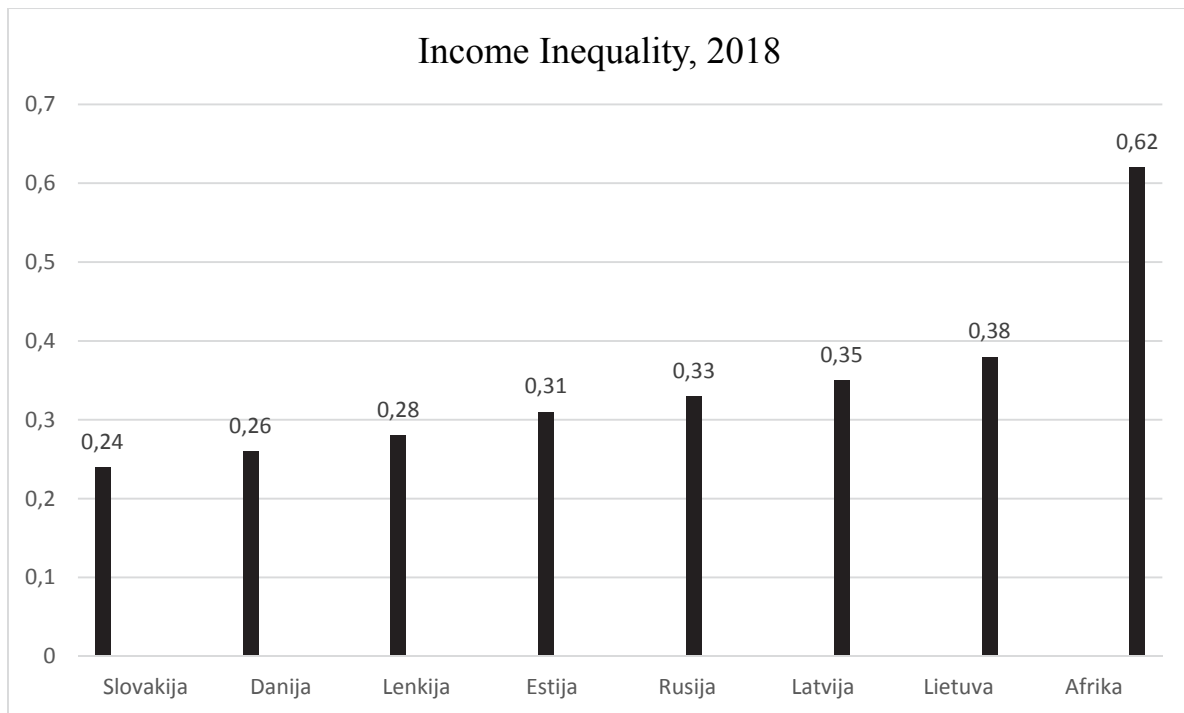


Figure 2. World Income Inequality Expressed by the Gini Coefficient

South Africa is ranked the first, with a coefficient of 0.62. The lowest income inequality of 0.24 is recorded in Slovakia. In Lithuania the Gini coefficient reaches almost 0.4.

Economics is a term that summarizes all social, demographic, financial and other changes taking place in the world. Every indicator and its change more or less affects the economy and changes its situation in the country. The economy and its level are best reflected by gross domestic product (GDP), which has almost doubled in Lithuania since 2010, but during this time the emigration rates have been increasing (population rate has decreased in Lithuania) and the number of employed people has been decreasing, what are some of the main factors influencing on the income, its size and inequality in the country [7].

The Impact of Income Inequality on Economic Growth in Different Regions of Lithuania.

The main function of income is to satisfy one's own or other people's various material needs, so the amount of income they receive will be spent on *personal consumption* (to meet both necessary and non-essential needs), and what portion of the income will be allocated to *savings*. Residents do not spend all their income on consumption. Frequently citizens save part of their income for the future, hoping to use it in the future. The purpose of savings can also be interpreted as raising money to meet future needs [8]. However, it can be concluded that the more a person gets income, the greater its share becomes expenditure.

Household expenditure is considered to be a crucial economic variable. These costs allow defining the overall economic level and well-being of the world, country or region. Household expenditure has an impact on the aggregate demand, which includes government, investment and consumption expenditures and is the most significant in terms of aggregate demand [9].

It is noticed that the level of consumer spending depends on the amount of income they receive, so it is necessary to pay attention to what income may be in Lithuania and what income inequality prevails.

Household income can be divided into several groups. Received income can be divided into income from *self-employment*, *employment and social benefits*. The difference between income from self-employment and employment is that income from self-employment directly depends on the level of profits. Otherwise, this income is referred to as the result of self-employment. Employment income includes salaries, holiday pay, overtime bonuses, allowances, daily subsistence allowances. Social benefits – it's a group of income that includes pensions and benefits, sickness benefits, unemployment benefits, and other social benefits.

Income can be divided into the following larger groups (see Figure 3).

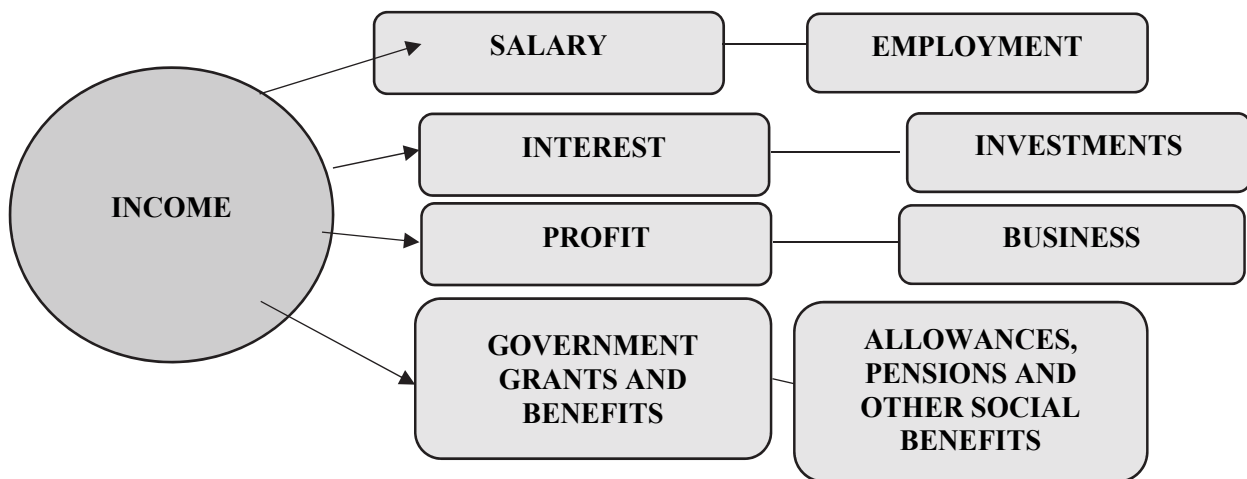


Figure 3. Income Groups

The Figure 3 shows the main income groups: wages, interest, profits and government benefits (grants and social benefits). The group – self-employment work - submitted by the Department of Statistics of Lithuania is divided into even smaller groups: interest and profit [10]. These income groups are not equal, often wages and social income constitute the major part of income. Household income composition rates differ in the ten analyzed regions of Lithuania (see Figure 4) [11].

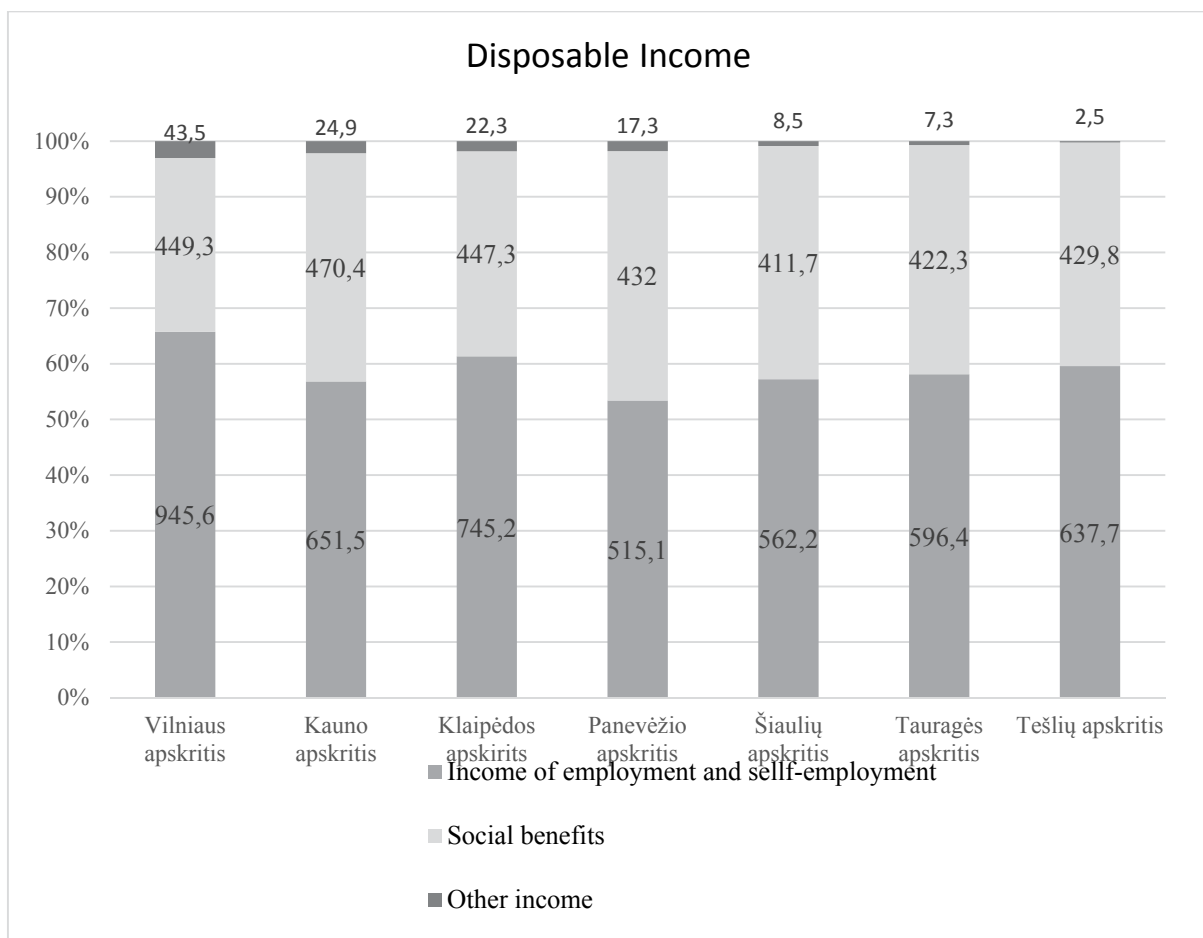


Figure 4. Composition of Disposable Income by Regions of Lithuania

As shown in the figure, wages account for the largest share of income. This indicates that the bulk of the household income is derived from paid employment. The largest part of salary income is in Vilnius County, which amounts to EUR 809.8. This group in Taurage County has the lowest income. Comparing the size of Taurage County and the Lithuanian capital - Vilnius County, the income differs 2.4 times. It is also important to note that people living in Taurage County have the main source of livelihood - social benefits amounting to EUR 422.3.

Summarizing the data in the figure, it can be concluded that wage income is the most important group in Lithuania, and therefore the size and inequality of this income draw attention and concern. It is important to consider that the territory of the Lithuanian state is not large in global terms, but income inequality, and especially wage inequality among the Lithuanian regions is quite large (see Figure 5).

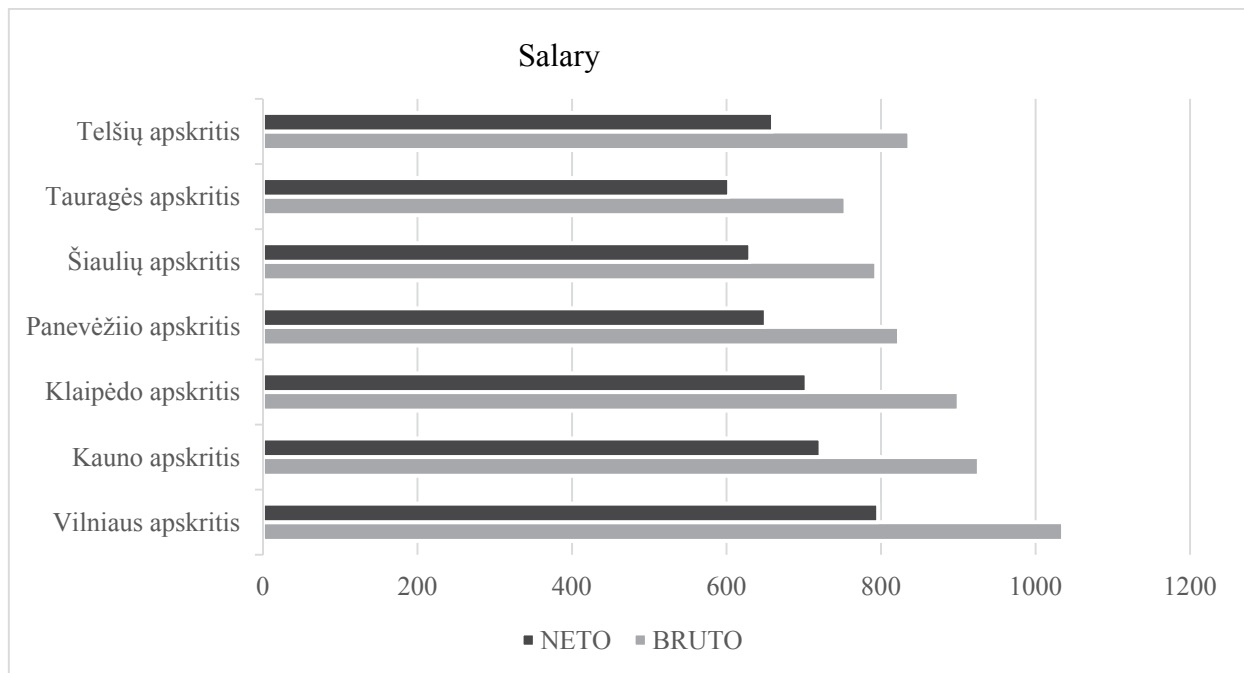


Figure 5. Neto and Bruto Gross Earnings in Lithuanian Regions, EUR

The numbers in the figure show that the highest gross earnings before tax are in Vilnius County. Vilnius County is the only county with a salary of over EUR 1000 and a total of EUR 1035.5. Lithuania's provisional capital, Kaunas, is not far behind - the salary in its county amounts to EUR 926.6. The minimum gross wage in Taurage County is EUR 754 - and behind Vilnius County it is EUR 281.5. Household income, its size and inequality can influence the economy and its growth in Lithuania, therefore it is important to look at whether the economic situation and its growth in the regions of Lithuania have common links with the size of income.

According to the data of Statistics Lithuania, all counties can be ranked in descending order of economic indicators. Vilnius County ranks first in terms of average wage and GDP. In second and third places are Kaunas and Klaipeda County. Telsiai, Panevezys and Siauliai counties share fourth to sixth places. According to the wages and GDP data provided by the Lithuanian Department of Statistics, Taurage region occupies the last place in the regions of Lithuania, with a GDP ratio of less than 2.6 times and a gross wage rate of 1.37 times.

Income, its composition and size are crucial components of the economy, potentially affecting overall economic growth. Statistics Lithuania provides data showing not only the differentiation between income levels, but also differences in the economy comparing regions of Lithuania. The existing income inequality between counties and the corresponding economic differentiation (gross domestic product) confirm that income and inequality between them can be linked to the economy upon which the growth of the whole economy depends on.

Factors Preventing Economic Growth. Various economic analyzes are extensively described and analyzed in various scientific literature. Economic growth is driven by a variety of environmental

factors that can accelerate or slow down economic growth. The focus is on various phenomena that have a negative impact on economic growth. The literature analyzes the problems, their effects and attempts to find possible solutions to reduce or even eliminate the influence of negative factors on economic growth.

Many of the various problems that occur in Lithuania are identified as secondary factors, which are categorized as *positive* or *negative*. Importantly, every negative factor can affect the economy by dampening its growth. Factors that slow down economic growth may be different, but in most of the countries these particular factors are distinguished (see figure 6).

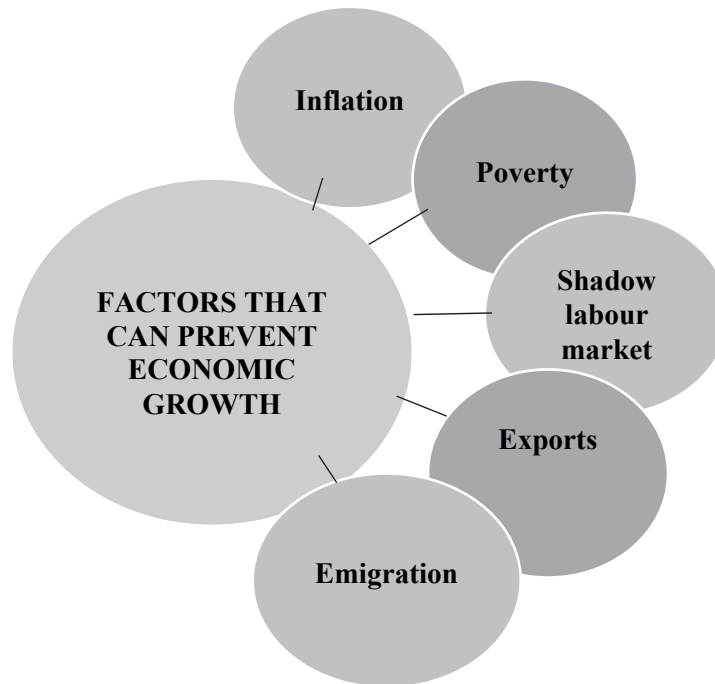


Figure 6. Factors Preventing Economic Growth.

Inflation. Inflation is described as a social and economic problem that has as much impact on the national economy as unemployment. Economists agree that the consequences of inflation often depend on its pace and preparation. The unexpected consequences of inflation for the economy are severe: they redistribute income and wealth between different economic entities and different population groups. Firstly, income is redistributed between borrowers and lenders. Secondly, unexpected inflation helps to gain wealth from land, as prices rise significantly. A much more pronounced and painful consequence of inflation is the fall in wages, which leads to a fall in household income and a negative trend in living standards, which can lead to poverty.

Poverty. Poverty occurs only over the particular circumstances. Often these circumstances are unemployment, low income or inflation. Although poverty is considered to be a 21st century problem, it still prevails in the world before the third millennium. Poverty indicators in the country help to estimate the income of the population, which determines the size of the country's GDP.

Table 2.

Poverty Rate in Lithuania, per cent					
	2013	2014	2015	2016	2017
City and village	30,8	27,3	29,3	30,1	29,6
City	25,9	24,9	36,7	25,2	24,7
Big cities	23,8	22,2	22,5	21,3	19,8
Village	40,8	32,2	34,9	40,4	39,5

Table 2 shows that while poverty in all areas of Lithuania is decreasing between 2013 and 2017, its level is still high. The percentage of people living in poverty or social exclusion has a major impact on the country's economy and economic growth. It is the extent of poverty and inadequate income that can lead to the emergence and prosperity of the shadow labor market or emigration.

Shadow labor market. One of the main goals of every person is income. Often people agree to work for partially hidden wages, to contribute to corporate tax evasion. Secret income is not accounted for, the state tax is not paid, so this way of generating income and related activities is called the *shadow economy*. It is an activity that adds to the gross value of the product being produced in the country, but is not included in any national reports and is not reflected anywhere in GDP calculations (Jakutis et al., 2016). The existing shadow helps entrepreneurs and employees avoid paying taxes or minimizing them, thereby generating higher incomes. The result of this shadow labor market is the creation of the shadow economy's GDP that is nowhere officially declared [12].

Emigration. Emigration is one of the biggest social problems in Lithuania, which has a direct impact on the overall economic growth of the country. Although most emigrants are working and experienced people who leave abroad because of the potentially higher income, young people are also increasingly emigrating. Young people emigrate not only after completing their higher education, they often choose to study in another country where they often stay. This public behavior affects the country's demographic situation, reduces labor resources, weakens labor market characteristics and strengthens the aging population in Lithuania. The assessment of migration is contradictory: while emigration lowers unemployment, it also causes the state to lose its workforce, which contributes to unbalanced wage volatility, which increases income inequality. By choosing to work in a foreign country, residents also choose to pay taxes and contribute to the economic growth in the country where they live and work. Such an increase in emigration not only leads to population decline, but also affects domestic demand and reduces GDP.

The economy is affected by many factors. Some of them have a negative impact and lead to a weakening of the economy. Each factor more or less affects the economy and its growth rate. Various factors also influence each other's change, fluctuation. It can be argued that the economy and its growth depend not only on financial indicators, but also on social, demographic or psychological factors.

Conclusions

The world economy is growing steadily, and a particularly marked change in the economy has been seen over the last thirty years, with the boom in industry, people's incomes and people's wealth. While noticeable changes in the economy are moving in the right direction, there is still a significant global problem, the great inequality between the richest and poorest people in the world. Income earned by the population is one of the most important components of the economy, so economists pay a lot of attention to income inequality resulting from various environmental factors, such as the ratio of population to employment, emigration, education, expectations and so on. World income inequality is measured by the Gini coefficient, which increases to reflect the increase in income inequality. Applying the Gini coefficient to the analysis of various economic data helps to evaluate the existing income inequality in the analyzed area.

Household income can be divided into several groups: income from self-employment, employment and social benefits. By comparing the amounts of named income, it is possible to determine the current income inequality between regions. The largest part of income is made up of wages, which is the highest in Vilnius County and the lowest in Taurage County. The difference between these counties is even 2.4 times. Such unequal distribution of income in Lithuania records the existence of income inequality. The regions of Lithuania are similarly distributed in comparing GDP figures. The highest GDP is in Vilnius County and the lowest is in Taurage region. The uneven distribution of income between counties has a negative impact on the size of GDP and its growth. The data provided by Statistics Lithuania clearly reflects the existing income inequality and significant differences across the economy in comparing the Lithuanian counties. The existing income inequality in the counties and the corresponding differentiation of gross domestic product confirm that income and its inequality can be linked to the economy, which not only affects the regional economy, but also the growth and welfare of the whole country.

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ACCOUNTING AND ECONOMIC ASPECTS OF THE CALCULATION OF THE INTEGRATED ASSESSMENT INDEX OF OUTSOURCING COMPANIES



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Abstract. Every day, businesses are increasingly using the services of a third-party firm, earning a profit by reducing the cost of maintaining bookkeeping and obtaining better accounting services. The volume of services that outsourcing firms can provide is limited only by the financial capacity of the customer. The preconditions for the introduction of outsourcing in Ukraine and the problem points while delegating the accounting functions to the outsourcing company, which hinder its rapid development, are determined.

The purpose of the study is to study the conceptual bases of accounting outsourcing, substantiation of accounting and economic aspects of the calculation of the integrated assessment index of outsourcing companies and features of its practical implementation by Ukrainian enterprises.

The framing for theoretical approaches to the implementation of accounting outsourcing to state-sponsored units for increased performance and efficiency of functioning have been outlined; the multiplicative method of calculating the integrated assessment index due to the involvement of the qualification ratio of the outsourcing company in the calculation has been improved; the toolkit of the integrated assessment index of outsourcing companies for the selecting the counterparty when concluding a contract on the accounting outsourcing services has been offered.

Keywords: *outsourcer, accounting outsourcing, economic effects, accounting, integrated assessment index of outsourcing companies, multiplicative technique, customer, financial reporting.*

Introduction

The accounting outsourcing market is growing rapidly. Every day, businesses are increasingly using the services of a third-party firm, earning a profit by reducing the cost of maintaining bookkeeping and obtaining better accounting services. The volume of services that outsourcing firms can provide is limited only by the financial capacity of the customer. The range of services of outsourcing firms is broadened: from the initial fixation of business operations to the complex organization of accounting process, preparation of financial, statistical and tax reporting, as well as the development of internal regulatory documentation of the company (accounting policy, other internal standards). The purpose of this process is to rationally use available resources and prioritize efforts on the main type of financial and economic activity. This gives grounds for stating the relevance of the studied topic under in today's realities.

Formulating the goals of the article. The purpose of the study is to study the conceptual bases of accounting outsourcing, substantiation of accounting and economic aspects of the calculation of the integrated assessment index of outsourcing companies and features of its practical implementation by Ukrainian enterprises.

Research methodology. The study used a set of general and special research methods: abstract-logical method (substantiating the accounting and economic aspects of calculating the integrated valuation of outsourcing companies), induction, deduction, observation method, functional-cost and statistical analysis (through the study of theoretical and methodological

principles of generating and implementation of accounting outsourcing in practice); index method (through the determining the proportion of each of the estimated figures); economic-mathematical (for the practical modeling of performance indicators), graphical (for visual display of the results obtained during the study), hierarchy (for the algorithm development for selecting outsourcers), etc.

Research results. The business activity involves daily solving of current problems: accounting, transportation of goods, use of software, etc. Most entrepreneurs hire specialists to carry out such operations, which involves considerable cash costs. Businesses are reluctant to retain employees not directly related to the main mission of the enterprise. Outsourcing can solve this task (Nazarenko & Surovytska, 2018).

Finding a conscientious outsourcer is extremely important. It is worth identifying three or five most suitable companies out of many. To do this, it is necessary to analyze the companies on the market today, paying special attention to the key factors: reputation, reliability, the experience of successfully implemented projects, positive user feedback, etc.

Another essential feature of the outsourcer is its quick adaptation to the characteristics and specifics of the enterprise.

The professional level of the employees of such a firm should be at a high level, as evidenced by available certificates and intermittent certification, advanced training, etc.

No business can do without an accounting unit. All firms, regardless of the organizational form, must submit timely reports to the supervisory authority. The accounting department must timely reflect business operations; provide senior management with the operational information needed for the decision-making. Only highly qualified, competent specialists who are indisputably good at specifics of the enterprise activity should be hired. If you hire an unskilled employee, the cost of such a decision can be quite high. For these reasons, more and more companies are turning to the possibility of outsourcing accounting services. Using such an opportunity frees the company from having to hire employees, check their professional level and competence.

Under the conditions of aggravating competition and raising demands for production quality, a necessity for more detailed and proficient information support of the management system is emerging. The required level of analyticity and sufficiency of information is ensured by proper organization of management accounting, which is aimed at its timely formation for the managers to make informed decisions in terms of resource conservation; fulfillment of contractual obligations, diagnostics of expediency of production expansion of certain types of products or its re-profiling, evaluation of profitability factors, etc. (Drobyazko, Shapovalova, Bielova, Nazarenko & Yunatskyi, 2019).

Deciding whether to use accounting outsourcing at your business is difficult for the owner or the manager. The latter should understand that, in the case of a positive decision, cooperation with the outsourcing firm should be of a long-term nature. Therefore, such a decision will be strategic.

When making decisions about the use of accounting outsourcing, the management should have a thorough grounding for its appropriateness. Over time, the effectiveness of outsourcing can change to a greater or lesser extent, influenced by external and internal factors. Management needs to determine the cost-effectiveness of accounting outsourcing to determine whether it is possible to benefit and save all resources from such collaboration.

A study of different authors' approaches made it clear that today there is no methodology to enumerate the economic effects of outsourcing. Some techniques are too time-consuming to calculate, others are rather simplified, general and they do not fully reflect all costs, while others do not clearly define the criteria for the calculation. In our opinion, it is advisable to use the equation proposed by L. O. Ligonenko and Yu. Yu. Frolova (2005). This model compares the cost of doing the business process on its own and the possible additional income with the total running costs and losses when buying this service of the outsourcer:

$$CD + PE_a = TC_a + CST_a \quad (1)$$

where CD is the cost of maintaining the business process on its own;

PE_a is potential extra income;

TC_a is total current expenses;

CST_a is the cost of purchasing a service from an outsourcing firm [3].

If the first part of the equation exceeds the second, outsourcing is appropriate for the enterprise.

Outsourcing firms offer consumers many options for collaboration, such as different options for sharing information and documents. It can be the information transfer through computer programs that can be outsourced specifically to each client, actual delivery by a courier, or transfer of information and documents to the outsourcing company via email, social networking, and telephone.

Some outsourcing firms develop their systems for everyday accounting in small and medium-sized businesses. Such developments are usually based on well-known accounting applications (which outsourcers use on a franchise basis) though significantly adapted to the needs of small and medium-sized businesses. In these systems, you can organize HR management, payroll, maintain cash and bank records, handle primary documentation, invoicing, control balances, prepare reports, and more.

Once it has been decided, which accounting areas are expedient to outsource, it is necessary to decide on which accounting outsourcing company to choose.

Under the modern complicated global socioeconomic conditions of enterprise, functioning the peculiar feature of its management is taking into account multicriteria that is realized while developing economic and mathematical models and is provided by these methods' potential. The expediency of this approach is proved by the practice of enterprise management based on the assessment of enterprise activity by means of the Balanced Scorecard system (Malyarets, Babenko, Nazarenko & Ryzhikova, 2019).

Today, several outsourcing selection models provide single or multi-criteria approaches. Accordingly, in single-criteria models, one parameter or metric is selected as the basis of the assessment, such as cash savings. Then the outsourcer is selected, which allows the company to save the maximum amount of money that is its services are the cheapest on the market. One type of single-criteria approach is a fuzzy method of the assessment of economic effects when performance indicators are given as intervals and not by a specific number, but by a certain interval (Liakhovych, 2017).

This method makes it possible to obtain more accurate results, since in actual situations, only the limits of the values of the analyzed indicator are known, therefore, the use of interval indicators can be justified in terms of ease of use.

However, a significant drawback of single-criteria methods is that single-criterion models do not take into account other features of potential outsourcers, such as the availability of specialized equipment and qualified personnel, market experience, a business reputation, and other characteristics that may most often have significant value.

The above-mentioned disadvantage is not typical for multi-criteria methods, where the integrated indicator Q , which is calculated by the additive (most often) or multiplicative method, is used for the evaluation of outsourcers. In the case of additive methods, the following formula is applied [2].

$$Q_j = \sum_{i=1}^n w_i K_{ij}, \text{ when } j \in (1;m), \sum_{i=1}^n w_i = 1, \quad (2)$$

The multiplicative technique is theoretically based on the calculation of the integrated assessment index as the average geometric content of the individual criteria (formula 3).

$$Q_j = \prod_{i=1}^n w_i K_{ij} \quad (3)$$

where n is the number of assessment parameters;

j is the number of outsourcing companies being assessed;

w_i is the specific weight of the i -th parameter;

K_{ij} is the value of the i -th parameter for the j -th outsourcer.

Thus, according to this method, the company that has the maximum value of the index is selected

$$Q_j = Q_{max} \text{ when } K_{ij} \geq K_i^{min}$$

where K_i^{min} is the minimum permissible value of the i -th parameter.

Thus, we propose to use a multiplicative methodology to calculate the Q_j integrated assessment index and to select a counterparty when contracting to provide accounting outsourcing services from five available companies (Formula 3).

When using this technique, the contract should be awarded not only to the outsourcer who has set the minimum price for the services but to the most reliable one (that is, whose probability of refusing to cooperate is minimal) and who is most likely to be able to achieve the tasks he has been given. This approach to the selection of operators is more in line with the essence of outsourcing, which purpose is not to maximize the effect of the firm's cooperation with the outsourcer on a specific outsourced project but to ensure the achievement of planned results by the economic entity as a whole.

According to the study, the integrated assessment index has five components:

- the cost of outsourcing services (determined according to the price lists of outsourcing companies for small business entities that pay value-added tax, use the general tax system, and the number of business transactions per month is not more than 50);
- the quality of outsourcing (average score of service users received through the questionnaire, 1-10 points);
- the qualification of the outsourcing company (proposed by the author (years in the market of outsourced services * number of professional staff / 100));
- recommendations of service customers (pieces);
- compliance with the contract's terms and conditions (% of concluded contracts).

The input indicators for determining the integrated assessment index of the five surveyed outsourcing firms are given in Table. 1.

Table 1.

Input data for the calculation of the integrated assessment index of outsourcing companies

Outsourcing company	Cost of outsourcing services, UAH / month	Outsourcing quality (average score of service users received through the questionnaire, 1-10 points)	Qualification personnel ratio of the outsourcing company (years in the service market * number of professional staff / 100)	Recommendations of service customers, pieces	Compliance with the contract's terms and conditions, % of concluded contracts
1	7500	9,90	15,20	98	96
2	6200	9,30	3,71	85	90
3	5500	8,25	1,76	79	85
4	4250	8,30	1,32	82	83
5	4000	7,85	0,15	10	81

As far as the components such as quality of outsourcing, qualification of the outsourcing company, recommendations of the customers and the percentage of compliance with the contract's terms and conditions are stimulus indicators, their impact on the integrated assessment index is calculated according to formula 4.

$$K_{ij} = \frac{P_{ij}}{1/N \sum^n P_{ij}} \quad (4)$$

The constituent cost of outsourcing services is a disincentive index, and its impact on the integrated assessment index is calculated by formula 5

$$K_{ij} = \frac{1/N \sum^n P_{ij}}{P_{ij}} \quad (5)$$

where P_{ij} is the i-th index of the j-th outsourcer;

$1/N \sum^n P_{ij}$ is the arithmetic mean of simple levels of the row of the i-th indicator for the j-th outsourcer;

N is the total number of outsourcers involved in the research.

The specific gravity of each of the separated parameters (w_i) and the intermediate results of the calculations performed for the studied economic entities ($w_i * K_{ij}$) are presented in Table. 2

Table 2.

Intermediate calculations of the integrated assessment index of outsourcing companies

Assessment parameters	Cost of outsourcing services, UAH / month	Outsourcing quality (average score of service users received through the questionnaire, 1-10 points)	Qualification personnel ratio of the outsourcing company (years in the service market * number of professional staff / 100)	Recommendations of service customers, pieces	Compliance with the contract's terms and conditions, % of concluded contracts
Specific gravity of the parameter	w_1 0,40	w_2 0,15	w_3 0,25	w_4 0,10	w_5 0,10
Outsourcing companies ($w_i * K_{ij}$)					
1	0,293	0,170	0,858	0,138	0,110
2	0,354	0,160	0,209	0,120	0,103
3	0,399	0,142	0,099	0,112	0,098
4	0,517	0,143	0,075	0,116	0,095
5	0,549	0,135	0,008	0,014	0,093

The effective indicators of the calculation of the integrated assessment index of outsourcing companies are presented in Fig. 1.

Business entities' performance in financial statements is expressed in thousands of UAH

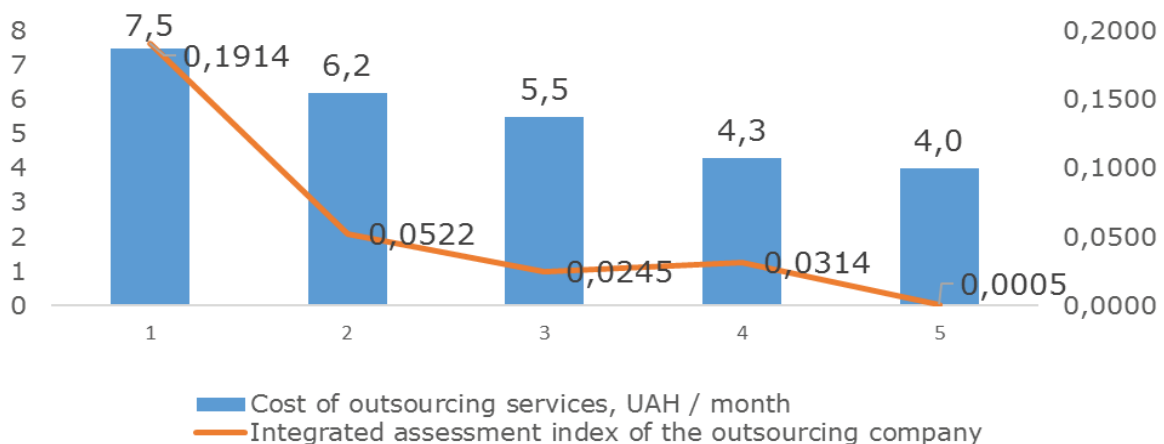


Figure 1 Effective indicators of the calculation of the integrated assessment index of outsourcing companies

To facilitate the informative value of the calculations, it is necessary to adjust the formula 2 (multiply the value of the integrated assessment index for all outsourcing companies by 1000) (formula 6).

$$Q_j = \prod_{i=1}^n w_i K_{ij} * 1000 \quad (6)$$

These calculations give grounds for admitting that the cost of accounting outsourcing services at the largest share of this parameter is not decisive when choosing an outsourcing company.

Thus, companies 1 and 2 have a much higher value of the integrated assessment index (having a high cost of services). Company 4, in its turn, at a lower cost of services has a higher integrated assessment index than company 3.

Thus, the proposed algorithm for selecting outsourcers is better at reflecting the nature of outsourcing and it will allow the client company to get full benefits of cooperation with an external operator of this type of service.

Based on the above-mentioned, the technique allows identifying business processes for outsourcing, to analyze potential outsourcers and to evaluate the efficiency and feasibility of accounting outsourcing, which is not only of academic interest but also of great practical value.

Conclusions

In the course of the study, a substantive interpretation of the actual scientific issue of substantiation of accounting and economic aspects of the calculation of the integrated assessment index of outsourcing companies and features of its practical implementation by Ukrainian enterprises was identified. The framing for theoretical approaches to the implementation of accounting outsourcing to state-sponsored units for increased performance and efficiency of functioning have been outlined; the multiplicative method of calculating the integrated assessment index due to the involvement of the qualification ratio of the outsourcing company in the calculation has been improved; the toolkit of the integrated assessment index of outsourcing companies for the selecting the counterparty when concluding a contract on the accounting outsourcing services has been offered.

The calculations make it possible to recognize that the cost of accounting outsourcing services is not decisive when selecting an outsourcing company.

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EVALUATION OF FINANCIAL STATEMENTS IN STRATEGIC MARKETING OF LEGAL SERVICES



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Abstract. Paste in today's business environment, an enterprise cannot function effectively without developing and implementing a development strategy that defines the direction of the company's activity, formulates the mission and goals, ensures the efficient use of available resources. The development strategy is ensured by the marketing strategy and is an effective tool for achieving the set goals in conditions of environmental instability. Legal business is a highly competitive and highly professional field, the main indicator of success is professional reputation, a large client base, the number of successful projects and high qualification of staff. Informatization of the society, intensification of competition and growth of consumer demands forms new rules of development of modern concept of marketing in accordance with the purpose and tasks of the enterprise. In this case, financial statements are an important source of information for evaluating the indicators of the financial condition and performance of the enterprise, its liquidity, solvency, financial stability, profitability and business activity. Assessment of the structure and dynamics of available assets, equity and liabilities, cash flows and the order of formation of financial results of a law firm allows to comprehensively assess the potential of the company in the formulation and justification of marketing strategies. Based on the calculations, decisions are made on the readiness of alternative strategies. The most optimal variant of marketing policy is chosen. The potential for promoting and developing new activities is evaluated.

Successful implementation of the law firm's marketing strategy requires taking into account current trends in the legal services market and the expectations of its participants. Yes, it is established that the most popular in the coming years will be such types of law firms, such as multi service and boutique. The legal services market partners still ignore competition from consulting firms, but over time, these entities will also need to be taken into account under the influence of cross-industry integration processes.

Keywords: *marketing strategy, financial reporting, valuation, law firm.*

Introduction

In the current conditions of economic and political instability, in the context of European integration processes, globalization and market economy, the issue of improving the mechanisms of enterprise management that ensure its efficient, dynamic and competitive functioning is becoming increasingly important. One of the options that addresses this problem is to use marketing as a tool to influence the external and internal environment of the enterprise. In doing so, evaluating the financial statements to determine the financial position of the company plays an extremely important role.

According to the well-known scientist, the founder of modern marketing Philip Kotler, marketing is a type of human activity that is aimed at meeting the needs through exchange (Armstrong, Kotler, 2001, p. 46). It is a certain social process by which companies and individuals exchange value created to meet their needs. In this way, companies create value for consumers (in the form of a product or service) and develop relationships with them in order to obtain value for money.

The legal services market is constantly changing, so marketing research is extremely important. There is an industrial reversal where it is important to look at the world through the eyes of customers and change the purely legal spectrum into a comprehensive economic one, taking into account their needs and potential opportunities. In order to gain competitive advantage for a law firm, it is strategically important to consider clients' legal issues as business cases with some legal component. Thus, lawyers find themselves in the same arena with auditors, anti-crisis managers, marketers, management consultants, business coaches and other coaches. This is what has been happening in developed countries over the last decade and is gradually coming to Ukraine. As a result, everyone will work in one big service market, where in the future there will be no solely lawyer's monopolies, but there will be multifunctional companies, someone will evolve and do the job better, and someone will not adapt to the new conditions and disappear. That is why the evaluation of financial statements and the calculation of key indicators play a special role in the development of marketing strategies.

Analysis of recent research and publications. Significant contribution to the study of the effectiveness of the company's marketing activities, the development and implementation of marketing strategies have made well-known scientists and practitioners, in particular: G. Armstrong, and F. Kotler (2001), G. Bagiev, V. Tarasevich, and H. Ann (2001), L. Balabanova and N. Gurzhiy (2014), M. Korzh (2019), R. Logosha, and O. Fieldova (2018), O. Onishchenko (2018), P. Dahlström, and D. Edelman (2013), O. Zorina, and V. Fadeenko (2018) and others. Studies of domestic and foreign experts have shown a sufficiently deep study of issues related to the marketing activities of the company and its strategy of providing. However, it is necessary to deepen the research, taking into account the specifics of the activity of service companies, in particular law firms for which there is an extremely high level of competition, and give greater importance to assessing the financial position of the company on the basis of financial statements, which determined the relevance of the research topic.

Research methodology. The performed investigations are based on the application of a systematic approach, deductive method,

comparison, abstraction, grouping, methods of economic analysis, generalization. The object of research is the shipbuilding industry. The subject is a set of theoretical and practical aspects of container shipbuilding in the world.

Statement of purpose of the article.

The purpose of the article is to determine the importance of evaluating the financial statements and the peculiarities of the formation of the company's marketing strategy in the field of legal services, taking into account current conditions and global trends.

Research results. Marketing is defined by the American Marketing Association as an activity, a set of tools and processes for creating, delivering, and exchanging offers that are relevant to meeting the needs of consumers, customers, partners, and society at large. The term evolved from its original meaning, which literally translated as a market for goods for sale. From the point of view of the logistic marketing process, marketing is a set of processes that are interconnected and interdependent with other functions of the business, aimed at achieving interest and meeting customer needs (Morgan ed. et. al., 2002).

In addition, the Chartered Institute of Marketing defines marketing as a management process responsible for identifying, anticipating and satisfying customer requirements with benefits. A similar concept is value based marketing, which defines the role of marketing to promote shareholder value, which is combined with the primary objective of financial management in an enterprise. In this context, marketing can be defined as a management process that seeks to maximize return to shareholders the development of relationships with valuable customers and create a competitive advantage (Kovova et.al. (2018).

Marketing (maket - market, sales, business; maket getting - market conquest) is an activity that is related to the study of consumers and other market factors, as well as the development and implementation of appropriate measures that contribute to the achievement of the market goals of the enterprise.

According to the authors Petrun Yu., Petrun V. (2016, p.19), marketing can be talked about in various aspects. Marketing may be considered:

- as a management function (among other similar functions can be called, for example, the management of finances, personnel, technological processes, etc.);
- modern business philosophy, modern entrepreneurial style or, to put it more broadly, managerial thinking and activity;
- type of business activity. In this case, we are talking about marketing services (market research, advertising, consulting and others), which become an independent business sphere and are the object of sale and purchase in the market;
- a certain area of knowledge, whose representatives reveal the patterns (principles) of consumer behavior as subjects of the market.

In each of these aspects, there is a certain view of the problem of marketing, which in the aggregate gives a more complete idea of its importance.

Marketing practices have generally been seen as a creative industry in the past that included advertising, distribution and sales. However, since the study of marketing is widely used in the social sciences, psychology, sociology, mathematics, economics, anthropology and neurology, the profession is now widely recognized as a separate science,

emphasizing the importance of marketing activities for any enterprise in the current environment.

Developing and implementing a successful marketing strategy in today's environment must take into account the impact of information technology. Undoubtedly, technologies have led to a sharp increase in digitalization, today everyone is concerned about the latest trends - customer personalization. All the world's leaders are collecting and analyzing databases (big data) about behavior and activity - all just to develop a proposal for each individual client. In the near future, everything that can be automated is automated with the help of data and technology. But automation alone does not solve anything - it is always important shifts in consciousness that are primary.

Robots can perform many functions, but they will not replace things that are not yet controlled by machines: trust, empathy, support, inspiration and motivation, intuition and paradoxical thinking, the ability to find common ground with other people and understand their needs, agree, make decisions. These behavior skills will always be in demand. There is no need to concentrate on what's trending (bots), what's trendy (blockchain) and what will change tomorrow. It is necessary to invest in the timely benefits that are important to clients today and that they will need in 20 years, when the market will become the main person. That is why it is so important now to fill the legal product with your personality, so unique that characterizes your way of thinking. Knowledge is more important than profit, and imagination is more important than knowledge. Creative ideas are the main currency of the future (Semenova, 2014).

Strategic marketing in the legal field has a number of features and difficulties in assessing the effectiveness of its implementation. Namely: problems in determining the profitability of your marketing campaigns; difficulties in determining the cumulative effect of marketing investments, due to the need to take into account not only current but also future acquisitions, as well as future costs of clients for servicing; in most cases, systems and forms of remuneration in companies are an obstacle to assessing the effectiveness of marketing activities in terms of the profitability of marketing investments; the inability to predict customer behavior in a

sufficiently rapid change in the market, which requires marketing decision-makers to make prompt decisions in accordance with changing customer priorities; Calculating your return on marketing investment makes it difficult to use two or more channels to communicate with your customers at the same time.

Diagnosis of financial and economic activity of the enterprise is a necessary stage for the development of plans and forecasts of the functioning of enterprises, determining the strategy of its development, which is important for the construction of marketing strategy. Lenders and investors analyze the financial position of businesses in order to minimize their risks on loans and deposits, as well as for the necessary differentiation of interest rates. As a result of the financial analysis, the manager receives a number of basic, most informative parameters that give an objective and accurate picture of the financial condition of the company. In the course of the analysis, the manager may set different goals: analysis of the current financial status or assessment of the financial perspective of the company.

General analysis of the financial position and results of the enterprise involves the evaluation of financial statements, their dynamics, features of the formation of financial results, as well as indicators of profitability and economic efficiency of the enterprise. Thus, the economic analysis is to study and evaluate the indicators of liquidity, solvency, financial potential, business activity, profitability, determination of their dynamics.

All indicators for assessing financial position are calculated on the basis of the information presented in the financial statements: Balance Sheet (Statement of Financial Position), Statement of Financial Results (Statement of Income), Statement of Cash Flows, Equity Statement, Notes to the Annual Financial Statements reporting. The financial reporting forms can be prepared in accordance with the National Accounting and Financial Reporting Standards (for example, in Ukraine National Accounting Standard 1 "General Financial Reporting Requirements (2013) or the International Financial Reporting Standards (IFRS).

Balance sheet (statement of financial position) is a statement of financial position of an enterprise that reflects on a particular date its assets, liabilities and equity. Income Statement (statement of comprehensive

income), and by International Financial Reporting Standards Income Statement is a statement of income, expenses, financial results and cumulative income for the period. The statement of cash flows reflects information about the cash inflows and disposals of an entity during the reporting period as a result of operating, investing and financing activities. The equity statement reflects changes in the equity of the enterprise during the reporting period and is useful for assessing the sources of its financial soundness. The notes to the financial statements contain a set of indicators and explanations that provide detail and validity of the items of financial statements, as well as other information, disclosure of which is provided by the relevant national accounting standards (standards) or international financial reporting standards: Ukraine National Accounting Standard 1 "General Financial Reporting Requirements (2013) or the International Financial Reporting Standards (IFRS).

In general, financial reporting as an object of analysis involves providing information to evaluate the resources of the enterprise, their structure, economic results, efficiency of use of their own and attracted funds, which is the basis for the development and implementation of appropriate marketing strategies.

The marketing of a law firm should take into account such a feature that it is impossible to fully evaluate the quality of the service objectively, as well as to give it a 100% guarantee. And good marketing, which, incidentally, does not require extraordinary investments, can convince a potential customer that he needs the company's services and that it is this company that manages his problem.

The value of a law firm as a consultant must go beyond purely legal matters. It is necessary to speak the same language with both client clients and fellow lawyers from other jurisdictions.

It is also important that the firm's business processes strike a balance between quality of service and result. The quality criteria for a law firm are:

- achieving results,
- maximum speed,
- transparent price,
- the comfort of cooperation.

At the same time, it is important to pay particular attention to the confidentiality and security of cooperation with clients.

There are external and internal competitive advantages (Korzh et al., 2019, p. 185):

a) Exteriors are based on excellent product qualities that become valuable to customers because they reduce their costs or increase their performance. Such an advantage increases the market power of the enterprise, as it can force the market

to agree to a higher selling price than its competitors;

b) Internal means to reduce costs or to establish a more efficient management system than competitors, which allows to reduce the cost and therefore the prices.

In Fig. 1 shows both types of competitive advantages and those enterprise strategies that can be developed on the basis of these types.

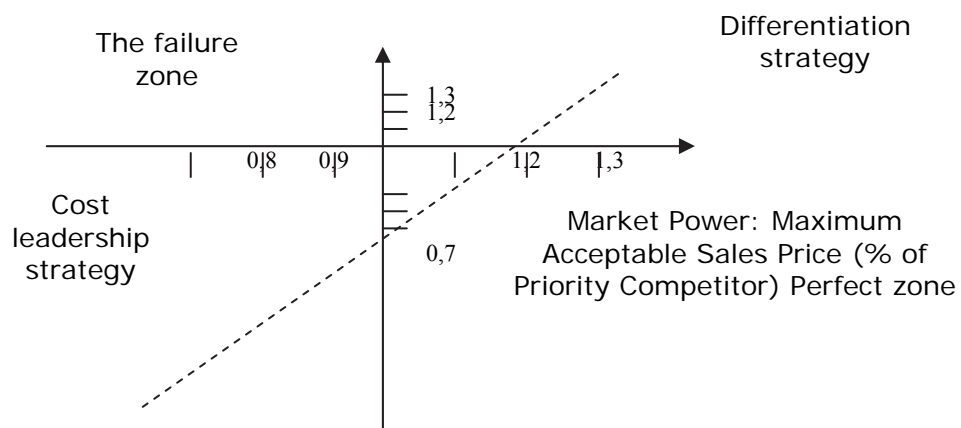


Figure 1. Types of competitive advantage and enterprise strategy Source: compiled on the basis of elaboration (Balabanova, Gurzhiy, 2014; Petrunya, Petrunya, 2016).

Therefore, the process of marketing strategic planning can be divided into the following stages: analysis of the market and own status (situational analysis); definition of marketing goals; development of marketing program (plan). Market analysis contains the following main issues: market capacity; dynamics of market capacity; consumers; competitors. Assessment of own status includes the following main aspects: market share; market share dynamics; competitive opportunities, as well as an assessment of the financial position based on the financial statements. According to the results of the analysis, it is necessary to formulate marketing goals and propose a strategy. Its options may be: a strategy of expanding the market representation; market development strategy; differentiation strategy. Setting marketing goals forms the basis for the development of a program (plan) marketing - the definition of strategic issues at the functional level, or the level of individual components of the marketing complex - product, price, communication, marketing activities of the company.

Conclusions

Marketing strategy is an engine for the enterprise to promote its goods and services, as well as the organization of internal marketing of the enterprise. The information society, the intensification of competition and consumer demands are creating new requirements for adapting the modern concept of marketing to the needs of the enterprise. In this case, financial statements are an important source of information for assessing the financial condition and performance of the company, involves the study of financial statements, their dynamics, features of the formation of financial results, as well as indicators of profitability and economic efficiency. Based on the calculations, decisions are made on the willingness to implement alternative strategies, choose the best options for marketing policy, promotion and development.

Successful implementation of the marketing strategy in the field of legal services must be borne in mind that the most in demand are multi service and boutique law firms, which will significantly affect the integration of cross-industry processes and increased competition from consulting firms.

In the process of strategic marketing it is necessary to take into account the global transformation of legal practice, the performance of models of distribution of legal services, which has been happening in recent years. Limited resources make all market participants reasonably manage what is. In addition, high competition forces you to change, to improve, to be creative. Legal expertise is becoming less "corporate" and self-contained - and increasingly acquiring the features of ordinary business procedures that help to optimize costs, increase flexibility, empower and leverage.

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CAUSES AND SCOPE OF GLOBAL FOOD SECURITY PROBLEMS IN THE MODERN WORLD



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JEL Classification: F01; F14

Abstract. The issues of the food security problem are an important part of national security concepts in all developed countries. The level of food security of the population has an effect on the possibilities of physiological, psychological, intellectual condition of people; it determines the level of social peace or tension in the society. Lack of food leads to the inevitable death of people. Given the dynamics of the global economy, the possibilities of a profound study of the issue are not exhausted and require new approaches to the scientific search. In view of the above, the article addresses a detailed analysis and systematization of approaches to identification of the causes and exacerbation of the global food security problem. The opinions of scientists – both representatives of the classical economics school and contemporary authors – are analysed. The study has found the root causes, each of which, to some extent, gives rise to hunger and malnutrition in the modern world. Poverty, i. e. lack of money to buy food, as well as the existing system for regulation of the global food market was mentioned as the most important root causes by the author.

The extent of the spread of famine in the world is analysed. The results obtained show that almost in all parts of the world there is an increasing number of starving people lacking the ability to get provisions based on dietary intake levels. The situation in African countries, where the number of starving people is increasing, is particularly alarming. This requires the development of modern strategies to address the global food security problem and provide more favourable conditions for access to the global food market by improving the mechanism of regulation of international food trade.

Keywords: *global food problem, food security, undernourishment, extreme poverty, moderately or severely food insecure, severely food insecure, hunger.*

Introduction

The global population is constantly growing. Currently, most people live in cities. Technology is developing at a rapid pace as the economies of the world become increasingly interconnected and globalized. Yet, most countries experience no sustainable growth and are not part of this new economy. In general, the global economy is not growing as dynamically as expected. Conflicts and instability gained momentum and became more insoluble, contributing to greater population displacement. Climate change and its vagaries affect the productivity of agriculture, the production of food and the natural resources, on which the production of food, systems and livelihoods in rural areas depends, including the reduction in the numbers of farmers. All of this has led to major shifts in the way food is produced, distributed and consumed worldwide – and to new food security, nutrition and health issues.

More than 820 million people in the world are still starving, highlighting the huge challenge of achieving the “zero-starvation” sustainable development goals by 2030. Hunger rates are rising in almost all subregions of Africa and, to a lesser extent, in

Latin America and Western Asia. The situation in South Asia has improved significantly over the last five years, but the prevalence of malnutrition in this subregion is still the highest in Asia.

Another worrying fact is that almost 2 billion people in the world are experiencing moderate or severe food security. The lack of regular access to the nutritious and adequate food experienced by these people puts them at greater risk of malnutrition and poor health. While food security is largely concentrated in low- and middle-income countries, it affects 8 percent of the North American and European population moderately or severely.

The global community's response to these negative trends should be bolder, not only in scale but also in multi-sectoral cooperation, including agriculture, food, healthcare, water supply and sanitation, education and other relevant sectors; and in various policy areas, including social protection, development planning, and economic policy.

This will require accelerated and concerted action by all stakeholders and countries, including tireless and more integrated support from the United Nations and the international community for countries to support their development priorities, through multilateral agreements and means of implementation, so that the countries can embark on a path of human-centred transformation to rid the world of inferiority, inequality, hunger, food insecurity, and malnutrition in all its forms.

Literature review. The problems of food supply for the population, uneven food production, consumption and trade around the world have been reflected in the works of many foreign and domestic scientists, among whom are O. Berezin (2011), L. Berezina (2011), O. Bilorus (2008), P. Sabluk (2008), A. Sen (1981) and others. At the same time, existing scientific approaches to assessment of the food problem on a global scale that are described in the works of B. Suresh (2014), S. Gajanan (2014), S. Prabuddha (2014) come out of characteristics of food supply security through a defined limiting consumer goods basket and afterwards determine the course of the development of agricultural industry. In the works of A. Satinder (2015), Y. Motarjemi (2014), H. Lelieveld (2014), C. Charis Galanakis (2016), Stein T. Holden (2016), H. Ghebru (2016) a system of indicators has been used to evaluate food problem. Still, the research of the above authors considered the food problem only in terms of one approach, without due consideration of other groups of reasons. That is why it is necessary to systematize and identify all groups of reasons

that are exacerbating the problem of hunger and malnutrition in the world in order to combat it in the future.

Setting the objectives of the article.

The objective of the article is to systematize different approaches to the reasons for emergence and aggravation of the global food problem.

Research methodology. The common methodological bases of the research are the fundamentals of the contemporary economic theory, as well as works and researches of leading Ukrainian and foreign scientists on the food problem. The informational bases of the research are works of national and foreign specialists in the area of food problem and food security and the author's research. Advanced methods of scientific cognition have been used to achieve the set purpose: a historical and logical approach, systemic and functional analysis and factor analysis.

Research results. There are various scientific approaches that explain the essence of the global food problem. Scholarly opinion is related to the name of economist Thomas Malthus, who published *An Essay on the Principle of Population* in 1798 and argued that the world's population is growing faster than the production of goods required to meet the needs of mankind. The following phrase could be the main postulate of the book: "The power of the population is much stronger than the power of the earth producing food for the humans". Malthus argued that productivity was increasing in arithmetic progression, and population was growing in geometric progression. These factors inevitably lead to a reduction in life expectancy and hunger. Today, it is unambiguously clear that Malthus was wrong in his calculations. For example, in his time, the population of the planet was about 950 million people. If it had doubled every quarter of a century, according to Malthus's forecast, the planet would have been inhabited by 242 billion people these days (Malthus, 1993).

Another scientific opinion is related to poverty. F. Lapi, J. Collins, and P. Rosset, authors of *World hunger: Twelve Myths*, emphasize that wealth is the main problem, rather than scarcity. The planet produces enough food to provide each person with a diet of 3,500 calories a day (Lapi, Collins &

Rosset, 1998). The problem is that people are too poor to buy food for themselves.

Indian economist S. Mahendra Dev, Director and Vice Chancellor of the Indira Gandhi Institute of Development Research (IGIDR), also stresses that rising food prices are undermining the food security and well-being of the most vulnerable strata, destroying their limited purchasing power even more. Poverty limits adequate nutrition of millions of people (Mahendra, 2010).

Another scientific thought links the exacerbation of the global food problem with the environmental degradation. In particular, Z. M. Ilyina notes that as a result of soil degradation, more than 14 million hectares of arable land are annually abandoned, which, in turn, requires reclamation of new territories. Ploughing exceeds the threshold value of 40 % in many regions of the world (Ilyina, 2011).

Many scientists believe that inefficient government is at the root of the problem of food shortages. Shenggen Fan, a Chinese scientist and Director General of the International Food Policy Research Institute (IFPRI) stresses that skilful government management is the one to overcome hunger and malnutrition (International Food Policy Research Institute).

A. de Waal, author of many books on famine in Africa, also supports this view and argues that “any government, if desired, is able to take effective measures to stop the famine” in one of his books titled *Famine that Kills: Darfur, Sudan*. “When the government does not take such measures, it is for some reason interested in the continuation of famine and death” (De Waal, 2014).

The most contemporary cause of aggravation of the global food problem is the

neo-liberal model of globalization, which gives rise to disproportionate development in the global food market. Supporters of the latter approach argue that it is possible to call the current state of global economic relations a crisis, since there is a considerable disparity in the social and economic development of countries around the world and the disproportion of their relationships, which is one of the reasons for the aggravation of the global food problem.

Summarizing the various approaches to the causes of aggravation of the global food problem, it is possible to conclude that all of the above causes of starvation and malnutrition have an impact on the aggravation of the current food shortages setting, but poverty is the most significant, i. e. lack of funds to buy food, as well as the existing global food market regulation system.

The decade of the declining prevalence of malnutrition in the world is over and famine rates are slowly rising, according to FAO. The global prevalence of malnutrition remained almost unchanged, although it decreased by 11 % (Fig. 1), while the total number of malnourished people has been slowly increasing for several consecutive years (Fig. 2).

This means that today, just over 820 million people suffer from hunger, i. e. approximately every ninth person in the world. This underscores the enormous challenge of achieving the Sustainable Development Goals of Zero Hunger by 2030.

The situation is most alarming in Africa, where the prevalence rate of malnutrition has been showing a modest but steady increase in almost all subregions since 2015. It reached 26.5 percent and 30.8 percent in Central and Eastern Africa, respectively.

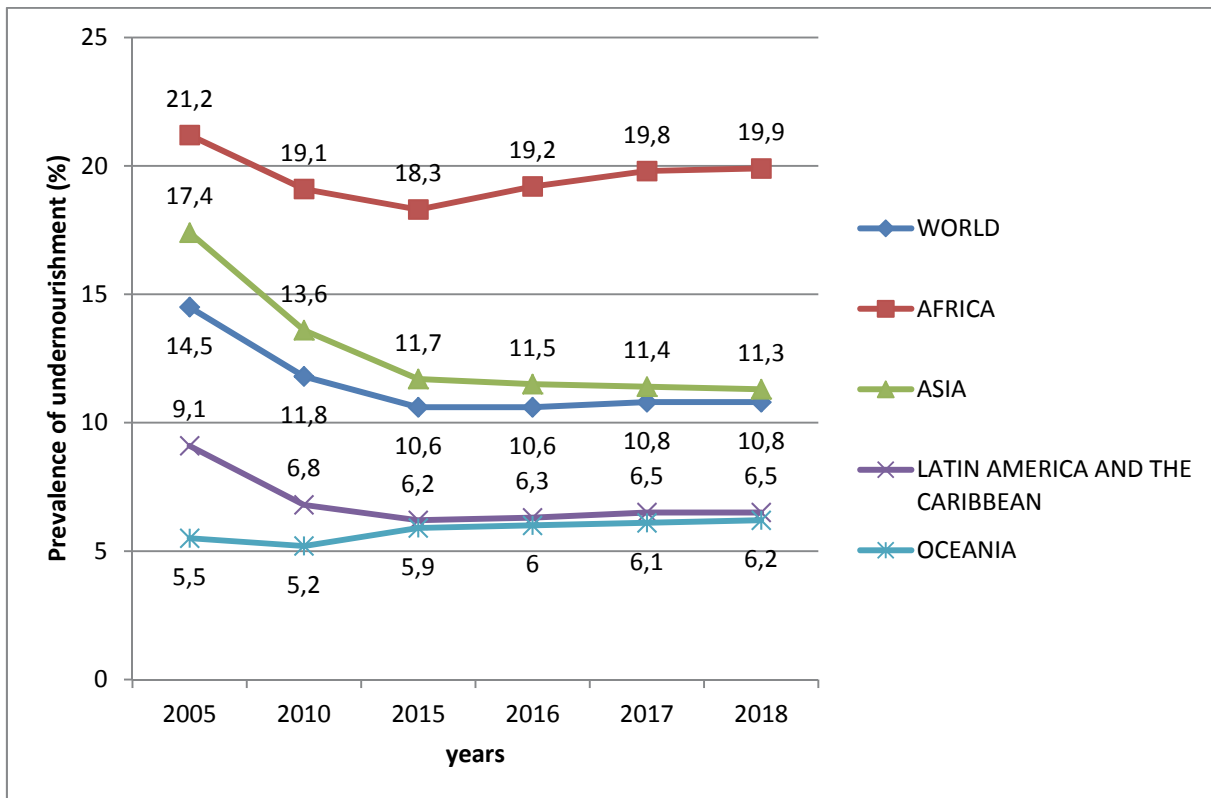


Figure 1. Prevalence of undernourishment in the world, 2005-2018 (Food and Agriculture Organization of the United Nations, 2019).

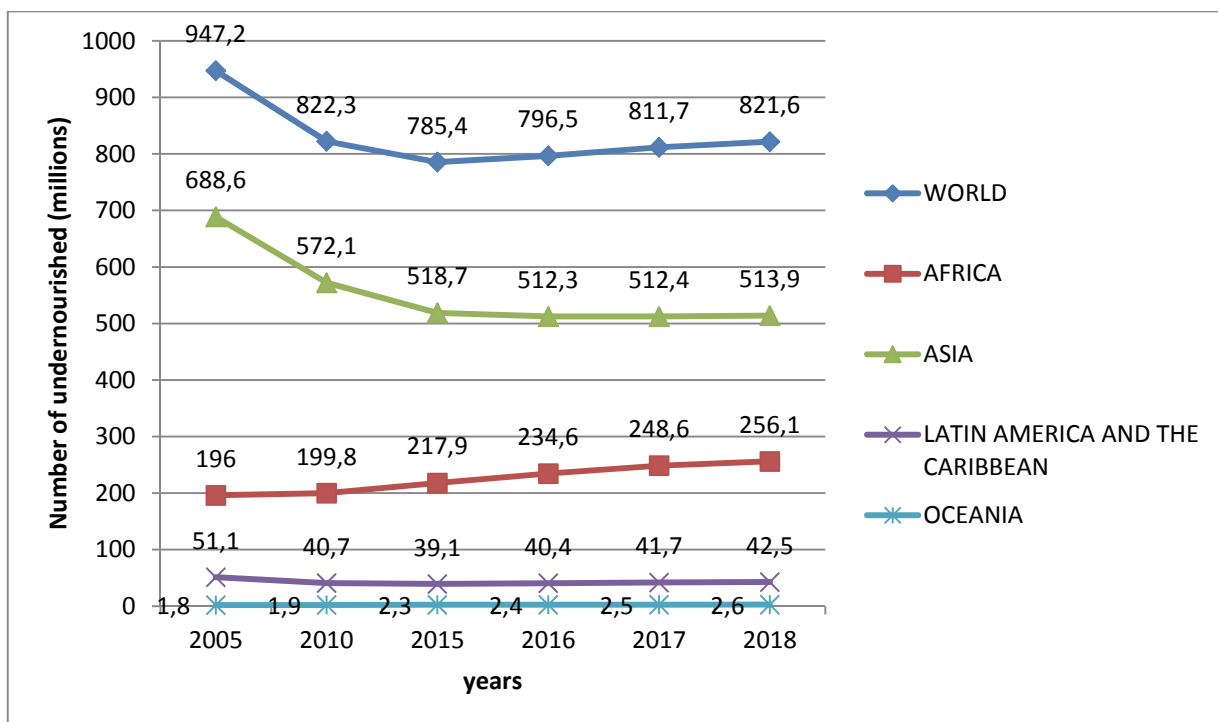


Figure 2. Number of undernourished people in the world, 2005-2018 (Food and Agriculture Organization of the United Nations, 2019).

According to recent estimates, 9.2 % of the global population (or just over 700 million people) in 2018 have experienced severe food insecurity, suggesting the maximum possible reduction of consumed food, i. e. they were hungry. Not surprisingly, the data for 2018 and for the years 2014 to 2018 correspond to the prevalence rates of malnutrition, which confirms the complementarity between the two indicators when monitoring the degree of severe food deficiency or “hunger”.

Fig. 3 shows the trends in the number of malnourished, food-poor and extremely poor people in the world from 2005 to 2018, contrasting their number with the growth in the world's population over the same period.

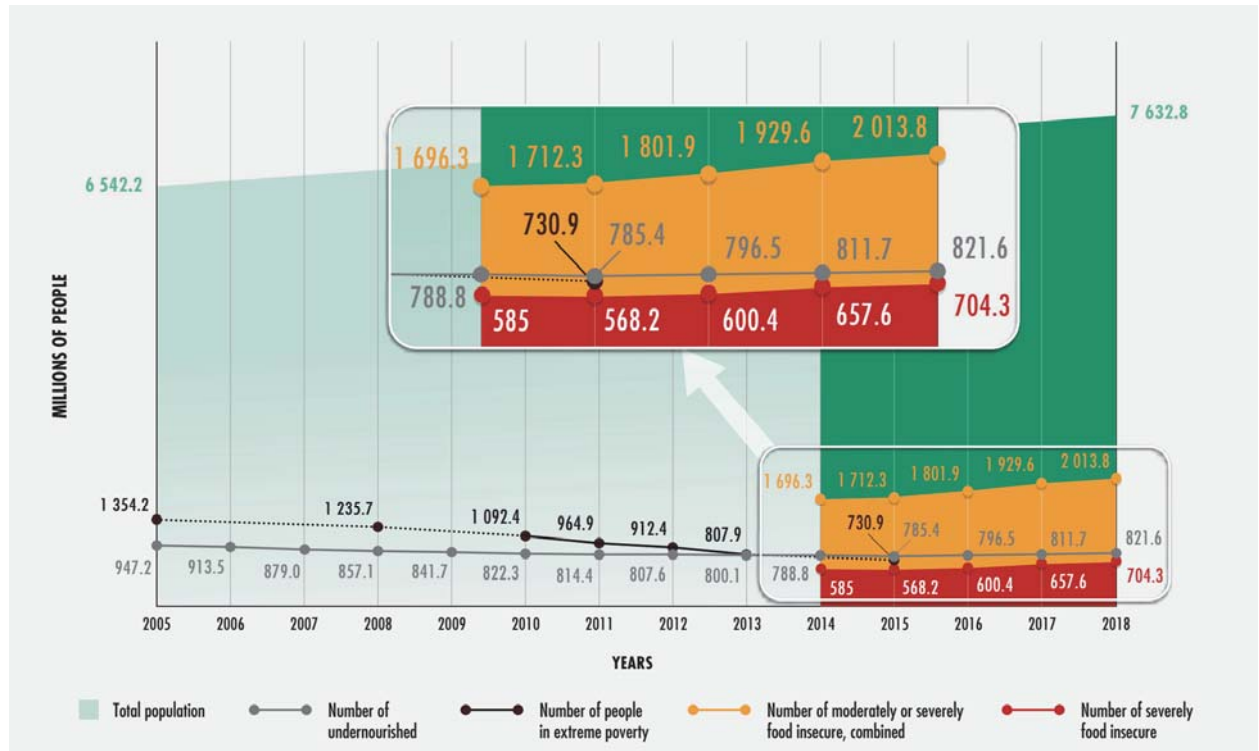


Figure 3. The numbers of undernourished and of food insecure have been on the rise in recent years, after a decade-long decline in extreme poverty and undernourishment (The World Bank, 2019).

These indicators provide a stable picture. Both extreme poverty and malnutrition declined from 2005 to 2015, albeit at different rates. The number of malnourished people and the number of the very poor were very close to 2015 levels, both indicators exceeding the food security threshold.

To put this in context, it becomes clear from Fig. 3 that even as the world population grows from 6.5 to 7.6 billion in 2005–2018, the number of malnourished people has decreased from almost 950 million to approximately 820 million. This is reflected in a reduction in the prevalence of malnutrition from 14.5 percent in 2005 to 10.8 percent in 2018.

Conclusions

Based on the study, it is possible to conclude that the food security problem is still one of the most pressing and important issues in modern economic relations. The global food security problem is rooted in many causes affecting its status in certain regions of the world one way or another. We believe the most significant of these are: the low standard of living of the majority of the population in developing countries accompanied by extreme poverty; environmental issues related to soil fertility and pollution, as well as insufficient government regulation of food security in many developing countries, have a significant impact.

Hunger rates are rising in many countries where economic development is slowing down — it is striking that most of them are not the low-income countries but the middle-income countries. Economic shocks are exacerbating the problem of food security in these countries. Economic change tends to have a more severe impact on food security and nutrition as extreme poverty and inequality rates increase. Slowdowns and recessions disproportionately undermine food security and nutrition where inequality rises, especially in middle-income countries. Therefore, reducing such inequality should be the overriding goal for improvement of food security and nutrition, or the eventual result.

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THE MECHANISM OF ENERGY MANAGEMENT FOR ENTERPRISE OPERATION



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Abstract. This article considers the concept of energy management, reveals the principles of comprehensive analysis of energy consumption and introduction of energy efficient measures at an enterprise and individual departments. The main stages are described for energy management implementation at the enterprise. Regarding the need to improve energy efficiency, the priorities were identified for the energy service development, as well as the role of energy management at the enterprise.

Keywords: *energy service, energy service development, ESCO, energy management, energy saving.*

Introduction

Given the current energy situation at domestic enterprises, there is a need to develop energy management, which purpose is the efficient use of energy and fuel resources, involving the introduction of energy services. Its primary task is to optimize revenues by reducing energy consumption.

The objective of the article is to highlight the efficiency of energy management at the enterprise focused on the significance of energy as one of the main resources of the enterprise and allows to form such management strategies not only prioritizing energy in production processes, but also distinguishing it as a separate production factor that is land, labor energy and capital rather than land, labor, capital.

Research results.

The need for energy management arises from the results of the energy management system functioning itself, which has economic, environmental and social effects (Fig. 1). The content of the economic effect lies in the fact that in the conditions of the energy crisis and economic downturn, the main task of enterprise management is to optimize incomes by improving energy efficiency of production and reducing energy consumption of products.

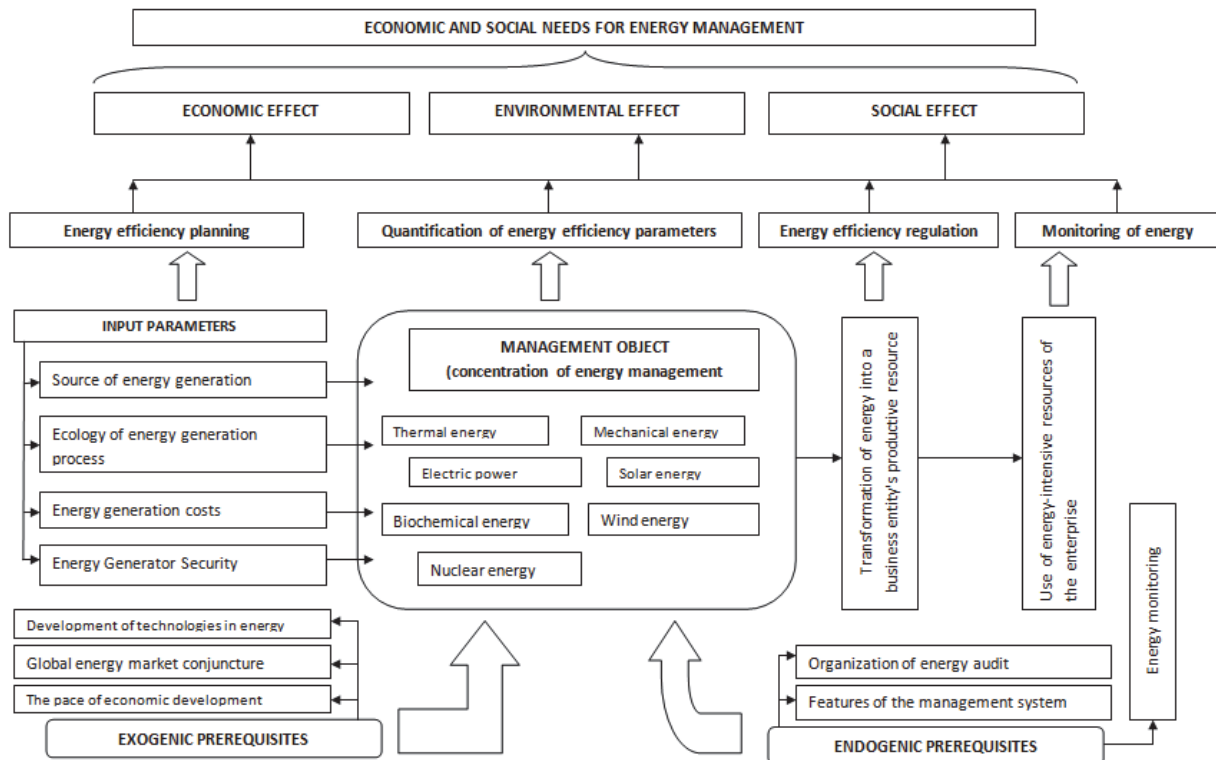


Figure 1. Energy management demand model

The environmental impact of energy management will be reflected in the consumption reduction of natural resources for the energy needs at the production or the most efficient use of natural energy sources (sun, wind, etc.). The environmental impact of energy management can be considered as an activity related to ecosystem restoration projects implementation involving energy-intensive enterprises.

At the same time, the goal of energy management, we believe, is to create a holistic system of energy planning, energy forecasting, energy analysis, energy evaluation, energy regulation and energy monitoring, the ultimate goal for the enterprise of which, is the energy efficiency of the production process.

Regarding the place and role of energy management in the enterprise management system, we assume that there are several options to consider. Firstly, as a separate component of enterprise management (Fig. 2.).

In this case, energy management is considered as a separate subsystem in the overall structure of enterprise management, and energy planning, energy forecasting, energy analysis, energy evaluation, energy regulation and energy monitoring are the functions of a separate unit with its own personnel.

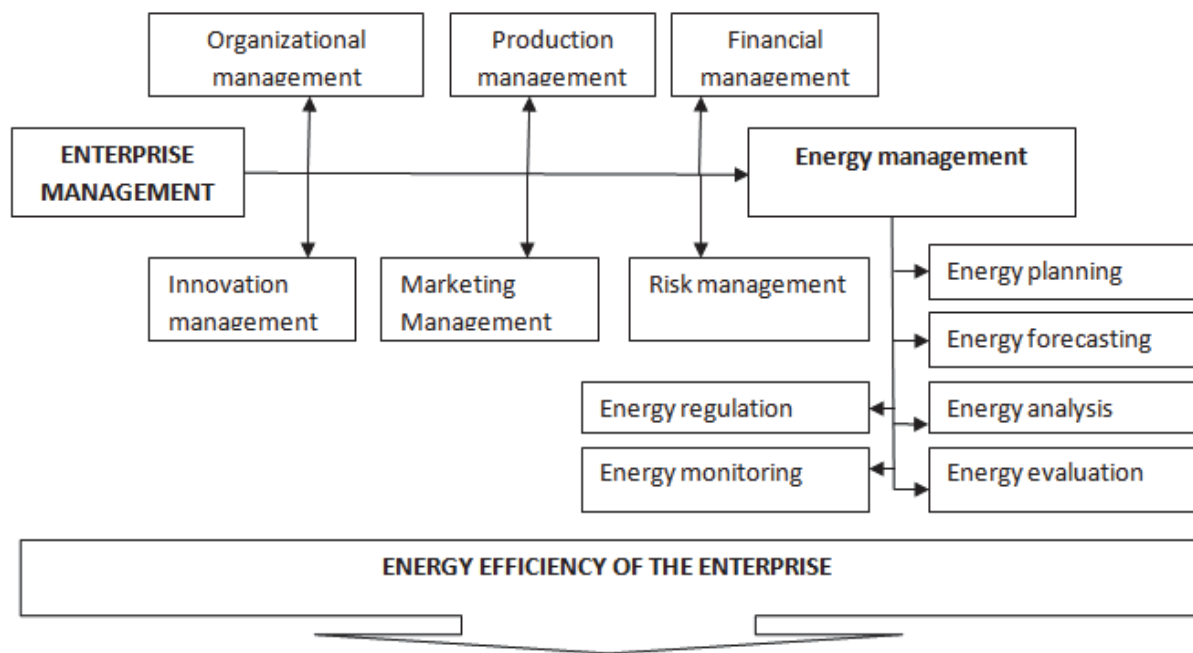


Figure 2. Energy management as a separate component of enterprise management

At the micro level, energy policy should be considered as a set of certain measures to optimize the enterprise energy potential and as a basic document for the implementation of energy management system, as in this document the company undertakes commitments in the field of energy consumption to support and improve energy efficiency achievements. This document should clearly state the duties and responsibilities for saving resources of each structural element of the enterprise because the real consumers are its functional units that manufacture goods. In addition, the enterprise energy saving program should include such steps as analysis of the existing energy management system (if one operates at the enterprise) and identification of inconsistencies and shortcomings, development of energy management standards, staff training, monitoring the use of energy resources, implementation of personnel motivation system for energy efficiency consumption.

As a rule, the task of optimizing the use of enterprise energy resources by certain structural units that do not directly use such in their activities, do not concern them. Respectively, functional units are not fully involved in the energy management process. That is why the strategy of enterprise energy saving and energy efficiency can not be fully formed. And according to the conceptual principles of management, energy management is the management of energy like any other production resource to reduce costs by improving energy efficiency, the approaches to the formation of its system in a modern enterprise must be consistent with the priorities of the overall development enterprises strategy and integrated into each element of the management system.

At the same time, the goals of energy management must be achievable, realistic and relevant in terms of social responsibility, environmental and economic security. In turn, the fundamental task of energy management is a comprehensive analysis of energy consumption and further implementation of energy-saving technologies and energy saving measures at the enterprise.

Domestic companies, especially energy supply companies, prioritize energy saving. The vertical model of energy saving management is well-established, i.e. the responsibility for the system functioning relies on the enterprise first deputy head. The coordinator is the energy manager. Heads of all divisions are subordinated to him. They are responsible for energy saving measures implementation. However, we believe that this is not enough, because to develop energy efficiency measures a working group consisting of specialists in energy, technology, financial and other enterprise services should be established. That is, all divisions of the enterprise should be aimed at a single strategic goal - energy efficiency.

An important point is also the possibility of extended discussion of the enterprise energy saving program in all departments. This mobilizes the whole team and, at the same time, will act as a motivating factor and facilitate the implementation of the energy saving program.

According to researchers, the implementation of energy management is a rather complex process, which, in our opinion, will have certain features for each business entity. The main stages are presented in table 1.

Table 1.

Stages of enterprise energy management implementation

Stages of implementation	Characteristics of the stage
1 stage	decision-making on the implementation of the energy management system
2 stage	diagnostic energy audit
3 stage	organization and conduct of training and courses in energy management for senior management, representatives of services and departments, project participants for the implementation of the energy management system, internal energy auditors
4 stage	conducting a comprehensive analysis of the data obtained as a result of the energy audit
5 stage	development of action plans in the field of energy management
6 stage	conducting corporate analysis of the energy management system functioning together with the top management (monitoring)
7 stage	development of an energy saving program
8 stage	implementation of planned measures, constant control over their realization, analysis of the results, re-audit
9 stage	recommendations preparation for finalization of the system as a whole or its individual elements

Formed by the author on the basis (Samosiuk & Chiz, 2017, p. 51-52).

Over the next fifteen years, according to domestic researchers, the global strategy of sustainable development priorities will guide the energy policies of all countries and stimulate appropriate action in the energy sector (Denysiuk, Strelkova, Pfeiffer, Strelkov & Ishchenko, 2018, p. 8).

The problem of the necessity for further work to improve energy efficiency is becoming increasingly important every year. Fundamental preconditions for finding new ideas, for example in Europe, include the lack of own mines, rising energy costs, dependence on energy imports and the challenges posed by global climate change. Also, there is an interdependence of EU member states on the energy supply reliability: failure in one country immediately affects others. EU member states have openly claimed the priority of energy efficiency policies in the housing sector, considering that this sector uses the largest share of energy consumption.

As it can be seen from the above-mentioned priorities of Ukraine's energy strategy for the period up to 2035, these are adequate measures that harmonize with the chosen global strategy in the field of energy efficiency. One of the priority areas is the efficient operation of energy infrastructure. However, the problem is that the privatization of generating and energy supply companies due to the declared liberalization of natural monopoly markets, which began in Ukraine in the mid-1990s, has led to the formation of exaggerated schemes for redistribution of energy and financial flows (Lear, 2014, p. 38). Therefore, in our opinion, money and incompetence in the actual energy resources consumption are the most frequently indicated barriers to the implementation of energy efficiency measures.

Companies often prioritize improving production efficiency rather than ensuring proper energy efficiency. It is almost traditional for entrepreneurs, mainly in the SME sector, to invest in used, inefficient machinery or production lines in order to be able to produce more goods. This is because the company's purchasing managers focus on investment costs and pay less attention to related operating costs such as energy consumption.

Therefore, determining the role of energy management in the enterprise, we note that without the last it is impossible to talk about a comprehensive reduction in energy costs and the introduction of any energy-saving technologies in the enterprise. The introduction of a full and comprehensive

system of energy management allows us to find and maintain a balance of optimal consumption of energy resources at given production parameters.

Analyzing domestic energy efficiency standards, it can be noted that their characteristic feature is the lack of a comprehensive and unified approach to the formation of energy efficiency management system at the enterprise level. The only legislative act that mentions the management system in the field of energy efficiency is the Law "On Energy Saving" adopted in 1994, which in 2005 introduced the concept of "energy saving management". This concept is interpreted by legislators as "a management system aimed at ensuring the rational use of fuel and energy resources by consumers." (Law of Ukraine "On Energy Conservation", 1994).

In our opinion, such steps in the legal field of energy management need significant additions and refinements. Therefore, we believe that the result will be important in the legislative activity in the field of energy management when, methodological recommendations for the formation of energy efficiency management system of the enterprise will be developed and implemented on the basis of international standards. This will confirm a clear understanding that it is a system with many elements, numerous management processes and a clear division of regulations and procedures. The result of its operation is energy efficiency, not just the rational use of fuel and energy resources.

Undoubtedly, energy efficiency is a special object of management from the point of view of the classical management principles and tasks. Its peculiarity lies in the fact that the various enterprise resources, and all management levels of the enterprise management system, and the innovative and financial potential of the enterprise are involved in the management process. Therewith, the principles and objectives of energy management affect both strategic and tactical and operational management.

Based on this, to create a system of energy efficiency management of the enterprise it is necessary to provide the peculiarity of its principles and objectives. We believe that the development of such principles and objectives should undoubtedly take into account the classical approaches to management (Fig. 3).

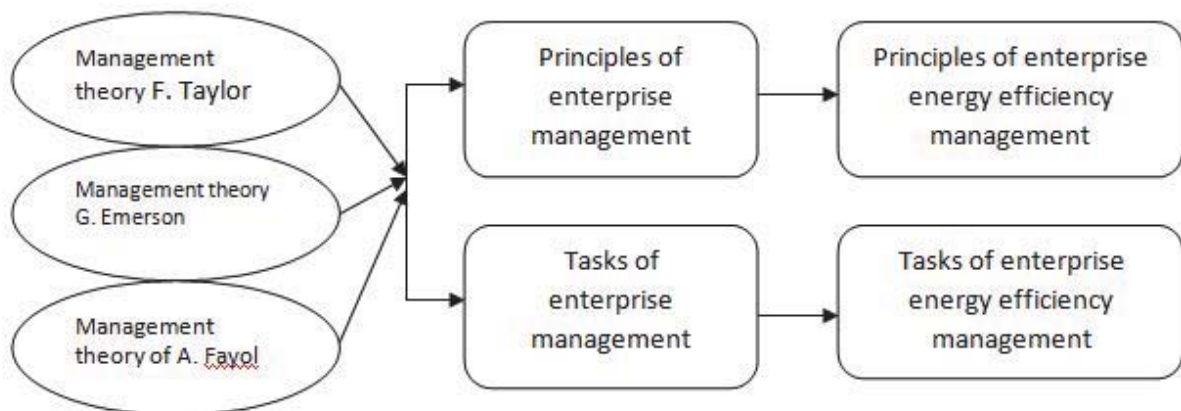


Figure 3. Approaches to the development of principles and objectives of energy efficiency management of the enterprise

According to the F. Taylor theory of management, the basis of the system has four management principles of workers individual labor, in particular (Drohomyretska, 2012, p. 97-98):

- scientific approach to the implementation of each work element (to achieve compliance between the requirements of managers and the expectations of workers is possible only if individual elements of the labor process are studied);
- scientific approach to the selection, training and coaching of workers (it is implied that for each type of work it was necessary to select a suitable worker who would have the necessary skills);
- cooperation with workers (both parties involved in the labor process should focus all their attention on improving production efficiency);
- responsibility division for the results of work between managers and workers - means that managers are obliged to give workers a scientifically reasonable objectives and carry out continuous monitoring of its implementation (Stadnik & Johna, 2003, p. 50).

F. Taylor's principles presuppose the relationship between the subjects/entities of management. To form an energy efficiency management system of the enterprise, it is extremely important to carry out the distribution and redistribution of responsibilities at each management level, based on the human resources of the enterprise, so that:

- the actions of each were purposeful, reasonable and clear, and for this it is necessary to reconcile the requirements of managers with the expectations of workers through the detailing of management processes (according to F. Taylor);
- everyone's high level of competence, regardless management level, and for this there must be a special system of selection, training and coaching of workers (according to F. Taylor);
- focus on the end result, and with this aim showing cooperation at all administrative levels (for F. Taylor);
- a clear division of responsibilities (according to F. Taylor), and for this monitoring and control of processes.

Therefore, the subjects/entities of enterprise energy efficiency management through the development of energy policy (according to ISO50001: 2018), which specifies the parameters of enterprise energy efficiency, form plans to maintain and improve energy efficiency and details the rights distribution, duties and responsibilities at different functional levels of the hierarchy.

That is, under this approach, the company must have at least two regulatory documents - "Energy Efficiency Policy" and "Program for the selection, training and retraining of personnel (energy management)."

G. Emerson did not share the views of F. Taylor on the functional superior. He believed that the universality of one person to control all operations that had to be performed in production, should be replaced by specialized knowledge. At the same time, G. Emerson emphasized the inadmissibility of breaking the general chain of command (control) by analogy with the highly effective linear organization form of the Prussian army in the middle of the XIX century (Pichugina, Grinko & Bezginova, 2017, p. 25).

G. Emerson proposed twelve management principles, including:

1. Clear definition of goals, which is the starting point of management.
2. Common sense, which consists in recognizing mistakes and finding their causes.
3. Competent consultation based on the involvement of professionals in order to improve management.
4. Discipline, which is provided with clear regulation of activities, control, timely encouragement.
5. Fair treatment of staff.
6. Fast, reliable, complete, accurate and constant accounting.
7. Commitment based on the principle "it is better to supervise at least unplanned work than to plan work without dispatching it."
8. Norms and schedules that facilitate the search and implementation of reserves.
9. Normalization of working conditions.
10. Operations normalization, consisting in the methods of their implementation standardization, time regulation.
11. Standard written instructions.
12. Performance reward (Baeva, Novalaska, 2017, p.46-47).

Taking into account G. Emerson's approaches, an information support subsystem of the management process should be formed together with regulatory documents. It will let to adhere the principles of activity regulation, fast, reliable, accurate accounting, dispatching, rationing and search for reserves (according to G. Emerson).

In energy management, this subsystem must perform the following functions:

- accumulation of information for planning the main parameters of enterprise energy efficiency;
- providing objective and complete information for factors influencing the energy efficiency of the enterprise analysis and assessment;
- search for additional information to adjust the process of enterprise energy efficiency management (energy risks, macro-factors, market conditions, innovations);
- analytical evaluation of information based on the results of monitoring and control of the energy efficiency management process of the enterprise.

Conclusions

Thus, as a result of such a subsystem availability, it is possible to implement the principle of providing all energy efficiency management processes of the enterprise with complete, relevant and objective information.

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THE ENERGY SERVICE MARKET PERFORMANCE IN UKRAINE



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JEL classification: Q4:Q430

Abstract. This article focuses on the analysis of the energy service market, the participants of this market are considered, the concepts of energy services, features and functions performed by energy service companies in the energy sector are revealed, as well as challenges and prospects are identified for energy service companies and energy service market. Certain factors hindering the development of this market are also discovered.

Keywords: *energy service market, energy service companies, energy management, development prospects.*

Introduction

There is currently a shortage of highly trained specialists and poor market infrastructure providing services in the area of energy saving. Various models should be developed for the field of energy services to facilitate this area development.

Problems of the energy industry are studied by many scientists, practitioners, and their results are presented in the works of V. Bashmakov, N. Rohalov, L. Hitelman (Bashmakov, 2013, p. 3-40). Significant work has been done on the research of energy service in Ukraine, however many aspects are still insufficiently studied in this area. This system is based on the principles of competition and active interaction between market participants related to the development, implementation and consumption of highly professional services in the field of energy services, and it requires development.

The research objective is to improve the framework conditions for the operation of energy services in Ukraine, thus accelerating the implementation of sustainable energy development standards and positively effecting the improvement of the overall level of energy efficiency in the country as a whole.

Research results. While creating the energy service market, legislative bases concerning the introduction of energy service mechanisms in Ukraine were formed. It was not until 2015 that the groundwork was laid through the adoption of the Law of Ukraine No. 327-VIII193 of 9 April 2015 and the Law of Ukraine No. 328-VIII194 of 9 April 2015.

It should be noted that there are numerous companies registered as energy service ones in Ukraine at the moment, but the activity is usually related to the supply of meters, energy saving equipment and materials, energy inspection or the supply of energy resources, which is not directly associated with energy saving and energy efficiency improvement of the customer and conservation of energy resources. The unclear direction of the legislative authorities and the

lack of real support for ESCOs lead to the conclusion that the energy service market is just emerging in Ukraine, therefore it is underdeveloped. The problems of the new market are as follows:

- firstly, unstable conditions for small and medium-sized business activity;
- secondly, the inconsistency between legislative rules and current needs (for example, the law does not clearly define the rights and obligations of energy service companies);
- thirdly, the lack of methodology for providing such services;
- fourthly, high financial and political risks.

During formation of the energy infrastructure of the country, the issues are sufficiently serious for financial independence of energy service companies, because they do

not have an opportunity to meet their obligations if energy efficiency project is implemented at their own expense at the employer's facilities (Shahko, Trembach. & Trembach, 2017).

The concept of "energy services" is not treated as "energy saving" in the traditional Ukrainian interpretation. Energy suppliers are interested in selling more energy at the most favorable rate for the company, whereas ESCOs do the opposite, they save energy and reduce its cost.

Energy storage and energy efficiency improvement are one of the key factors for the transition of energy-intensive economies to new technologies, as it allows to limit energy consumption by reducing dependence on environmentally inefficient or dangerous energy sources. Improvement of energy efficiency and energy saving could also be considered as an essential condition for sustainable economic development, since it facilitates to productivity, lower energy consumption and environmental pollution, development of new technologies, as well as creation of new markets for environmental products, services and employment.

The concept of "energy saving" is primitively understood as "burning less expensive fuel, or substitute it for a cheap alternative" in everyday life. Yes, that is what ESCOs do, but it is not a full range of actions.

Energy service companies are based on the idea, it is managerial, financial and engineering solutions saving significantly energy consumption at a variety of life and work places, which include housing and commercial complexes, offices, companies, stations, airports, etc.

The most significant task of the state improving energy efficiency and energy saving is to attract investment for the implementation of energy saving measures. This will reduce energy costs and thus contribute to economic growth. Ukraine has always been on the "energy needle" during the years of its independence. A promising mechanism of attracting funding and competencies for energy saving projects is energy service based on the principle of payment for energy saving measures implemented by specialized energy service companies at the expense of energy savings.

The energy service market is a type of energy services and can be used at all stages of the energy conversion process at the

facilities of electricity and combined heat and power sectors and engineering infrastructure, including heat and power supply companies, power grid equipment and heating mains, at the facilities of final consumers of heat and electric power (budgetary institutions, industrial enterprises, housing stock) (Cabinet of Ministers Resolution, 2010).

Energy strategy of Ukraine till 2035 is security, energy efficiency, competitive ability and a document outlining strategic guidelines for the energy economy development of Ukraine till 2035. Electric power industry is one of the largest primary sectors of the national economy, which effective operation is a necessary condition for sustainable economic development, energy security and energy independence. At the same time, it could be currently stated that the electric power industry is in critical condition. The long-term delay in reforming the energy sector, low efficiency of energy production and consumption, monopoly position in certain sectors of energy production and distribution, lack of real diversification of energy sources, substantial depreciation of fixed assets for power generation are the fundamental reasons for this situation (Kudlai & Seliverstova, 2018).

The task of state bodies in the system development of energy service companies is to form an integrated system of regulatory and legal support and control over the market of energy services. This sector requires improved regulatory framework of Ukraine on the implementation of energy service agreements, thus enabling to attract investments for projects improving efficiency.

A crucial role in the development of the energy service business is played by the involvement of energy service companies to work on state and municipal facilities both to implement certain energy saving measures or programs and to manage these facilities using modern forms and methods of management (concession, renting, leasing, etc.) on a competitive basis. Energy service contracts in the budget sphere will provide a tangible increase in energy efficiency of its institutions and organizations, optimization of budget expenditures for energy resources under the terms of its consumption reduction, attraction of extra-budgetary financial resources for modernization of budget facilities. An overriding issue is training for the implementation of energy efficiency measures

with an emphasis not so much on technical aspects tightly defined in the literature, as on the development of best practices in energy management including "menu of managerial decisions" to optimize energy supply and social sphere.

According to World Energy Investment 2018 prepared by the International Energy Agency (IEA), global investment increased in energy efficiency by 3% (\$236 billion) against the background of an overall reduction in energy investment by 2% to \$1.8 trillion. Still the same IEA estimates investment in energy efficiency to grow to \$300 billion by 2022. In general, an investment dynamic in the energy efficiency sector compared to the previous year slowed by 6% (growth was 9%, \$231 billion, in 2016). The factors affecting these indicators are quite diverse. Changing state policy in the field of energy efficiency and economic climate of such countries with the largest GDP as China, slowing down the metallurgical sector development and increasing construction branch, reducing the cost of technologies in the renewable energy segment also plays its role. Correlation with world energy prices no longer plays a primary role. The improvement of energy efficiency allows to reduce emissions to the environment, improve industrial safety, comfort for business staff, residential property owners, staff and visitors to commercial real estate, extend operational lifetime of equipment, buildings, and implement innovations. According to the State Agency on Energy Efficiency and Energy Saving of Ukraine, 190 energy service contracts have been concluded with about 15 investors worth UAH200 million (about \$8 million) for the year to date. Moreover, the amount of contracts does not reflect the volume of investment, but the volume of payment for energy services to the investor, if the savings are achieved [5].

Ukrainian potential is huge for attracting investment in this area. Ukrainian energy intensity is 3 times higher than the European average. According to various estimates, Ukraine requires from \$25 to \$60 billion in investment to achieve the European level of energy efficiency. It is necessary to introduce it in the sector of housing, production, budget sphere and supply of thermal energy, which could increase energy efficiency by 50-60%.

In analyzing the efficiency of thermal energy use in the buildings of 16 thousand legal entities

in Kyiv, it turned out that a thousand Kyiv buildings could reduce their heating costs on average by 5 times if they implement comprehensive energy efficiency measures. There were the offices of central government, large state enterprises, apartment building co-owners association (condominiums) and others among such buildings. Taking into account such "pools of inefficiency", there are many opportunities to attract additional resources from foreign investors.

The country strengthening the potential for savings (and profitability for investors) through institutional capacity is creating a regulatory framework that will launch a full-scale energy efficiency market in Ukraine (Competitiveness improvement through creating a sustainable legal grounds for the work of energy service companies in Ukraine, 2015).

For example, the Law "On the Energy Efficiency of Buildings" has already entered into force this year (most state and municipal buildings should pass energy certification from July 1, 2020). The Law "On Commercial Accounting of Thermal Energy and Water Supply" is already in force, which should ensure total energy accounting, and according to the Law "On the Energy Efficiency Fund", the state mechanism of grant support may be launched for modernization of the housing sector in heat supply in early 2021.

The critical need for investment in the energy service market in Ukraine is a drop in the ocean. Thanks to government activity and a favorable regulatory environment, projects in the housing and budget sectors will show good results with minimal risks, and private foreign investors, who currently do not see a driving force on this matter, will gradually be involved.

Trends in the number of announced and concluded ESCs have a positive behavior, but the share of canceled ones is quite high indicating the low quality of tenders. In the new market, there are few energy service companies having access to loan capital, and not many Ukrainian cities have interest in this. There is a great demand to conclude contracts during the new heating season. Companies and firms counting the results for the season and considering profit see a big gap in finance for energy consumption services. This encourages energy service contracts. These actions are illustrated in Figure 1.

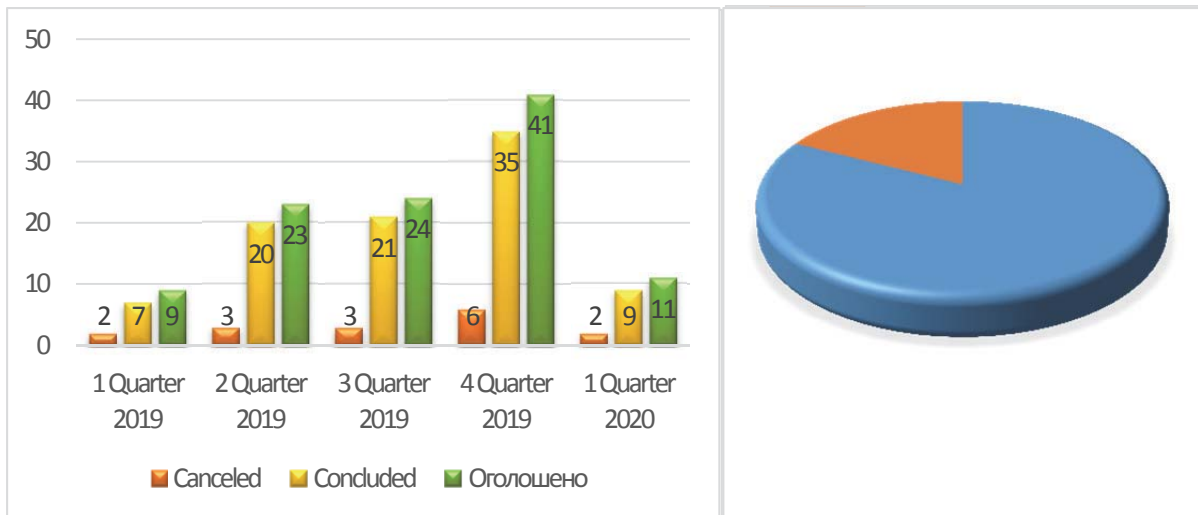


Figure 1. Trends of the energy service market

The customers of energy service are the facilities shown in Figure 2 [7].

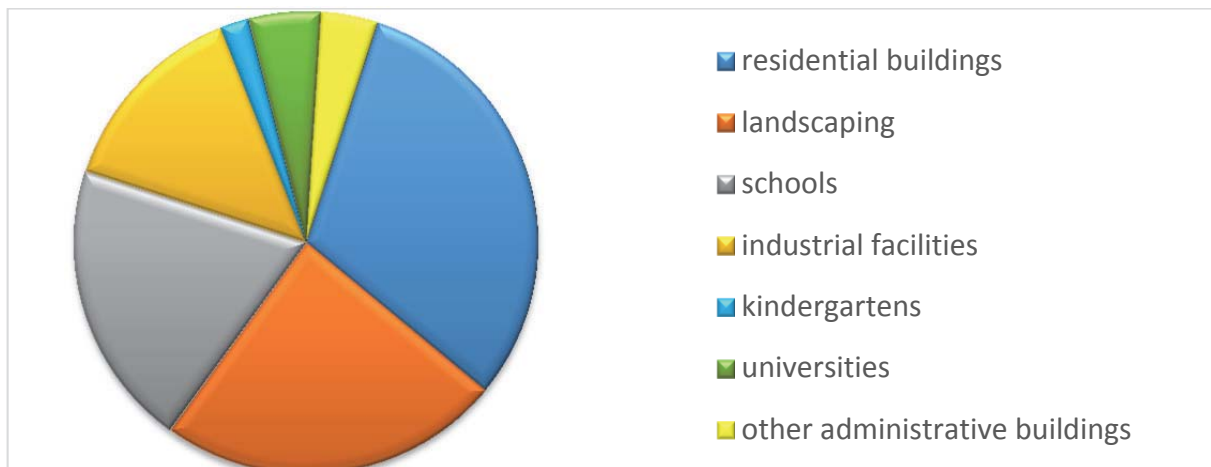


Figure 2. Structure of concluded energy service agreements by facility type

It is advisable to develop new forms of energy services through the energy service business development, provision of consumers with quality utilities at the level of standards with minimal costs set in EU countries forming by consistent introduction of energy saving technologies for the development of a competitive energy market, demonopolization of energy supply and efficiency. It is possible to create a local (municipal) energy service company, extensive use of energy service contracts in the budget sphere and involvement of energy service companies on a competitive basis to implement energy saving "turn-key" projects at the municipal level.

In general, the following recommendations can be offered to improve the energy service market:

- 1) enhancing efficiency of information flows with respect to accounting energy service activity, as well as sharing successful experience both at regional, and municipal levels;
- 2) strengthening the role of development institutions in stimulating energy service activities in Ukraine and associations of energy service companies. The banking environment remains insufficiently receptive to the prospects of energy saving projects, most commercial banks do not include energy service activities in the list of lending directions. In this regard, it is necessary to provide information support on the activities of energy service companies to raise awareness of potential investors;
- 3) strengthening the role of associations of energy service companies., Associations of principal stakeholders in cooperation with state analytical institutes and executive bodies should play a leading role in forming the methodological framework and spreading best practices;
- 4) regular analysis and monitoring of the regional energy service market is recommended to put into

practice.

In modern conditions, the development of the energy service business is a continuous, sustainable process that must work on a "revolving" basis providing a steady growing profit now and in the future. It is the driving force behind the implementation of energy saving measures, successful reform of the energy sector, and effective management of energy infrastructure in European countries.

Given the above, the issues require further research on international experience in the use of certain types of energy service contracts and funding models for these contracts in Ukraine; detailed analysis of domestic legislation in this area and discussion of prospects for the development of energy service companies in all sectors of the national economy.

Conclusions

In taking stock of the above, it should be noted that it is quite possible to implement the considered trends in the development of the energy service market and improve the market of energy services within the near future. Furthermore, in restructuring the industry and the electric power market, in particular, it is necessary to assume that the renewed energy sector should ensure long-term sustainable social and economic development of Ukraine under the terms of regional integration and competition in European energy markets. Its sustainable performance should ensure the energy security of Ukraine, the ultimate satisfaction of the needs for electricity of both society and the economy.

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PANDEMIC AND CRISIS AS FACTORS OF GEOPOLITICS



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According to most political science concepts, one of the driving forces in the development of mankind is various crises that periodically arise in the world for one reason or another. Depending on the scale of such crises, their consequences may be a change in the balance of forces in the world or in individual regions, as well as new geopolitical and geo-economic formations.

...The main role in the process of building a future world order will be played by China and the United States as the two great powers...

This applies to the current situation in the world, which, in fact, has the character of a new global crisis and leads to another transformation of the entire system of international relations. Thus, the multi-polar world, which has begun to take shape in

recent years with several centers of power at different levels, is again being replaced by a bipolar model of world order, now led by the United States and China.

All other centers of power, including the United Europe (EU) and Russia, cannot compete with them and are gradually losing ground. Moreover, some of them are in the American or Chinese spheres of influence. This is evidenced by the consequences of the coronavirus pandemic and the destabilization of the world oil market.

At the same time, the pandemic and the oil crisis have become just catalysts or manifestations of the intensification of the struggle between different centers of power for realization of their interests. This struggle is much broader and deeper, and its results depend on superiority of the economic and political systems of rival countries. Of course, it is impossible to describe all aspects of the theme in one article. Therefore, we will focus only on the most significant ones.

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To date, **China** has shown the greatest success in overcoming the crisis, and thus in strengthening its position in the geopolitical confrontation in the world. The reason for this is the high efficiency of the political and economic system of China, which combines the positive aspects of state-run methods of management, market and innovation economy, as well as socialist approaches to meeting the needs of the population.

...China has shown the greatest success in overcoming the crisis, and thus in strengthening its position in the geopolitical confrontation in the world...

During the pandemic, China's state-run methods of management allowed for a strict quarantine regime, as well as effective care for the sick. Including by expanding the network of hospitals, mobilizing medical staff and allocating the needed material and technical resources (drugs, protective and

special equipment, etc.). Due to this, the Chinese leadership managed to quickly overcome the epidemic with relatively few casualties among the population.

The Chinese government also provided targeted financial assistance to all economic actors affected by the epidemic, from state-owned enterprises and large private companies to small and medium-sized businesses. In turn, this allowed to restrain the crisis in the Chinese economy at a appropriate level. According to different estimates, the coronavirus epidemic caused an about 6 % year-on-year GDP decline in China's economy. However, from April to May this year it began to grow gradually. At this, a favorable factor for China, as the world's largest consumer of energy carriers, was the decline in oil prices.

Unlike China, the democratic and largely bureaucratic government system in the **United States** did not allow for a strict quarantine regime in the country. In fact, uncontrolled remain some areas of New York City and some other cities, which became centers of spread of infection. There were also some problems with the mobilization of medical personnel. These circumstances caused the rapid spread of the coronavirus infection in the United States, which ranked first in the world in the number of patients.

...The availability of significant resources in the United States allowed the country's leadership to quickly establish a system to counteract the epidemic. A powerful stabilizer of the US economic system was its advanced innovative nature...

At the same time, the availability of significant resources in the United States allowed the country's leadership to quickly establish a system to counteract the epidemic and provide it with all means needed. At this, restrictive measures were strengthened and a number of mobilization steps were taken.

The US economy also faced significant challenges, which included, first of all, partial suspension of production due to the quarantine, and losses of the oil industry due to falling world oil prices. The latter factor was particularly negative for the United States as one of the world's largest oil producers. However, all this did not become a catastrophe for the US economy, which lost only 5 % of GDP. A powerful stabilizer of the American economic system was its advanced innovative nature, which provides high productivity, ability to quickly redistribute investment (capital) between different industries, as well as the use of new (including remote) methods of work based on digital technologies.

The **European Union** has faced even greater problems. Thus, at the initial stage of the pandemic in the world, the spread of coronavirus in Europe was facilitated by the same factors as in the United States. Plus, additional obstacles in the fight against the pandemic were: disagreements between EU countries over the methods of joint action in this sphere; transparency of internal European borders; mass movements of people and goods; illegal migration to Europe from the Middle East and North Africa.

...EU countries have managed to turn the tide and succeed in addressing the epidemic at both European and national levels...

This mainly applies to the most developed members of the EU — Germany, France and the United Kingdom, as well as the countries of Southern Europe, in particular — Italy and Spain, which are mostly chosen by migrants. It is these countries that have largely

suffered from the pandemic and faced the most acute economic problems. All in all, the decline in the aggregate GDP of the euro-area countries is estimated at 7.7 % year-on-year.

Yet, again, these problems did not cause a catastrophe in Europe. For example, EU countries have managed to turn the tide and succeed in addressing the epidemic at both European and national levels. This created preconditions for Europe's gradual exit from the crisis.

...Russia is on the verge of a deep crisis...

Absolutely different is the situation in **Russia**, which is in fact on the verge of a deep crisis. According to the forecasts of the Central Bank of Russia, by the end of the

year the country's economy may fall by 4–6 %. In contrast, the Institute of Economics and the Institute of Economic Forecasting of the Russian Academy of Sciences estimate the decline in Russia's GDP in 2020 at 12–20 %. Even more negative prospects are expected by a number of other experts, who do not rule out the possibility of Russia's economic downturn of 40–80 %.

All this is the result of the de facto failure of Putin's policy, which showed the Kremlin's inability to effectively counter powerful challenges and threats that Russia faces. Thus, despite Putin's construction of a rigid totalitarian power system in the country, it has, in fact, failed to curb the rapid spread of the epidemic. The reasons for this were: lack of resources needed; a low level of executive discipline at all levels; the populist position of the Russian ruling elite, which for a

long time refrained from imposing strict quarantine in order to demonstrate Russia's "superiority" over other countries.

Moreover, the weakening of the "manual" mode of ruling Russia immediately led to the beginning of "self-isolation" of Russian regions. Citing V. Putin's decree on granting the regions additional powers to counter the pandemic, local authorities began to take their own quarantine measures, including with violations of the Constitution of the RF. Such practices also pave the way for the development of regional separatism, which will intensify as the economic situation in the country deteriorates.

...Failure of Putin's policy showed the Kremlin's inability to effectively counter powerful challenges and threats that Russia faces...

Russia's economic system, built by V. Putin on the archaic methods of state-oligarchic management of the most important sectors of the Russian economy, also showed its inefficiency. At this, they mainly remain focused on the extraction and export of natural resources. This is what

created the basis for Russia's economic problems and the practical impossibility of their independent solution.

Today Russia can count only on its financial reserves, accumulated in the country's National Welfare Fund. At this, according to Russian experts, in case of a continuation of the pandemic in Russia and further instability in the world oil market, these funds will have been spent before the beginning of next year.

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In general, these factors will determine the architecture of the future world order. At this, the main role in the process of building a new world will be played by China and the United States as the two great powers. In fact, the struggle between them began long before the current crisis, but today it is taking on new manifestations and forms.

...China is stepping up measures to expand its sphere of influence in the world, for which purpose it takes advantage of other countries' economic problems...

Thus, based on the progress made in overcoming the crisis, **China** is stepping up measures to expand its sphere of influence in the world, for which purpose it takes advantage of other countries' economic problems. According to a number of world media reports, Chinese business

is actively buying up companies from neighboring countries that have gone bankrupt or are in dire straits. First of all, such actions of China are aimed at India, which is China's rival in Southeast Asia, as well as the countries of the Asia-Pacific region, Central Asia, Africa and South America. Special attention is paid to Russia. At the same time, Chinese media spread in the information spaces of neighboring countries the idea of China's advantages over them in economic, medical and other fields. This suggests a conclusion that they should unite around China on the basis of common interests and historical past.

In response, the **United States** is stepping up its efforts to maintain its dominance in the world and counter the Chinese expansion. In particular, they include the uniting of Western countries around the United States, this time — on an anti-Chinese basis. At this, the United States is moving from the isolationist policy that was characteristic of the initial stage of Trump's presidency to the traditional Euro-Atlantic and Trans-Pacific course.

...The United States is stepping up its efforts to maintain its dominance in the world and counter the Chinese expansion...

This was evidenced by the United States and its allies (Great Britain, Canada, Australia and New Zealand)'s accusations against China for "deliberately concealing information about a new viral infection" and for "developing and using COVID-19". Thus,

according to US Secretary of State M. Pompeo on May 3, "There's enormous evidence that that's [Chinese laboratory in Wuhan] where this [coronavirus] began".

These steps of the USA are confirmed by the US assistance to European and other countries in fighting the pandemic. Despite its own problems with the epidemic, the United States has allocated about a 1 billion US dollars for these purposes. Of these, 100 million US dollars were provided to Italy as the most affected EU country. Significant sums have been allocated to the countries of Central America, Asia-Pacific, Africa and the former Soviet Union. In particular, 9.1 million US dollars were provided to Ukraine (as the United States' main partner in the post-Soviet space); Georgia, Azerbaijan and Armenia got 1.7 million US dollars each (as countries in the Caucasus region, which is of particular importance to the United States); 1.3 million US dollars went to Belarus (as a country that is beginning to change its policy towards improving relations with the West).

To counteract China's economic expansion in Europe, the United States has resumed the practical implementation of the idea of integrating American and European markets. In May 2020 the United States and the UK returned to a free trade talks. If successful, dialogue can also be resumed on creation of a free trade area between the US and the EU.

We should also mention the United States' moving to a new stage of economic war with China. One form of such war is the transfer of American capital and enterprises to other countries, India included.

In general, the USA's policy towards China is supported by **Europe**. In particular, the NATO summit, in December 2019, emphasized the increase in China's threats to the West. At the same time, the leading EU countries have begun their own steps to curb China's economic expansion by imposing restrictions on Chinese investment in most important sectors of the European economy. As a result, the EU's policy is increasingly beginning to follow American interests.

...The United States/NATO and the EU are severely blocking Russia's attempts to achieve international recognition of its exclusive sphere of influence in the world...

Against this background, **Russia** is beginning to lose its position in the world and is gradually being pushed to the international stage background. This process was initiated in 2014 as part of the USA and the EU's imposition of political and economic sanctions against Russia and is now reaching a

qualitatively new level. Thus, the world's leading powers, in fact, cease to reckon with Russia, except for certain aspects that are mostly formal in nature and do not have a real impact on the world situation. In particular, the United States and leading EU countries continue their dialogue with Russia on international security issues. Besides, in 2019, Russia's full membership in the Parliamentary Assembly of the Council of Europe was restored. Moreover, against the background of the threat of a new global crisis, some European politicians and organizations are intensifying calls to lift sanctions from Russia and move to full cooperation with it. Cooperation between Russia and China, India and other "third world" countries also continues.

At the same time, the United States/NATO and the EU not only do not abandon the policy of restraining Moscow's neo-imperial course, they consistently increase pressure on it. Within the framework of such a policy, Russia's attempts to achieve international recognition of its exclusive sphere of influence in the world are severely blocked. At this, Western countries and international organizations have effectively excluded Russia from important international decision-making processes and their economic system. Evidence of this is the failure of Moscow's attempts to achieve lifting of Western sanctions under the pretext of joint counteraction to crisis situations in the world. According to the leaderships of the United States, the European Union and leading European countries, the coronavirus epidemic in the world cannot be a reason to lift sanctions from Russia. Moreover, in early May this year, the United States expressed readiness to take much tougher actions against Moscow in case of its attempts to annex Ukraine or Belarus.

This position of the West is completely different from the situation during the global financial and economic crisis of 2008–2009, when the United States and the European Union went for "resetting" relations with Russia after its attack on Georgia.

...Russian's aggression against Ukraine was perceived by the United States and Europe as

a threat to their own security, which became a “point of no return” in their relations with Russia...

All this was the result of Moscow's crossing the “red line” in its foreign policy, which was for the West Russian's aggression against Ukraine. Such actions by Moscow were perceived by the United States and Europe as a threat to their own security,

which became a “point of no return” in their relations with Russia. In addition, in recent years there has been a gradual decline in Russia's importance to the West, which has an additional impact on its attitude to it. In particular:

- the growth of China's nuclear and missile capabilities, as well as the emergence of new countries with nuclear and missile potential, have virtually eliminated Russia's sole role as a major source of threats to US strategic security. So, the agreements between the United States and Russia in this sphere have actually lost their validity;
- measures taken by the EU leadership, with the assistance of the United States, to strengthen European energy security have already significantly diversified the sources of gas and oil supplies to the European market. The result is the weakening of Russia's position in the EU's energy sector. This trend has become apparent in the current situation of excess energy carriers in the world market;
- stagnation of the Russian economy under Western sanctions, and now the consequences of crisis processes in the world, significantly narrows the Russian market for European goods. This reduces the importance of Russia as a trading partner of the European Union.

...Evidence of this is the failure of Moscow's attempts to achieve lifting of Western sanctions under the pretext of joint counteraction to crisis situations in the world...

These circumstances, in fact, have caused the failure of Russia's plans to undermine the unity of the Western world and to “attract” to its side individual EU countries by organizing various information and propaganda campaigns around the coronavirus epidemic in the world.

Moscow's actions included spreading outright lies about “the USA's developing and spreading COVID-19 as a biological weapon against other countries”, “Europe's inability to cope with the epidemic on its own”, and “Washington's refusal to support its European allies”. On this basis, Russia has launched demonstration campaigns to help individual EU countries fight the pandemic. Despite the fact that such assistance was purely symbolic, Moscow actively used it as an informational pretext to attract to its side some European countries and to introduce split between them, including over anti-Russian sanctions.

However, the RF failed to achieve its goals. In this regard, the most illustrative was the position of Italy, which occupied a special place in the above-mentioned plans of Moscow. According to Italian Prime Minister G. Conte, “with regards to the geopolitics of who has received aid, I can confirm that our foreign policy today is identical to yesterday's”. The pillars of Italy's security are NATO and the European Union.

...Russia is already moving from attempts to reach an agreement with the West to regular demonstrations of force. With this in mind, we should also expect that Moscow will intensify its actions to pursue its interests in Ukraine...

Of course, this will not stop Russia, which will try to pursue its neo-imperial policy to the last. For example, it is already moving from attempts to reach an agreement with the West to regular demonstrations of force, including intimidation of the United States and Europe with the latest weapons. With this in mind, we should also expect that Moscow will intensify its actions to pursue its

interests in Ukraine, including further provocations in the Donbas. In this way Russia will try to somehow compensate for the failures of its policy in relations with the West.

Given the above, Moscow will not make concessions to Ukraine, no matter how much we hope for such prospects. It is the understanding of this fact, not illusory “hopes for the best”, that should be the basis of Ukraine's strategy to restore the territorial integrity of the state.

KEY ISSUES OF THE DEVELOPMENT AND IMPLEMENTATION OF REGIONAL PROGRAMS IN THE CONTEXT OF DECENTRALIZATION OF STATE POWER



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Abstract. The article substantiates the basic provisions of the need to develop and implement regional programs. The importance of regional programs in the conditions of decentralization of state power is emphasized. Emphasis is placed on the potential of using an international experience in this field. The socio-economic and legal prerequisites for establishing regional programs are noted. The

development and implementation of regional programs in terms of practical application is explored. While taking the general requirements for their content into account, the basic principles of the development of regional programs are developed. The need for regional policy planning is taken into account, which is based on the individual characteristics of the regions, including geographical location, industry level and development of the agrarian complex, state of the environment and more. The necessity of interaction of local state administrations, local self-government with the central executive authorities, which should be fixed at the state level, is also taken into account.

Keywords: *regional program, local state administrations, local self-government, development, planning, legislation, state.*

Introduction

The key to successful implementation of regional policy is the setting of priority goals and objectives of local executive bodies and local self-government. In each specific region, taking into account the specifics of social, economic, cultural, environmental needs, an individual regional policy is implemented, which requires a comprehensive approach to the tasks of all levels of complexity. This approach of solving regional problems involves the construction and development of a regional program designed to plan and put into action the most important and necessary measures for the successful implementation of regional policy.

Literature review. The basic aspects of public administration as a whole and the activity of local state administrations were investigated by O. Bandurka. V. Mamonov pays attention to the problems of forming the legal basis of regional policy. R. Bilyk explores the improvement of the institutional and legal support of regional policy. L. Cherenko, in his scientific works, carries the research out into the concept of "welfare of the population" in order to determine the standard of living of the population of Ukraine. L. Prokopenko and I. Shumlyayeva emphasize the need to borrow foreign experience in planning and direct activities of local state administrations.

Research methodology. The methodological basis of the study is a set of general and special methods and techniques of scientific knowledge.

The comparative legal method provided an assessment of the provisions of the current administrative Ukrainian legislation on project development and implementation regional development and comparing it with the legislation of countries Of the European Union. Statistical method - for research and analysis of information on regional development, economic indicators, identification of patterns regarding the successful implementation of projects and programs regional development.

Such methods were used in interconnection and interdependence.

Unresolved parts of the common problem. In the combination of the listed practices of scientific and practical research of foreign and domestic scientists, the questions raised by local state administrations and local self-government regarding the development and implementation of regional programs remain open, namely: the correct setting of the program objectives, taking individual peculiarities into account, use of international experience, as well as previous experience in the field of regional development, etc.

Thus, the **purpose of the study** is to highlight the main problems faced by state bodies and structures, local self-government in the development and implementation of regional programs, including the solution of the issue, should be implemented at the state level, by improving legislation, applying a practical approach to this issue, eliminating any signs of formalism.

Research results. It is impossible to overestimate the importance of the regional development program, since the activities of state bodies and structures, as well as local self-government, are built on programming (long or short term). Programming at the administrative-territorial level influences the construction of state development strategies, introduces an element of stability, balance of public administration. Each of such programs aims to achieve a specific result. The tasks and the end result must be determined by the needs of the region. There is no way for regional programs of different administrative-territorial units to be the same (have identical goals and objectives, deadlines, etc.). After all, each region is characterized by its unique, specific development, socio-economic needs, legal support, administrative features, cultural development. Moreover, when regional policy is implemented in the context of decentralization of state power: each region is endowed with rights and responsibilities, since the executive power and local self-government have an expanded range of powers and carry extremely serious responsibility at the state level.

As Ukraine is facing political transformations and changes in the socio-economic direction, it is important not to lose the balance and connection between the real economic indicators of the regions and large-scale plans and projects of the state level that

cannot be implemented due to lack of socio-economic equilibrium. In order to set high goals and goals and to make drastic changes in the state policy, one should rely on previous experience, economic and social indicators, the reasons for the unsuccessful implementation of the previously planned changes, conditions under which the gaps in the legislation and practical activity of state bodies can be eliminated and structured. The state of modernization of the country in technological, informative and communicative directions should also be taken into account.

A well-designed regional development program allows to expand the boundaries of cooperation between regions, to increase investments, introduce economic growth and improvement of living standards of the population of a specific territorial unit. Thus, to improve the socio-economic indicators of rural areas, the construction of a regional program should be based on technical support of the economy, the possibility of using optimal types of management, taking into account the geographical location of a specific administrative and territorial unit, as well as the needs of the population of the region. Infrastructure, that was developed in previous times, including the Soviet ones, have a great importance. The leading role is also played by research work in the indicated direction. The use of specialized knowledge and conducting of practical and meaningful researches allow to solve a number of issues, starting with the development of agrarian complex of a certain administrative-territorial unit, ending with problems of industrial character. Such knowledge and research should be taken into account when constructing regional programs. Thanks to the research work, it is possible to substantiate the socio-economic needs of the region. With the involvement of the public, the process of collecting and researching information relevant to a particular region becomes more productive, and the end result is a sign of practicality and effectiveness.

Discussion of research results. The regional development program, regardless of the individuality of each individual region, must meet the general requirements that form the basis for the activities of local state administrations and local self-government. Thus, in the opinion of the author of the study, the importance of the principles on which it is based should be noted. It is the principles that form the basis for further

building both the form of the program and its content. Summarizing the theoretical material, as well as exploring the practical side of the issue (analyzing regional programs of socio-economic development of Ukrainian regions), the author proposes to establish the following principles for the construction of a regional program:

- the principle of relevance: the regional program must meet the requirements of the region, taking into account the previous experience of local state administrations and local self-government in certain areas, as well as baseline indicators for the previous period. The relevance must be maintained throughout the program implementation and implementation period;

- principle of legality: all decisions made in the framework of the development, implementation and implementation of a regional program must comply with the law, without prejudice to the legislative support of regional policy. For example, "The Program of Economic and Social Development of Kharkiv Region for 2019" (The program of economic and social development of Kharkiv region for 2019) in the introductory part contains references to the Law of Ukraine "On the State Budget of Ukraine for 2019", "State Strategy for regional development for the period until 2020", as well as other legislative acts. In the introductory part it is stated that "the Program was elaborated taking into account the draft of the Law of Ukraine "On the State Budget of Ukraine for 2019"; Sustainable Development Strategy "Ukraine 2020", approved by Presidential Decree No. 5/2015 of January 12, 2015; The State Regional Development Strategy for the Period up to 2020, approved by the Cabinet of Ministers of Ukraine Decree No. 385 of 06.08.2014 (as amended); Development strategies of the Kharkiv region for the period up to 2020, approved by the decision of the Kharkiv regional council of March 05, 2015 № 1151-VI; Plan of actions for 2018 - 2020 on implementation of the Strategy of development of the Kharkiv region for the period till 2020, approved by the decision of the Kharkiv regional council from August 31, 2017 No. 499-VII; Decree of the Cabinet of Ministers of Ukraine of 11.07.2018 No. 546 "On Approval of the Forecast of Economic and Social Development of Ukraine for 2019-2021"; The National Sustainable Development Goals: report of Ukraine, approved by the High-level Interagency Working Group on the Implementation of the

Sustainable Development Goals, approved at the United Nations Sustainable Development Summit (2015).

- gradual principle: each regional program is divided into structural units (sections, divisions, items), which gradually analyze the situation in the region, outline the content of the follow-up, expected results, summarize the work for the previous period, etc. This principle is extremely important because it is the basis for planning the activities of local state administrations and local self-government.

- the principle of forecasting: risk of forecasting and assessment are the basis for building a successful regional program. Forecasting allows you to anticipate risks and calculate possible losses. By building a scenario in a particular area of life in the region, it becomes possible to avoid negative consequences and make them uncritical. Part II of the Program of Economic and Social Development of the Kharkiv Region for 2019 (The program of economic and social development of Kharkiv region for 2019) sets out the main projections for 2019-2021, which are the criteria for the implementation of the Program's priority tasks. This Program calculates individual projections for two scenarios: Target (Scenario 1) and Baseline (Scenario 2) in accordance with the Decree of the Cabinet of Ministers of Ukraine No. 546 of July 11, 2018 "On Approval of the Forecast of Economic and Social Development of Ukraine for 2019-2021". Ukraine's economic and social development forecast for 2019-2021 is based on three scenarios and is based on an analysis of economic development in 2017 and the two previous years, current economic situation, assumptions that take into account the impact of external and internal factors and risks, and contains a vision of the prospects for development economy of Ukraine in 2019-2021 (in general and by economic sectors).

- justification principle: every action provided by a regional program must be justified, it is obligatory to clarify the positions stated, because any measures specified in such a program entail material costs. The need for a practical approach to this issue should be emphasized. Formalism has no place in the construction of programs, both socio-economic, cultural, environmental, etc. The actions and measures laid down in the regional program must be built in terms of a practical approach. They should be preceded by an exploration of

the situation in the region through direct communication with the public, clarification of public opinion regarding their attitude to solving problems of the region, taking into account the community's ability to influence the situation. Practicality means the desire and ability of local state administrations and local governments to really influence the material and intangible development of the region.

According to Art. 43 of the Law of Ukraine "On Local Self-Government in Ukraine" (Law of Ukraine on Local Self-Government in Ukraine: May 21, 1997, No. 280/97) the powers of the district and regional councils include approval of programs of socio-economic and cultural development of the respective district, oblast, targeted programs on other issues, listening to reports on their implementation.

With regard to the social justification for the need to develop regional programs, it should be noted that the issue of improving the quality of life of the community and creating conditions for the harmonious development of members of territorial communities remains urgent. To date, attention to this topic is driven by changes in models and strategic orientations of Ukraine's development in conditions of increasing instability. The need to continually study the standard of living of communities and achieve high standards of living, which are an integral part of building well-being, is carried out by the following facts: The United Nations has adopted a 2030 Agenda for Sustainable Development, which contains 17 goals to elimination of poverty, conservation of the planet's resources and ensuring well-being for all (United Nations – Ukraine). The current policy of Ukraine emphasizes that the well-being of Ukrainians, the provision of decent living conditions for ordinary citizens and the raising of social standards in the country are among the first priorities of the work of all public authorities. In the Concept of State Regional Policy, the main goal is to ensure a high standard of quality of life for a person regardless of his place of residence (Concept of State Regional Policy of Ukraine).

For more successful implementation of the measures of social and economic development programs of the region, consideration should be given to the possibility of cooperation of local state administrations, local self-government with central executive authorities, which should be implemented on the basis of state and regional

development strategies for the long term, in which compatible interdependent (over time) should be followed by actions that are driven by a common purpose and aimed at overcoming obstacles to the fulfillment of all the tasks of the above programs and strategies. Such actions and measures should be carried out in accordance with the legislation of Ukraine, using all possibilities of mutual productive work and every regional program should have legal justification. The main provisions of the agreement on regional development are stipulated by the Law of Ukraine "On stimulating the development of regions" (On stimulating the development of regions: Law of Ukraine of September 8, 2005 No. 2850-IV). The above Law stipulates that "the state's stimulation of the development of regions is carried out in accordance with the bases of the state regional policy, laws on the State Budget of Ukraine, national programs, other laws and legislation of Ukraine, as well as economic and economic programs social development of the Autonomous Republic of Crimea, regions, cities Kyiv and Sevastopol, local budgets."

The State Regional Development Strategy for 2020 [6], approved by the Cabinet of Ministers of Ukraine of November 21, 2013, creates the institutional basis for the dynamic and balanced development of Ukraine and its regions in ensuring their social and economic cohesion, improving the standard of living and obtaining citizens. Ukraine cares of high quality public and social services regardless of place of residence. The State Regional Development Strategy for the period up to 2020 (Resolution of the Cabinet of Ministers of Ukraine of August 6, 2014, No. 385) takes into account the dynamics and basic tendencies of socio-economic, spatial and managerial development of the regions of Ukraine, prospects for their modification, determines the basic goals and strategic priorities of regional development in Ukraine, mechanisms and indicators of their successful implementation until 2020. In general, the State Regional Development Strategy for the period up to 2020 forms an effective institutional basis for stimulating regional development, aligning strategic priorities of regional development of Ukraine with strategic priorities of regional development of European Union countries (Bilyk, 2014, p. 42).

Conclusions

Considering the main issues of the development and implementation of regional programs, many scholars and practitioners highlight the focus of such programs on the future improvement of the activities of local state administrations, local self-government in the field of socio-economic, cultural development and more. This provision is undoubtedly correct and relevant. However, according to the author of the study, due attention is paid to the preservation of already existing developments in the economic, social sphere, and also the experience of economically developed countries of the world is not fully used, it will be applied only partially, without taking into account the peculiarities of the socio-economic base of our state. The need for a gradual approach to this issue should be emphasized. It is the regional program designed to calculate the next steps and actions towards the development of the region, it reflects the most problematic issues that are facing the subjects of its implementation. A regional program is the basis for building national plans and projects, which is why it is difficult to overestimate its importance.

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WRITTEN INSTRUCTIONS OF A PROSECUTOR AS A SPECIAL FORM OF HIS PROCEDURAL DECISION IN CRIMINAL PROCEEDINGS



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Abstract. The article analyzes the national and foreign legislation regulating the right of the prosecutor to provide written instructions, its legal form and structure are examined, the author's definition is represented for written instructions by the prosecutor meaning the mandatory procedural decision, issued by separate instructions or instructions enshrined in the reasoning part of the order overturning the procedural decision of the investigator by which the prosecutor instructs the investigator to conduct investigative (search) actions in criminal proceedings, both exposing and acquitting the suspect, to assess, investigate and analyze the evidence, eliminate law violations, perform other necessary procedural actions.

The article also analyzes the provisions of the Criminal Procedure Codes of Georgia, the Republic of Belarus and the Russian Federation, as they envisage the most similar powers of the prosecutor in regards to providing instructions in comparison with national law.

According to the results of researching more than 30 criminal proceedings, it is proved that written instructions of the prosecutor consist of two parts, narrative and operative one.

The opinion is substantiated that prosecutors provide instructions contained in their orders particularly on the repeal of the investigator's decision to close the criminal proceedings. The prosecutor indicates the grounds for his decision and lists the procedural actions that he believes the investigator has not performed in such orders. The prosecutor cancels the investigator's decision and provides a list of investigative and other procedural actions that should be performed during the pre-trial investigation in the reasoning part of the order.

Analyzing the above scientific views and legal regulations, it is considered appropriate to highlight the following features specific to written instructions of the prosecutor, namely, specificity, consistency, timeliness and mandatory application.

Keywords: *procedural decisions in criminal proceedings, instructions of the prosecutor, powers of the prosecutor, pre-trial investigation, procedural guidance.*

Introduction

The dynamic development of Ukrainian statehood has determined the need to reform its various state and legal institutions, improve the mechanisms of its activities. This trend is due to radical changes in national legislation, including in the area of criminal justice.

Adoption of the Criminal Procedure Code of Ukraine by Verkhovna Rada on April 13, 2012, changed not only the criminal justice system, but also the functions of law enforcement agencies, in particular, prosecutorial authorities.

The prosecutor is endowed with significant powers in criminal proceedings, and its vital part is given to the provision of written instructions.

Literature review. Alpert S., Bazhanov M., Hlynska N., Hryniv O., Lupinska P., Marochkin O., Smokov S. and others focused their works on the research of the prosecutor's procedural decisions at the pre-trial investigation, however such procedural

decision of the prosecutor as written instructions (hereinafter referred to as instructions) were only studied in general terms. Comprehensive research of written instructions as a procedural decision was not given any consideration at all.

Research methodology. To achieve the objective and the scientific objectivity of the research results, it was selected a dialectical method of learning about social phenomena and processes, real phenomena, as well as their links with the practical activities of law enforcement agencies, according to which the issues addressed in the article are considered in the unity of its social content and legal form. Other research methods were also used during the study, namely, the *systemic and structural* one was used to define the concept and structure of instructions; the *comparative legal* method was used to compare the mechanism regulating the provision of instructions by the prosecutor under domestic and foreign criminal procedure legislation; the *statistical* method was used during the study of the prosecutor's powers in providing instructions in specific criminal proceedings; it was possible to consistently bring individual facts together and draw sound conclusions aimed at improving the legal regulation of the researched issues and overcoming its conflicts and gaps by means of the *generalization* method.

Research results. The research objective is a scientific study of the legal nature of the prosecutor's written instructions at the pre-trial investigation, its procedural form, formulation of the author's definition of procedural instructions of the prosecutor, research of its place and significance in the system of procedural decisions of the prosecutor at the pre-trial investigation.

In accordance with Article 36 of the CPC of Ukraine, Section 2, Paragraph 4, the prosecutor monitoring compliance with the law during the pre-trial investigation in the form of procedural guidance over the pre-trial investigation is authorized to instruct the investigator, the pre-trial investigation body, to conduct investigative (search) actions within the prescribed time limit, covert investigative (search) actions and other procedural actions, or give instructions concerning its execution.

Similar powers of the prosecutor are set out in the procedural codes of other countries including the CPC of the Republic of Belarus (Article 34, Section 5, Paragraph 6) of the Criminal Procedure Code of the Republic of Belarus No. 295-Z of 16.07.1999; the CPC of the Russian Federation (Article 37, Section 2, Paragraph 4) of the Criminal Procedure Code of the Russian Federation No. 174-FZ of

18.12.2001; and the CPC of Georgia (Article 33, Section 5) of the Law of Georgia Criminal Procedure Code of Georgia No. 1772-IIc of 09.10.2009.

At the same time, these regulations do not define the instructions, but only indicate his right to make a relevant decision, however scholars tried to do it, in particular, O. Hryniv considers the prosecutor's written instructions as his procedural decision ruled within the procedural guidance over the investigation of the case in order to achieve comprehensiveness, completeness and objectivity of the pre-trial investigation, aimed at eliminating gaps and incompleteness of the investigation admitted by the body of inquiry and pre-trial investigation, endowed with signs of imperativeness and mandatory except as provided by law. (Hryniv, 2011, p. 272; Hryniv, 2016, p. 211). According to P. Lupinska, the prosecutor's instructions are one of the types of procedural decisions made during the criminal proceedings. The author substantiates his opinion by the fact that it as procedural decisions is ruled by authorized state bodies and officials within their powers expressing government orders, confirming, changing, or terminating criminal proceedings, confirming the existence or establishing the lack of substantive law relations, accepted in due course and fixed in a certain form (Lupinskaya P. ed., 2003, p. 51). H. Pichkaloiva and Y. Radutna (1986, p. 91), in turn, consider the instructions of the prosecutor as one of documents of the prosecutorial action.

The procedural form and structure of the prosecutor's written instructions are also not defined in the legislation. The prosecutorial and investigative practice has formed a specific position on this challenge. Thus, written instructions are issued in the form of a separate document, instructions, created on the official letterhead of the prosecuting authority. The written instructions of the prosecutor analyzed by us in about 30 criminal proceedings of the National Police and the Security Service of Ukraine give grounds to divide its structure into two parts, narrative and operative one. The narrative part indicates the pre-trial investigation body that conducting the pre-trial investigation of criminal proceedings, its number and registration date in the Unified Register of Pre-trial Investigations, a fact of incomplete pre-trial investigation (other procedural shortcomings), and the operative part

contains instructions (requirements) of the prosecutor, which should be performed within criminal proceedings. This opinion is shared by V. Hrechukha (1982, p. 41), who points out that the following constituent elements of this document have been developed in practice, namely, addressee, title, place and date of drafting, article of the law under which instructions are given, justification of the decision, specific requirement and signature.

There is not also a single approach to the procedural form of the prosecutor's written instructions in the science of criminal process. Thus, A. Slivchikov (2006, p. 57) notes that instructions of the prosecutor should take the form of a separate written instruction or order. O. Kozhevnikov (2006, p. 104) holds a similar opinion pointing out that the prosecutor's instructions can be both an independent document and part of such an act as an order. It is worth noting that prosecutors often provide instructions contained in their orders, such as cancelation the investigator's decision to close criminal proceedings. As a rule, the prosecutor indicates the grounds for his decision and lists the procedural actions that he believes the investigator has not performed in such orders. The prosecutor cancels the investigator's decision and provides a list of investigative and other procedural actions that should be performed during the pre-trial investigation in the reasoning part of the order.

We agree with the opinion of V. Lutsyk and T. Kordiiaka (2016, p. 88-89), who note that the instructions should be issued on the official letterhead of the prosecuting authority signed by the procedural manager and contained three parts: introductory, reasoning and operative. The introductory part should indicate the place and time of issuance of written instructions, entity instructions are addressed, number of criminal proceedings and legal qualification.

As for the reasoning part of the written instructions, from our point of view, it is similar for all written instructions and its content follows from the tasks of the prosecutor as a procedural manager and the tasks of criminal proceedings in general. The operative part of the prosecutor's instructions is actually the substance of the procedural decision taken including the list of specific actions to be performed by the addressee. It is significant to specify a reasonable time to follow the instructions (Lutsyk & Kordiiaka, 2016, p. 88-89).

It should be noted that the right to provide instructions to the investigator is vested in the head of the inquiry and pre-trial investigation body besides the prosecutor. Therefore, we should agree with the opinion of A. Spirin, who notes that the prosecutor's instructions should not become an investigation plan, since the prosecutor should not cover the head of the body of inquiry and pre-trial investigation (Spirin, 2014, p. 156).

Given that the prosecutor has the right to provide instructions on the conduct of investigative (search) actions, such instructions are considered incompetent as "take additional measures to identify persons guilty of a criminal offense", "intensify the pre-trial investigation", etc. As A. Stolitnii rightly points out in this regard, when giving instructions on conducting investigative actions aimed at obtaining evidence, the prosecutor should be guided by his own experience of using evidence during the trial in addition to the requirements of legislation and judicial practice of a certain category of criminal proceedings (Stolitnii, 2015, p. 127). At the same time, the prosecutor providing instructions to the investigator should not lose sight of his procedural independence (Shimanovskiy, 1989, p. 144).

Analyzing the above scientific views and legal regulations, it is considered appropriate to highlight the following features specific to written instructions of the prosecutor, namely, specificity, consistency, timeliness and mandatory application.

Specificity means that the instructions should contain specific investigative (search) actions to be performed and eliminate vague language (take measures, intensify, etc.). Consistency in written instructions of the prosecutor should be understood as the logical ordering of procedural actions to be carried out in criminal proceedings for the purpose of achieving maximum results. Timeliness is based on the requirements of the law regarding the observance of reasonable timeframe of pre-trial investigation and need to conduct an investigative (search) action in a timely manner, which delay could lead to the loss of evidence. The mandatory application for the prosecutor's written instructions is determined by the law's obligation to comply with them. Failure to obey the instructions affects the completeness of the pre-trial investigation, the legality and validity of procedural decisions.

The jurisprudence is beginning to emerge on cancellation of decisions to close criminal proceedings by investigative judges in Ukraine in which the prosecutor provided written instructions that had not been fully or partially implemented.

Hence, the decision of the investigating judge of the Dzerzhinskii district court of Kharkiv dated June 26, 2017 canceled the order to close the criminal proceedings since the investigators had not followed the written instructions of the prosecutor (The investigating judge's decision of the Dzerzhinskii

district court of Kharkiv of 26.06.2017 (case No. 638/8926/17). A similar position is expressed in the decision of the investigating judge of the Obolonskii district court of Kyiv dated February 23, 2017, which revoked the decision of the investigator to close the criminal proceedings, because the investigator had not fully implemented the prosecutor's instructions (The investigating judge's decision of the Obolonskii district court of Kyiv of 23.02.2017 (case № 756/1632/17).

Conclusions

According to the results of the research, we believe that the written instructions of the prosecutor should be interpreted as a binding procedural decision issued by separate instructions or instructions enshrined in the reasoning part of the order canceling the procedural decision of the investigator, by which the prosecutor instructs the investigator to conduct investigative (search) actions in criminal proceedings, both exposing and acquitting the suspect, to assess the evidence, eliminate law violations, perform other necessary procedural actions.

The prosecutor's instructions must be provided exclusively in written form and aimed at achieving the objectives of criminal court proceedings, it is therefore necessary to supplement Article 110 of the CPC of Ukraine by the provision that the instructions are a special procedural decision of the prosecutor provided to the investigator and enshrined in the instructions itself or contained in the operative part of the prosecutor's order, which overturns the procedural decision of the investigator.

The obtained results will contribute to more thorough further research of the prosecutor's instructions.

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CHILDREN'S PIANO MUSIC OF UKRAINIAN COMPOSERS LIVING ABROAD: PRESERVATION OF THE MENTAL CODE



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Abstract. The study analyzes the most representative piano works for children created by Ukrainian composers, living abroad. The piano heritage of composers of the Ukrainian diaspora of didactic orientation is chosen as the object. The purpose of the article is to identify the principles of education of a creative personality in its national identity on the basis of educational piano works. The reference to the unique heritage of composers of the Ukrainian diaspora, who have realized this goal in their works, seems especially relevant and needs further research. Methodological principles of the paper are based on a combination of historical and cultural, analytical, musicological research methods.

Keywords: *composers of the Ukrainian diaspora, children's piano music, Ukrainian folklore, national identity.*

Introduction

In the rich and diverse collection of piano works of composers-pianists of the Ukrainian diaspora one can observe a pronounced tendency to create a repertoire of didactic direction. The need for this has formed naturally, as it was necessary not only to develop the performing skills of music school students, but also to preserve the historical memory, traditions in the generations of Ukrainians born and raised far from the revival of their historical Homeland.

This activity was in tune with the relevant European trends, which were reflected in the creative works of German, Hungarian, French, Polish, Russian and other national schools of composition. Based on the traditions of a very wide repertoire for children, the practices laid down in the albums "Pieces for Children" by Th. Kullak, albums of music to Andersen's fairy tales by C. Reinecke, children's Christmas plays by F. Mendelssohn, "Album for the Youth", "Children's Ball" and "2 Four-Hand Piano Works for Young and Older Children" by R. Schumann, "Christmas Tree" by F. Liszt, "Children's Games" by J. Bizet, "Children's Corner" by C. Debussy, "Bagatelle", "Ten Light Piano Pieces" and "For Children" by B. Bartok, "Children's Album" by P. Tchaikovsky, etc. were logically passed on to the educational literature of composers of the Ukrainian diaspora. Considering the fact that many Ukrainian composers of the

diaspora came from Galicia, where musical traditions had always been developed at the crossroads of Europe's East and West, their work was significantly influenced by Polish composers, whose musical works were mostly performed or created there. This is, for example, a cycle of mazurkas "Among Life and Fun" by Alois Lipinsky, an album of dance pieces (mazurkas, waltzes, quadrilles) for children's performance by S. Monyushko, Suite for the piano by V. Vshelyachynsky created during the years of work at the Ternopil Music School, Folk songs (Dumky and Shumky) by S. Nevyadomsky, "Dance Suite" for children's performance by T. Mayersky, and others.

The children's collections of M. Lysenko and S. Lyudkevych, created earlier in Ukraine, became first of all examples of the birth of piano music for children, which were later joined by V. Vytvytsky and V. Bezkorovainy.

Collections of the Ukrainian diaspora composers (as well as collections of European composers), in addition to directly didactic purposes, became examples of the embodiment of the “native land” archetype. This archetype of the Ukrainians’ mentality, like a “spiritual gene”, has long been rooted in their cultural and historical environment and integrated into the national composition creative work. V. Ohirchuk defines Ukrainian mentality as an integral characteristic of people’s lives, which determines the specifics of their forms of response (Ohirchuk, 1998, p. 180). Cultural and historical formations of the Ukrainian national mentality, which are manifested in all spheres of life, were realized in the field of creative activity and were reflected in the formation of educational piano repertoire.

Thus, Ukrainian composers living abroad aimed not only at developing technical performing skills and providing quality professional education. They understood their broader task – to educate students in the traditions of their native national culture, to involve them in the Ukrainian musical heritage, to preserve its riches and, thus, to promote education of a creative personality in its national identity. “Being in the minority, Ukrainians in different countries of the world ... have never lost the feeling of inseparable kinship with their people, with the ancient forefathers’ land, and this was one of the major factors of their survival” (Karas’, 2012, p. 632). As prototypes of Western romantic children’s albums, the albums of Ukrainian diaspora composers served as a guide for the formation of the genre in Ukrainian pedagogical piano literature, not aiming at the development of purely technical performance skills, but at the development of imaginative thinking, aesthetic taste, they embodied the idea of synthesis of arts and played a great role in the formation of national identity.

The analysis of recent research and publications. H. Karas’s fundamental work “Musical Culture of the Ukrainian Diaspora in the World Time Space of the 20th Century: Monograph” (2012) is devoted to a comprehensive study of the process of formation, development and peculiarities of the musical culture of the Ukrainian diaspora in different countries of the world; the work of V. Ohirchuk “Traditions and Innovations in the Formation of the Ukrainian Mentality” (1998) deals with the study of the

characteristics of the Ukrainian mentality; the diversity of artistic and imagery content of children’s works, which is the basis for their widespread introduction into the practice of music education is the subject of the article by O. Shcherbinina “Children’s Piano Cycle as a Creative Laboratory for the Development of Artistic and Imagery Conceptions of a Musician” (2018); the problem of studying the national character as an organic component of the mental phenomenon is studied in the work of O. Bondarenko “Ukrainian Mentality in the Diversity of Mental Formations and Archetypes: Historical and Cultural Aspect” (2008); characteristic features of pieces from R. Savytsky’s music album are covered by his son, R. Savytsky Jr. in the preface to the publication “Ukrainian Piano Album for Beginners” (1977).

The purpose of the article is to identify the principles of education of a creative personality in its national identity on the material of educational piano works of Ukrainian composers living abroad.

The main material of the research. From the performance point of view, the didactic repertoire of foreign composers is focused on the gradual mastery of various technical, sound, artistic and imaginative tasks and is mostly represented by blocks of small pieces-exercises-etudes, which allow the teacher to have multiple options for creating work programs and choose the necessary complexes of work and pace of overcoming technical difficulties. Therefore, their work is dominated by the tendency to create music notebooks, groups of collections based on genre, etudes and so-called children’s albums – cycles of pieces, consisting mostly of program or genre miniatures, as close as possible to a full value work of art.

In various individual styles, the problem of compiling a Children’s album has found a stable reflection in the genre of a cycle of miniatures. Cyclization in such collections is conditioned by the desire to approach a child’s worldview, corresponding to the imagery of their age. “The best examples of a Children’s album have always been perceived as evidence of the special poetic worldview of their authors, the ability to think aphoristically, accurately, in concise compositional forms, and moreover, under conditions of strict economy of means of expression” (Shcherbinina, 2018, p. 85).

The most important point in continuing the tradition of compiling children's collections by composers of the Ukrainian diaspora have become examples of relying on elements of their national musical language – the use of melodic expressions of national dances and folk songs, typical rhythmic formulas or mode peculiarities, which preserves a strong national character and especially helps to educate students in the traditions of their national culture. As O. Bondarenko notes, “national character is an organic component of a mental phenomenon, because, like the mentality, it ... characterizes the behavior of the society, of an individual, organically including their specific subjectivity in the objective historical process. National character is the way of world perception inherent in the national community” (Bondarenko, 2008, p. 77).

In the conditions of work of Ukrainian pianists in educational institutions abroad, providing methodological and educational needs of their compatriots, vectors of continuity of national traditions, methods of work with folklore materials have been developed, through which ethnic specificity of everyday and national forms of music performance, rituals, way of life and mental values of Ukrainians are being learnt in age-appropriate forms. Preservation of national traditions in emigration, where the outlined problem was particularly acute, is one of the most significant aspects of their activities and exhibits systematic work on creating a modern, relevant to the subject and means of expression and highly artistic, nationally outlined didactic repertoire. The creation of such a repertoire was focused on the practical needs of the educational process, on the reproduction of advanced pedagogical trends, the involvement of the latest for that time compositional techniques. Its value also lies in the fact that these collections were created by experienced and practicing musicians who combined the professionalism of a performer and a teacher in one person.

Didactic works for the piano by Ukrainian composers living abroad attract attention due to their genre diversity. These are arrangements of Ukrainian folk songs and dance melodies, author's songs, variation cycles, etudes, written in cycles, sonatas, polyphonic works, miniatures and pieces of medium form. The expressive system of these genre varieties has different genesis, purpose,

drama, methodological orientation, and is given special qualities and functions in the works of the diaspora composers. One of the most important functions is the formation of national identity, which naturally leads to the active involvement of the intonation vocabulary of expressive, recognizable folklore means. Drawing on national song and dance sources, Ukrainian composers living abroad promoted their native musical culture, helping to preserve the national consciousness in students. That is why it is so natural to turn to such iconic musical samples as “Yikhav kozak za Dunay” (“A Cossack Was Going across the Danube”), “U susida khata bila” (“The Neighbor's House Is White”) or “Shchedryk” (“Shchedryk”), whose melodies have already gained great popularity since the 19th century and have repeatedly been employed as the thematic subject in the works by a number of foreign composers.

Numerous representatives of different generations of Ukrainians living in Europe, the USA and Canada joined the creation of educational didactic literature in the field of piano art: Ya. Barnych, V. Bezkorovainy, I. Bilohrud, T. Bohdanska, V. Vytvytsky, I. Vovk, O. Zaleski, V. Grudyn, V. Kipa, M. Kravtsiv-Barabash, Z. Lysko, A. Rudnytsky, Yu. Oliynyk, Yu. Oransky, R. Savytsky, I. Sonevytsky, S. Turkevych, Yu. Fiala, M. Fomenko, V. Shut' and others. Their educational repertoire is very vast, the most numerous being didactic collections, albums and program cycles: two notebooks “Easy pieces on the piano”, “Pieces on Ukrainian themes for four hands” and a pedagogical collection “Pry yalyntsi” (“By the Christmas tree”) by V. Bezkorovainy; “Piano miniatures on Ukrainian folk themes” by Z. Lysko; two collections of “Ukrainian folk songs for the piano for four hands” by V. Vytvytsky (the first one was created in Ukraine, the second – in the USA); “Pieces for Children”, dedicated to Roman, S. Turkevich's grandson; “Ukrainian piano album for the youngest”, “Ukrainian carols” by Yu. Oliynyk; a cycle of piano pieces for children “Seasons of the Year” and “Vesnyanky-hayivky” (“Spring and Grove ritual Songs”) by I. Sonevytsky; “My Rainbow. 5 Easy pieces for the piano on Ukrainian themes” by M. Fomenko; “Children's Suite” by V. Grudin; “Four concert pieces on Ukrainian themes”, “27 piano pieces based on Ukrainian folk songs” by A. Rudnytsky; “A Collection for students in harmonious and polyphonic

styles", "School of Piano Playing" by V. Shut'; "Ukrainian piano album for beginners" by R. Savytsky; a collection of pieces and variations "Chrystya Is Playing the Piano" and four notebooks "My Ukraine" by M. Kravtsiv-Barabash, etc.

Ethnocharacteristic features of Ukrainian national melodies and deep awareness of the essence of performing and technical requirements and age psychological features are clearly felt in all of the above collections. They were created in order to encourage children's interest in Ukrainian folklore-oriented music of various genres, stimulate their creative imagination, develop musical hearing, subordinate vivid imagery to the purpose of improving technical and performing techniques, develop and enrich their own performing experience, popularize the folklore heritage of their people. Therefore, there is a minority of compositions of instructive-etude direction and the predominance of works of art in the didactic literature of Ukrainian composers living abroad.

For example, we find such a solution in the didactic cycle of children's piano pieces by S. Turkevich "Pieces for Children" (1946), where the pieces have double names: № 1. "A Folk Piece" ("Variations on a Ukrainian Theme"), № 2. "Passage" ("A Walk"), № 3. "March" ("Mother's Word", on the theme of a duet of boys from children's opera "The Heart of Oksana" by the composer), № 4. "Lullaby", № 5. "A Little Sparrow", № 6. "In the Square" ("A Hiding Place"), № 7. "A Little Horse" and unfinished pieces, № 8. "To School" and № 9. "The Prayer". In creating each of them, the composer foresaw the recognizability of the folklore source, she also enriched some of them with the complexity of harmonic language through the use of *Orgelpunkt* and alteration, as if achieving the effect of extending the key, but at the same time preserving accessibility and conciseness of means of musical expression, necessary for children's educational repertoire.

The creation of the collection "Ukrainian Piano Album for Beginners" by R. Savytsky was the result of the pianist's work on providing practice for the youngest members of the Ukrainian community in the camps for displaced persons (Berchtesgaden, Germany), where he was the director and a teacher of a music school. The creation of the collection lasted for 7 years (1947-1954) and was completed in the USA, when R. Savytsky

headed the Ukrainian Music Institute in New York. The album includes 12 items: 10 miniatures in the form of a period, created on the basis of melodies of kolyadky (carols) and Ukrainian folk songs and two small variation cycles on the themes of folk melodies. The cycle items are arranged in the ascending order of performance difficulty. In his introductory speech to the publication on the occasion of the 25th anniversary of the Ukrainian Music Institute, R. Savytsky Jr. wrote, "... the harmony, melody, texture and general character of the pieces fully correspond to the understanding and technical capabilities of junior school children. The author turned to Ukrainian folk melodies because they are a favorable material for a detailed and interesting explanation and for instilling in young people the euphony of their native music" (Savytsky, 1977, p. 3). The album items, full of national color and deep artistic expression, were very popular in Germany and the USA, and after its publication by the efforts of R. Savytsky Jr. in Ukraine (1999), they became part of the pedagogical repertoire of children's music schools in Ukraine.

Ihor Sonevytsky's little-known album "Seasons of the Year" (1951-1955, New York) and Vasyl Bezkorovainy's children's album "By the Christmas Tree" stand out among the model examples of cyclical folklore-oriented works of didactic character.

In creating the students' repertoire, Sonevytsky, in addition to educational tasks for young Ukrainian performers, chose the goal of popularization of symbolic samples of Ukrainian song through piano arrangement. The album "Seasons of the Year" consists of four cycles of didactic pieces, wherein the first two include the study of calendar-ritual folklore: the first one, "Winter" (kolyadky and shchedrivky "Boh sya rozhdaye" ("God Is Being Born"), "Nova radist' stala" ("New Joy Has Come"), "Nebo i zemlya" ("Heaven and Earth"), "Dyvnaya novyna" ("Strange News"), "V poli pluzhok ore" ("In the Field a Plow Tills"), "Po vs'omu svitu" ("Around the World"), "Vozveselimsya" ("Let's Have Fun"), "Zakuvala syva zozulen'ka" ("A Gray Cuckoo Started to Cry"), "Boh predvichnyy" ("God Is Eternal), and the second one – Spring and Grove Folk-songs "Vesnyanky-Gaivky" ("Podolyanochka", "Cu-ckoo", "Z-pid biloho kamenya" ("From Under the White Stone"), "Perepilochka" ("Little Quail"), "Oy ty, staryy

didu" ("Oh You, Old Grandfather"), "Zhuchok" ("A Little Beetle"), "Yahilochka", "A vzhe vesna" ("It's Spring Already"). The third cycle "Summer" contains work, game, humorous, Kupala songs "Baba i kurchata" ("Grandma and the Chickens"), "Zanadyvsya zhuravel" ("Crane Comes to Us"), "Dobryy vechir, divchyno" ("Good Evening, Girl"), "Po dorozhi zhuk" ("A Beetle On the Road"), "Vyyslyshy v pole kosari" ("Reapers Went out into the Field"), "Chorna kura" ("Black Chicken"), "Hey na Ivana" ("Hey on Ivan (Kupala)") and Plast (Scout) songs "U lisi na polyantsi" ("In the Woods in the Clearing"), "Pusty zh mene, maty do taboru" "Mother, Let Me Go to the Camp"), "Oy na stavi" ("Oh, at the Pond"). The final fourth cycle (created in 1988), "Autumn" – Striltsi' hymn "Oy, u luzi chervona kalyna" ("Oh, Red Guelder Rose in the Meadow"), lullabies and songs dedicated to the 1000th anniversary of Baptism of Kievan Rus: "Palomnyky" ("Pilgrims"), "Skomorokhy" ("Fools"), "Dzvony" ("Bells"). Each part of the album consists of miniatures, whereas the piece "A vzhe vesna" ("It's Spring Already") is a little variation cycle.

The album miniatures are very accessible for performance and are barely harmonized popular melodies with lyrics. Studying the pieces gives one an opportunity to closely get acquainted with the most commonly used samples of songs of a certain calendar cycle, to take part in national events and celebrations. Collectively, these are well thought out compositions of the educational repertoire to work on hand coordination, practicing articulation, the ability of contrast performing energetic rhythms and cantilena, acquaintance with the simplest polyphonic techniques, mastering genre features (march, lyric song, dance, round dance, children's games).

The cycle of kolyadky (carols) by V. Bezkorovainy "Pry yalyntsi" ("By the Christmas Tree") keeps to the traditions of Galician home music performing, where harmonizations of short melodies (with lyrics) served as an accompaniment and support for amateur performers during Christmas fun parties. Similar examples of creativity, on which the artist focused, are found in the works of V. Barvinsky, B. Vakhnyanin, M. Kravtsiv-Barabash, D. Sichynsky, Ja. Yaroslavenko. In the cycle of Bezkorovainy, these are 16 simple harmonizations of the most popular kolyadky of strophic structure

with the chorus, laid out similarly to *Liedertafel*, characteristic of traditional forms of choral folk performance. In some carols we meet octave duplications of bass voices "Kheruvymy svyat" ("Cherubim Holy") "Vo Vyfleyemi" ("In Bethlehem"), "Boh pryrodu" ("God of Nature"), "Vselennaya, veselysya" ("Universe, Have Fun!") or typical genre formulas of accompaniment (for example, a waltz in "Vozveselimsya vsi kupno nyini" ("Let's All Rejoice Together Now"), "Na nebi zirka yasno zasyala" ("A Star in the Sky Began to Shine Bright").

Bezkorovainy's performing sphere (the pianist was active in concert activities) concerned primarily the role of the accompanist, but the most important in his various activities was pedagogical work – he taught piano playing at high schools in Tarnow (Poland), Vienna (Austria), at the branch of the Ukrainian Music Institute of America in Buffalo (the USA). Being in emigration, the composer created many piano works – fantasy "In the Green Grove", "A Song without Words", "Thought", "Little Fugue", children's pieces dedicated to his grandchildren "Little Andrew's Waltz" and "Roma's Waltz", etc. Working on these pieces, the composer pursued the same goals as most composers of the Ukrainian diaspora – along with the development of technical and performing skills, acquaintance with different types of textures, musical genres and forms, to learn more about Ukrainian folklore and educate students in the traditions of their native national musical culture. These also include "Choven khytayet'sya" ("The Boat Sways"), folk arrangements "A u nashoyi susidky" ("At Our Neighbor's"), "Lullaby", "Z toyi hory" ("From that Mountain"), "Oy, pid hayem" ("Oh, under the Grove"), "Chy ye v sviti molodytsya" ("Is There a Young Woman in the World"), waltzes "Vechirni mriyi" ("Evening Dreams"), "Zahray my, tsyhane" ("Let's Play, Gypsy"). Even all the three of his Sonatas for the piano are full of elements of folk song intonations, which determined not only the figurative content and mood of the works, but also the ways of development of themes, the specifics of Ukrainian mode system, peculiarities of texture, harmony and even imitation of Ukrainian musical instruments (bandura tender strings playing, space calling sound of trembita (Guzul pipe).

Bezkorovainy's sonatas are one of the most interesting examples, where there can be

especially flexible approach to solving performance tasks as long as the national character of the musical language is preserved. As if pushing didactic tasks to the background, the composer does not resort to direct quoting of the folklore sources, but uses them in a re-intoned form (as M. Lysenko did it). In the didactic literature of the Ukrainian abroad, these qualities give the sonatas special value – they help to model the archetypes of nationally outlined musical thinking in young performers.

Close to the synthesis of the creative principles of the Galician composers of the “Prague school” and the pedagogical foundations of Bela Bartok is the collection “27 Pieces on Ukrainian Themes” by A. Rudnytsky (1948), aimed at overcoming more complex technical tasks by young pianists. While preserving the forms of traditional academic music, the basis of the theme of each of the pieces of the cycle is a certain folklore source, declared in the genre program title: Solemn etude “God Is Eternal”, Nocturne “Oy, ne svity, misyachen’ku” (“Oh, Dear Moon, Do not Shine”), Toccattina “Rain”, Ballad “Verkhovyno”. The pieces of Rudnytsky’s cycle are in tune with Bartok’s instructions to introduce elements of the newest musical language,

more complex and diverse metrorhythmic into children’s piano literature, at the same time relying on national folklore and preserving vivid imagery. Thus, in the pieces of the cycle, Rudnytsky sets somewhat complicated, but very interesting tasks aimed at the manifestation of creative imagination. For example, the piece “Verkhovyno” has the genre subtitle *ballade* and is based on the material that became the basis for M. Verbytsky’s arrangement of the folklore kolomyyka and the theme of the chorus “Verkhovyno, svitku ty nash” (“Verkhovyno, You Are Our World”), - the work of the head of the Peremyshl composition school M. Verbytsky was based on the play by the Polish playwright J. Korzeniowsky to the words of M. Ustyanovych for singing-and-playing “Verkhovyntsi”. Rudnytsky’s piece, which has the form of verse, uses themes of two variant stanzas (A+B) based on the model of a Dumka-Shumka (a lyrical song and dance melody). The textural presentation, which is rich in articulation and rhythmic techniques, is composed in a peculiar way – it combines additional undertones, imitating the choral texture, and ethno-instrumental sound simulation.

Conclusions

The analysis of the didactic repertoire shows that with the help of their works pianists of the Ukrainian diaspora brought up Ukrainian children living abroad, often born outside the ethnic territory, to be creative personalities in their national identity, eliminated the problem of lack of Ukrainian pedagogical repertoire in emigration. Pursuing this or that educational goal, they always fulfilled it, preserving the national characteristics of Ukrainian imagery and musical language, thus contributing to the formation of a strong national identity. Based on the samples of romantic music, they demonstrated the continuity of the Ukrainian pedagogical traditions, laid down by M. Lysenko; embodying the archetype of the “native land”, they contributed to the preservation of the Ukrainians’ mental code. The works for children presented above have an important educational, enlightening, artistic, didactic value, they contribute to enhancing the role of the representation of Ukrainians in non-national environments and the integration of their achievements into the world music culture.

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MODERN APPROACHES IN EDUCATION



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Abstract. The article deals with the usage a modern approach to education, it is possible to support the achievement of the objectives of the Bologna process of modernizing the European Union in order to improve the quality and extend the reach of education throughout Europe. New and evolving approaches to learning and teaching that enable modern technologies are described by the author. In the article digital technology as a common part of all areas of life is investigated. It is therefore essential, within the framework of the educational process, to ensure their implementation through appropriate educational

platforms. According to the article teaching supported by interactive technology encourages the active learning of pupils and leads to their mutual cooperation. The article touches upon the issue of the educational platform is usually defined in a general sense as the core technology on which other technologies or processes are built.

Keywords: *modern approach, learning, teaching, educational process, interactive technology, e-learning, educational platform.*

Introduction

At present, significant changes due to the entry of technological innovation are indicated for education. The changes involve the teaching method and their perception by the pupils themselves. Given the trend in technology development within education, not only the teachers but also the students must be prepared for the active and creative use of new information and communication technologies. These can be used to improve quality and improve education and learning, as they can be better tailored to the needs of individual pupils and students therefore providing faster feedback. Using a modern approach to education, it is possible to support the achievement of the objectives of the Bologna process of modernizing the European Union in order to improve the quality and extend the reach of education throughout Europe.

Research results.

The main objective of the current school reform is to provide quality, relevant and widely available education resulting from the labour market requirements. The change of traditional teaching to modern teaching, in which the pupil is an active subject and the teacher as the manager of the educational process, oversees the preparation and operation of the school. The changes also involve the selection of learning strategies, the correct application of modern information and communication technologies, which is very advantageous in teaching today. New and evolving approaches to learning and teaching that enable modern technologies can

complement, strengthen, support and further develop the desired reform objectives (Domborovska, 2018).

Information and Communication Technologies (ICT) have become a common part of our daily lives. It is very difficult to imagine existence without them. Continuous development is bringing about changes in education, where interactive technologies are intended to substantially modernize learning processes and are becoming increasingly popular. This is proven by the growing number of multimedia classrooms, virtual classes, digital libraries, e-books and devices in schools. Working in these classes, as well as the techniques and equipment used, puts

increasing demands on the work of a teacher who must constantly develop his skills, professional competences, work on himself and become a lifelong student (Brečka, 2018).

In April 2013, the Ministry of Education of the Slovak Republic approved the "The concept of computerizing the education sector by 2020 - Digipedia 2020". The main aim of this program is to provide pupils, teachers and parents with a modern way of education that corresponds to world trends. In general, it is a program for digitizing education, which sets out the frameworks, priorities and objectives that Slovakia should gradually reach in the use of ICT in education. Several national projects have already participated in implementing the program's objectives, which include providing school digital technologies, such as Infographics, Planet of Knowledge, Modern Education, Digishkola etc.

Their main objectives included:

- transforming traditional education to modern education, in which the educational process of learning focuses on active learning and developing the pupils' creative abilities,
- changing the content of teacher education and training and educational methods,
- developing the computer and information literacy of pupils and teachers,
- building a schools' hardware infrastructure (schools were equipped with computers, laptops, interactive whiteboards, etc.),
- ensuring access to the digital content of education,
- establishing the Central Information Portal of the Ministry of Education iEDU (departmental communication structure for communication and information sharing between schools),
- intensive digitization of learning content.

Today's pupils accept digital technology as a common part of all areas of life. It is therefore essential, within the framework of the educational process, to ensure their implementation through appropriate educational platforms.

Interactive learning systems. Teaching supported by interactive technology encourages the active learning of pupils and leads to their mutual cooperation. However, even in this environment, it is necessary to start from the basic principles of learning that are:

(a) *Active learning* - learning requires active and constructive student engagement. In the process of upbringing and education, it is important that the student is careful, understands and actively participates in the process to achieve the set goal. Without the active involvement of the pupil these cognitive activities cannot be accomplished.

(b) *Social participation* - education and training are primarily social activities and lead to participation in the social life in the school environment. The theory of social constructivism points out that the pupil learns in the progressive internalization of the individual characteristics of the group in which he grows up. An important part of the educational process is a cooperative atmosphere in which the pupil is more committed to developing his / her role as the most ideal because he / she is aware that his / her results will be compared with those of other learners.

(c) *Meaningful activities* - pupils are best taught by participating in activities that make sense and are usable in real life, for example, when they solve problems in situations, they encounter in everyday life that are close or familiar to them (Hosoff, 2018).

The right use of interactive technology in the learning process based on adhering to these principles encourages active learning, i.e. acquiring new knowledge of active and creative activities, thus better shaping the ability to use knowledge in practice. Social cooperation with other children and the use of practical activities that reflect the pupils' appetite for learning are also encouraged because learning seems to be meaningful (Kabatova, 2013).

Interactivity in the educational process:

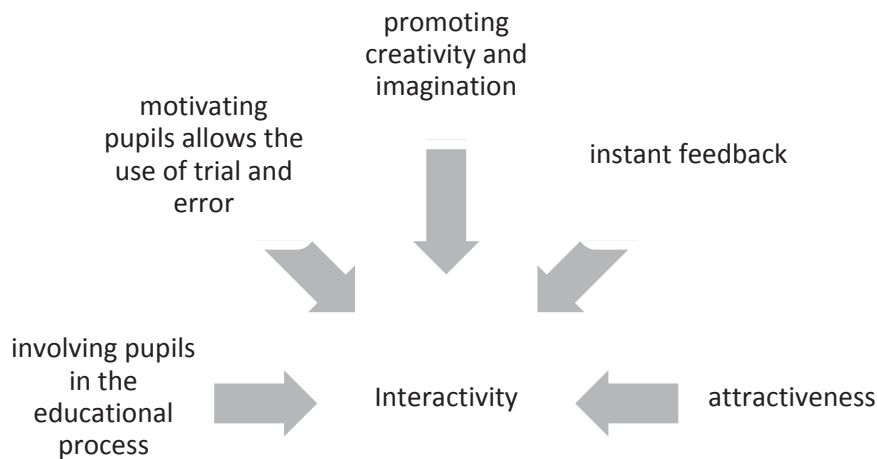


Figure 1. Interactivity in the educational process

Source: Kalaš, 2013

Creating interactive learning materials means creating an interactive presentation on software designed for the technical system with regard to the above factors. The difference between an interactive and passive presentation is great. A passive presentation is a file with text, images, animations and audio and video links on the Internet. An interactive presentation offers the same but allows students to change its course, enter the storyline and change the set conditions.

Interactive lessons bring pupils and students more enjoyment of learning, greater self-realization and, last but not least, the discovery experience. This helps to improve the ability to receive and transmit information, the ability to communicate with peers and the ability to work. It lets the pupil or student better understand the connection between phenomena and to manage tasks faster (Kalaš, 2013).

Educational platforms. A platform is usually defined in a general sense as the core technology on which other technologies or processes are built. The point is that the platform is not closed, thus creating support for another technology or application.

By the learning platform we mean an integrated set of interactive online and offline services that provide teachers, students, parents and other people involved in education, information, tools and resources to support the development and management of education. The Learning Platform concept also includes a user interface for learning (Bojko, 2017).

The features of the learning platform can be summarized as follows:

1. Educational platforms are the technologies of the next generation of learning management systems.
2. They work mostly on the principle of SaS (software and services), based on a public or private cloud. They should be tailored to the specific institution, there is also a common platform that supports multiple users, uses shared technologies, databases and web services applications.
3. Designed to support and cooperate between multiple educational and social networking applications, they work not only as a system extension, but also as a stand-alone solution.
4. They are designed for the pupil and are maintained throughout the education cycle. Pupils are not only in predefined roles with the level of access to each course but are the central actors in the design of the whole system.
5. They are of a social nature, promoting connection between pupils and adapting the content to the needs of the pupil.
6. They include built-in analytics tools based on data consolidation within courses between institutions and also outside the institution.
7. When searching for learning content, user-generated content from other pupils can be used (Surová-Čulíková, 2011).

Mobile technologies are now in an evolving period, especially tablets, which are increasingly being used in the learning process. This is proven by the promotion of introducing tablets into education

systems in countries throughout the developed world. The tablet is a portable computer with an integrated touch screen through which it is also controlled.

Main advantages:

- tablets allow learning through tools that are natural and common for pupils,
- individual learning can be easier with these devices,
- a range of innovative educational activities can be integrated into the classroom via a tablet,
- working with tablets develops digital literacy,
- tablets can increase parents' interest in school,
- tablets have the potential to bring about changes in school education.

Figure 2. Benefits of using tablets

Source: Neumajer, 2015

Negative impacts of using tablets in education:

- applications in Slovak - most teachers agreed that they most lacked applications in the Slovak language because teachers and pupils have problems with English, and also these applications do not match the Slovak educational plan,
- access to games and inappropriate content - teachers can prevent a game from starting while they are in the classroom but they cannot prevent it starting or being accessed during breaks
- handwriting deterioration - if students do not practice writing in a workbook and write little, their handwriting deteriorates,
- working with a tablet for the whole lesson - many teachers said that it is not appropriate to work only with tablets, but the teaching must include traditional methods,
- the lesson is short - teachers said it would be appropriate to introduce so-called block lessons in order to use all the possibilities offered by tablets,
- technical problems.

Figure 3. Negatives of using tablets

Source: Brečka, 2018

The tablet helps develop visual perception, memory, attention, contributes to the development of fantasy, imagination, concentration, vocabulary, and also affects the development of mental abilities such as: categorization, generalization and abstraction and the development of fine motor skills, spatial orientation, temporal imagination. As a didactic device, the tablet influences the various components of the educational process and it also promotes the development of key competences that are essential for life in the 21st century (Neumajer 2015).

Interactive whiteboard systems. In addition to the aforementioned educational platform with interactivity and information technology, interactive boards have become particularly prominent in the classroom over the past few years.

They are used for educational purposes in all developed countries of the world, and over the last ten years they have gradually established themselves in Slovak schools, from kindergartens to universities. There are definitions that describe interactive whiteboards as the material didactic means in teaching.

An interactive whiteboard is a touch-sensitive area through which the user and the computer communicate with each for maximum visibility of the content display. It combines the advantages of a classic whiteboard, touch screen and computer in one. By simply plugging in the USB cable, the board captures the movements of the interactive pen, eraser or fingers and transfers them directly to the computer.

In a broader sense, an interactive whiteboard can be understood as an electronic touch sensitive projection screen that is connected to a computer and a data projector, projecting a computer image

on its surface. Using a finger, an electronic pen, a special pointer or other tools it interacts with users and the system via the interactive whiteboard software and individual applications on the computer to maximize the clarity of the content presented, particularly through multimedia (e.g. interactive animation, movies, sounds, etc.) and other specific whiteboard tools. From a narrower perspective, an interactive whiteboard can be considered a material didactic device intended for educational purposes. It can be seen as the basis of an interactive classroom, i.e. the system consists of a computer, a data projector and a whiteboard, which is the first type of education technology suitable for class-wide interaction (Sharma 2011).

The term "IWB" in English "Interactive Whiteboard" is used to designate an interactive whiteboard in our terms and also because IT stands for information technology (Neumajer 2015)

The main benefit of IWB is to simplify and streamline teacher lesson preparation, better presentation clarity, connectivity to the network and the Internet and active distance participation. The board serves as a presentation tool but also as an input device for the entire system. Unlike the regular presentation of teaching material, the teacher can graphically enter, highlight, add important aspects of the teaching material or immediately activate other information sources on the computer or on the Internet during the presentation.

Interactive whiteboards are part of digital technology for users of illustrative interactive teaching. The device has the following advantages and disadvantages.

Benefits of an interactive whiteboard

- increases pupils' motivation to learn,
- dust-free and clean classroom,
- speed, availability of various media,
- improves digital literacy,
- keeps pupils' attention,
- active involvement of pupils in teaching,
- support pupils' independent work,
- provides instant feedback (interactivity),
- pupils can work together on a common task,
- improving the dynamics of the learning process,
- quality pedagogical principles of illustration,
- easy to save notes written during lessons,
- created materials can be reused and quickly updated,
- universal use of teaching aids,
- promotes different styles in pupil learning
- associations can be formed for different types of intelligence leading to the creation of permanent curriculum links
- promotes active learning,
- interactive software can be used to create interactive presentations
- multiple senses are involved in the cognition process (sight, hearing, touch), which increases the didactic effectiveness of education,
- where recording in the classroom is concerned, it gives the teacher room for in-depth didactic analysis of teaching,
- additional devices such as tablets, voting devices can be used.

Figure 4. Advantages of an interactive whiteboard

Source: Sharma, 2011

The most important thing is that the IWB enables all pupils to be actively involved. Using an electronic pen, they can add data, move pictures, paint, sketch and more. It can also be used during tests. In combination with a presentation in which virtually all conceivable multimedia elements (images, graphs, maps, animations, sound and videos) can be used, or with other program learning options, this technique multiplies everything.

Disadvantages of an interactive whiteboard:

- lack of pre-made teaching materials,
- time-consuming repairs of teaching materials,
- frequent use of the IWB causes loss of pupils' interest and a decline,
- unspoken mechanical activity of pupils when solving tasks,
- incompatibility of interactive software,
- financial difficulties,
- technical problems,
- lack of appropriate teacher training,
- the need for occasional calibration,
- if remote access is enabled, some pupils tend to send distracting notes or drawings to the desktop,
- they allow teachers to include more information in the classroom, which can lead to overloading pupils,
- prolonged use may cause eye fatigue and headache.

Figure 5. Disadvantages of an interactive whiteboard

Source: Miketa, 2017

Interactive whiteboards and high-quality multimedia presentations produce a creative environment that can positively affect the teaching of technical subjects. With the help of multimedia elements, it simulates, realizes and enables deeper analysis and understanding of the discussed topic for students compared to traditional teaching, by creating a real idea of, for example, the operation and principle of technical equipment or the activity of closed electrical circuits and etc.

Among the most frequent shortcomings in relation to their own preparedness, the material and technical provision of education through an interactive whiteboard, teachers state the following:

- lack of prior training,
- overall lack of digital technology orientation,
- lack of knowledge, skills with basic computer software,
- hardware component installation problems,
- lack of updating hardware and software components,
- insufficient equipment - old computers,
- lack of funding to purchase ready-made learning materials,
- inability to work with the interactive whiteboard, even if it is available for teaching,
- the fact that in-service training takes place on a different type of interactive whiteboard than that available to them for teaching.

Integrated learning environment. In the current learning environment, given the wide range of existing information and communication technologies in education, there are three levels of e-learning and LMS (Learning Management System) is one of them.

Classification:

CBT (Computer Based Training)

computer aided education. Educational programs are distributed to pupils on removable media. No internet connection required. These include various types of educational programs, games, simulations, etc.

WBT (Web Based Training)

Internet-supported education. One of the first forms of education organized online. This level allows communication between teacher and students. It is advantageous to be able to update information quickly. The training has no standardized form and there is no admin tool.

LMS (Learning Management System)

system of controlled education. The third level of e-learning, which is based on WBT and on a managed education system.

LCMS (Learning Content Management System)

system for creating educational content. Supports the creation of educational content, has tools for managing educational content, allows you to change the user interface in relation to content etc.

*Figure 6.**Types of information technology, Source: Klement, 2017*

The basic difference between traditional textbooks and electronic learning material is that it contains, besides text, multimedia elements with a high degree of interactivity. The structure consists of static elements, i.e. the written text, dynamic elements, i.e. the electronic form of the teaching material and a validation - evaluation device. It works by combining text, multimedia, and interactive elements.

Static elements consist mainly of text and a visual attachment, accompanied by symbols, mathematical relationships and icons. However, the text remains the most important means of expression. Text elements are structured according to the principles of distance learning. Learning texts in the form of e-learning must other meet criteria than classical teaching texts. This is by no means

possible to identify with textbooks or scripts for traditional education, the conditions for e-learning course students differ from the conditions of full-time study.

The text must be divided into separate sections: contents, introduction, symbolic overview, icons, conclusion, literature list, key, index, glossary and so on. The pictorial component is expressed verbally and in writing. Images use figures, graphs, schemes or diagrams. These graphic elements are more interesting, attract attention, stimulate, entertain and therefore, ultimately, increase the pupil's motivation. Pupils are better emotionally tuned and learn better. The symbolic component is represented by symbols, mathematical relationships, pictograms and icons (Kabátová, 2013).

Dynamic elements are a multimedia and interactive part that can complement or completely replace static elements. They are characterized by the fact that they can only be distributed in electronic form. Multimedia is used to present and transmit information using two or more generic media simultaneously (text, audio, video, animation). Being exposed to two or more senses simultaneously is important for the learning process. They are a very important part of an online course. Combining verbal and visual representations activates them, so interconnecting individual media is very important. A multimedia course can be considered as a course where the content of study is not expressed only in a static text form.

Animation and video presentations are best used to illustrate procedures and policies. They can explain some processes better to a pupil than chalk on a blackboard in the classroom. The text can be expressed not only in written form, but also in spoken form in an audio recording. This option is considered didactically more effective. Audio recordings enhance the personal character of the subject by emphasizing the pupils' important thoughts and motivation.

The validation provides feedback between teacher and student. It can include short tasks, long tasks, control questions, summaries and so on. It forms a separate component in the structure because it can be expressed by static and dynamic elements.

E-learning. Education is no longer just a part of compulsory education, preparing for a future career but is becoming a lifelong mission. An ideal society should provide equal opportunities and access to education for all those who are interested. The pressure exerted on education also changes the strategy of educational institutions so that the design of education is taking into account the new requirements and possibilities of potential students' study. For all types of educational institutions, whether public, private or commercial, nowadays, if they want to meet the needs of education, only classical forms of teaching are not enough. Therefore, distance forms of education have come to the forefront in recent years.

It brings together not only didactic but also pedagogical goals and modern media, it also participates achieving the basic mission of all education: to liberate the human individual

wherever possible, especially from limitation and ignorance. The current need for the widespread use of other forms of education is the result of several current social phenomena, including those linked to providing access to education for members of the emerging information society. The crises that will survive today's education systems accentuate the mismatch of the traditional mission of the school with the new demands we face. Telecommunications, computer networks, multimedia information and communication technologies have opened new avenues of learning for all kinds of educational institutions. Students can be educated independently of time and space. It is an easily accessible form of education, democratic and tailored to the needs of each individual, an education that will be provided everywhere and for all.

In today's globalized world, e-learning is an increasingly powerful tool, including adult education. In recent years we have witnessed the electronification of almost all spheres of our society. E-learning, is and has ambitions to be a good tool also in higher education, given the decreasing number of full-time hours, as part of individualization in education, the personality traits of the current generation and the transformation of the current web. In terms of the quality of education provided, it is important to offer pupils and students innovative forms and methods of education, which undoubtedly include e-learning. There are a number of system solutions in e-learning that differ in the use of technology and are affordable (Piskura, 2017).

Emphasis is placed on independent learning, which has many different forms; different methodological approaches are used and it is as flexible as possible. Concepts such as independence, multimedia and interactivity are emphasized. It was created as a comprehensive set of educational principles and rules that enable people to study simultaneously with full economic and social activity and practically independent of the real distance from the educational institution.

The educational form is usually based on self-study, so that that the student will have complete study material. This can sometimes prevent a quite complicated search and collection of study materials. The study content is processed into a methodically produced and detailed study and electronic

teaching materials. The study is continuously monitored and coordinated by an educational institution; Depending on the study needs, it is supplemented by a compulsory or optional meeting with the tutor (Oliveira, 2014).

Definition of e-learning. E-learning is any learning using ICT. Using new multimedia technologies and the Internet, it aims to improve the quality of the cognitive process, which will facilitate access to a variety of resources and services and allow the remote exchange of information and collaborative learning. The Educational Vocabulary defines e-learning as learning in which the acquisition and use of knowledge is distributed and facilitated by electronic devices. E-learning is an innovative approach providing a quality interactive learning environment, with a focus on learning, easily accessible to anyone, anytime and anywhere using a variety of digital technologies, as well as other forms of learning materials that are suitable for an open, flexible and distributed learning environment.

Forms of e-learning. The basic condition for e-learning is the connection of the educational process with ICT. Given the wide range of technology applications, e-learning offers a range of services that are useful in teaching and learning and to some extent determine the appearance or form of e-learning. The basic division of e-learning takes into account whether or not the computer is connected to the network (Kabátová, 2013).

There are two types according to this criterion:

- **Off-line learning:** The student's PC does not have to be connected to the computer network. The study material is distributed on various data carriers. This form of e-learning is known as CBT - Computer Based Learning. In general, the term CBT is used to denote any support for the educational process. This method is currently used primarily for home preparation of pupils or students working with educational programs. Its disadvantages can be considered the impossibility of simply and rapidly updating the education's content and direct communication between participants.

- **Online education:** the condition is the involvement of the pupil's PC in the computer network. The study material is distributed through a network of channels. In addition, distributing educational content, this form of communication also enables

communication between students and teachers and between students. Communication can take place in two ways, asynchronously and synchronously.

- **Asynchronous** - Participants are not logged in at the same time and can only communicate with each other using asynchronous means of communication. Asynchronous learning refers to real learning anywhere, anytime; the student is not dependent on anyone and studies when and where he/she wants; such as CD-Rom learning, educational audio and video media, or discussion forums. Asynchronous studying is characterized by the fact that the student spends most of his time guided by self-learning. Greater demands are placed on student autonomy. The principle of group work is suppressed and the student is not motivated to acquire new knowledge from classmates. In the same way, natural competitiveness is suppressed and so a higher motivation of the student is needed. The advantage is independence from time, place, as well as a weak Internet connection.

- **Synchronous** - all participants are simultaneously logged in and communicate in real time; this is on-line communication between students and tutor; everyone can be in different places, but at the same time, the condition is an internet connection; examples of synchronous communication include online courses, audio/video conferences, internet calls, virtual classes, chat. This is based on the assumption that the study is conducted using virtual classes, videoconferences or discussion forums. The question of group cooperation, which arises from the possibility of synchronous communication, comes to the fore. Students can work together, create projects and motivate each other (Barešová, 2011).

Education through videoconferencing. Video conference learning brings the specifics of the challenge whether we are participants as proponents, providers or trainees in educational lessons. However, there is also a need to invest in education and training for all players, in particular focusing on the methodological aspects of using videoconferencing and ensuring that the resulting work is carried out effectively. Videoconferences are a form of synchronous remote communication via audio and video transmission and the possibility of integrating text and other forms of information

presentation. The quality of this form of communication depends on the communication technologies used and the transmission communication network.

The participants in the videoconferencing training process are usually spatially distant from each other. Separation in space is typical of education, referred to here as distance. Videoconferencing opens up new opportunities for education in virtually every area of life today, whether it's education for doctors, biologists, managers, and the like. This brings us to the next relevant keyword, open education. Terms such as open, distance and flexible education are based on a concept other than traditional learning (Chovanec, 2018).

Basic principles of videoconferencing.

Video conferencing is currently one of the most modern means of communication between people. It is based on two-way audio and video communication, allowing participants to communicate with each other, see and hear each other, even though they are often very distant geographically. This is synchronous communication that actually requires the participants to be physically present at the same time but not tied to its location.

Generally speaking, videoconferences are taking communication to a new quality level, which is very important in today's collaborative working style. Video conferences provide the opportunity to communicate via electronic channels in the most natural form, because both audio and video are transmitted at the same time. Video transmission is not the only added value that video conferencing enriches communication. In addition to the usual communication activities performed when calling a videoconference, it not only allows us to see the partner we are communicating with, but also lets us develop new ways of collaborating between the participants in the communication. It is possible to watch documents open on a computer during one video conference meeting and even allow any participant to edit them. It is also possible to share a common desktop and actively intervene, or hold discussions and share files with the necessary data (Nemec, 2018).

Benefits. The benefits are obvious. The fact that video conferencing improves communication increases productivity and reduces costs. It is not necessary to travel to

see and hear students who are in distant places. Students can be shown all the necessary things such as pictures, graphs, videos, computers, files, pictures, as well as allowing them to talk to experts, letting them solve various tasks while watching them solve them. And in return, students can do the same things; they can show their video sequences, charts and photos. The role of the teacher is to develop a discussion on a given topic, as well as to foster student conversation.

Videoconferencing enhances the quality of education by creating conditions for natural communication where there is no other solution. Videoconferencing meetings are often more efficient because they are usually time-limited and carefully planned. Videoconferencing is great for distance learning. With this technology distance learning is hardly distinguishable from the traditional classroom. The teacher does not have to rely on the fact that, for example, the assignment sent by post is produced by the student him/herself, but he/she can be in control of the process. Video conferencing can address situations for schools where teachers who attend lectures from a distance are taught. It would save time and money.

Video conferences help reduce the costs of educational institutions as educational needs grow in the following ways:

- new information can spread more quickly,
- participants' needs can be met more quickly by learning in real time,
- more participants can be trained more quickly without increasing training centers,
- experts in the field can participate in education at low or zero cost,
- the timetable is more flexible - courses can be offered at any time during working days,
- participants and their teachers can stay in their usual work place, increasing employee availability and significantly reducing travel time and costs. (Langer, 2016).

Disadvantages. Obviously, videoconferencing is simply trying to replace the full-time form of education by using electronic means. There are areas where this compensation is not sufficient and therefore videoconferencing is not always an adequate form of reporting. The teacher must respect the technical limitations of this technology. He/she must avoid all sudden and rapid

movements, not come out of the camera range, also some fine details or facial expressions may be misinterpreted in the video encoding and decoding process and even if it sounds counterproductive, using image compression is recommended to reduce the visual information we send.

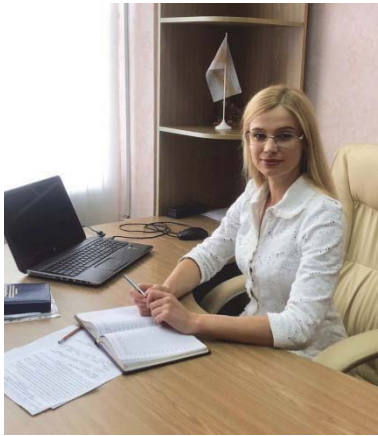
Another disadvantage is that the electronic connection is a delayed communication process, interactive communication (even if it takes about one second) can hinder the rapid communication of subscribers, so it is necessary to have patience when waiting for a response. Another limiting factor is the reliability of the connection. The connection

can be broken maybe because of line congestion or accidental connection error. The cause is often due to poor operating videoconferencing equipment or incompatibility with the standard. Videoconferences are used within both traditional and distance learning. The goals and methods of using them in these two different applications may differ. However, the basic methodological principles remain the same in all applications. Video conferences should be used to provide the best of traditional and distance learning: combining face-to-face meetings with well-prepared study materials (Kalaš, 2013).

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THE "HOUSE OF BEING": MARTIN HEIDEGGER'S HERMENEUTIC PROJECT (A Critical Analysis)



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Abstract. The paper represents the results of a generalising study of Martin Heidegger's hermeneutics. Undertaking a historico-philosophical analysis of the becoming and development of Heidegger's hermeneutical conception, the author indicates there are three periods: the "hermeneutics of life", the "analytics of Dasein", and the "hermeneutics of the language". The author argues that although the first two periods, which are often identified under the same title of "hermeneutics of facticity", should be distinguished one from another, at the same time, they both should be interpreted in existential terms as they both represent Heidegger's existential hermeneutics. The third period, focusing on the interpretation of language and poetry, in contrast, represents the metaphysical hermeneutics. Thus, the development of Heidegger's hermeneutics is seen as a transition from the phenomenological examination of "historical I", through questioning Being from the point of a subject (Dasein), to the metaphysical examination of the Absolute, manifesting itself in thinking, language and poetry. The first two stages of Heidegger's hermeneutics, therefore, represent his study of subjective being, as the third is an effort to reach the understanding of absolute being, expressing itself in the fact of human thinking.

Keywords: *the continental philosophy, the fundamental ontology, Heidegger, philosophical hermeneutics, the hermeneutics of facticity, the hermeneutics of the Absolute, metaphysics, the twentieth-century philosophy.*

Introduction

Martin Heidegger is one of the central figures in the twentieth century philosophy. Today, as much as the fifty years ago, his thought and works provoke a broad range of different opinions that can hardly be agreed. Nonetheless, the one thing remains undisputed: Heidegger's immense influence on the future thinkers of the continental tradition of European philosophy. A new study of Heideggerian thought, therefore, from the standpoint of the history of philosophy cannot be but essentially relevant. Whenever such a study does not only deal with Heideggerian philosophy as a thing in itself, but endeavours to clarify its connections with the either prior or posterior philosophical systems the relevancy and significance of such a study increases even more.

The relations between Heideggerian philosophy and contemporary philosophical hermeneutics – first of all in the person of George Gadamer – are too clear and obvious to become a matter of discussion. However, the roots of that influence are not so clear. It is usually said that the twentieth-century project of philosophical hermeneutics appears at the intersection of the nineteenth century linguistic hermeneutic – traced back to Friedrich Schleiermacher – and the Heideggerian philosophy. However, it is often said that Heidegger's philosophy itself is a kind of hermeneutic project. In this paper, I focus on Heidegger's philosophy as a hermeneutic project to provide its general outline, define and clarify its major features.

Literature review. Among many publications on Heidegger's philosophy, there are some papers dedicated in particular to his

hermeneutics. However, most of them treat the subject with respect to a specific topic, which makes them rather unable to provide a

more general outlook on Heidegger's hermeneutics. Nonetheless, at the same time, the papers provide the reader with a clear vision of one or another facet of Heidegger's hermeneutics. Being generalised, the results of those studies can lay the foundation for a more general vision of the matter. Thus, for example, Robert Piercey stresses the idea of Heidegger's hermeneutics as "hermeneutics without historicism" (Palmer, 1969, p. 1), as Niall Keane explores "Heidegger's attempts to push up against the limits of hermeneutics and to extend its boundaries" (Keane, 2016, p. 349). Paul Cammell writes about "hermeneutic and deconstructive approaches emerging from Heidegger's philosophy" (Cammell, 2015, p. 235), as John Caputo focuses on "hermeneutic phenomenology" (Caputo, 1984, p. 157).

As far as I know, there is the only book, up to the present, to treat the subject of Martin Heidegger's hermeneutics in general: it is Egor Falyov's "*Germenevtika Martina Heideggera* [Martin Heidegger's Hermeneutics]" (Falyov, 2008), which is written in Russian, and yet has not been translated into English or any other language.

There are also some generalising studies, touching in one way or another on the subject of hermeneutics in general, as well as Heidegger's hermeneutics in particular. First of all, some of them have already become classics: "*Hermeneutics. Interpretation Theory in Schleiermacher, Dilthey, Heidegger, and Gadamer*" by Richard Palmer (Palmer, 1969); "*Heidegger. A Very Short Introduction*" by Michael Inwood (Inwood, 1997); "*Hermeneutics. A Very Short Introduction*" by Jens Zimmermann (Piercey, 2016). The most recent titles: "*The Cambridge companion to hermeneutics*", edited by Michael Forster and Kristine Gjesdal (Forster, Gjesdal eds., 2018); and "*Ecstasy, Catastrophe. Heidegger from 'Being and Time' to the 'Black Notebooks'*" (Krell, 2015) as well as that which has now become almost classical "Martin Heidegger. *Basic Writings: From Being and Time (1927) to the Task of Thinking (1964)*" (Heidegger, 1993), both edited by David Krell are of great use for the author, in course of the study that laid the foundation of the present paper.

This brief analysis of the recent publications of the topic, however, enables the conclusion on the necessity of the generalised study of Martin Heidegger's hermeneutics.

Purpose of the article. The purpose of the present paper, therefore, is to provide a general outlook on the process of becoming and development of Martin Heidegger's hermeneutics.

Research results.

The title "hermeneutics" was familiar to Martin Heidegger since the time of his theological studies at the University of Freiburg (1911-1914), as he himself later acknowledged (Heidegger, 1959c, p. 96).

It is conventionally believed, however, that Heidegger began his *hermeneutic project* in 1919, and with a number of variations – "under one guise or another" – was continuing it for the rest of his life (see Forster, Gjesdal eds., 2018 p. 213). "Over the decades," Benjamin Crowe says, "Heidegger experimented with a variety of names for the subject matter of his inquiries: "factual life," "life-experience," "Dasein" or "being-here," "human Da-sein," the "worlding of the world," "being itself [*das Sein selbst*]," the "truth of being," the "fourfold [*das Geviert*]," the "topos of being" (Forster, Gjesdal eds., 2018, p. 213).

The *first stage* of becoming and development of Heidegger's hermeneutics is often being defined as the "*hermeneutics of facticity*" (Forster, Gjesdal eds. 2018, p. 213) or "*hermeneutics of factual life*" [ibid.]. The latter definition is an obvious effort – conscious or unconscious – to connect Heidegger's thought of this period with the German *Lebensphilosophie* movement, inspired by the anti-rationalist critique of Arthur Schopenhauer, Søren Kierkegaard, Friedrich Nietzsche; and represented by such prominent figures as Wilhelm Dilthey, Georg Simmel, Hans Driesch, and others.

The major texts that represent this stage of Heidegger's hermeneutics are following: "Zur Bestimmung der Philosophie" – "Towards the Definition of Philosophy" (1919), "Phänomenologie des religiösen Lebens" – "Phenomenology of Religious Life" (1921), "Phänomenologische Interpretationen ausgewählter Abhandlungen des Aristoteles zur Ontologie und Logik" – "Phenomenological Interpretations with Respect to Aristotle: Indication of the Hermeneutical Situation" (1922), "Ontologie. Hermeneutik der Faktizität" – "Ontology: Hermeneutics of Facticity" (1923).

In his "Phenomenological Interpretations with Respect to Aristotle: Indication of the Hermeneutical Situation" Heidegger wrote: "The basic problem of philosophy concerns the *being* of factual life. In this respect, philosophy is a *fundamental ontology that deals with principles*, so that this ontology of facticity provides the particular specialized regional ontologies of the world with a foundation for their problems and a clarification of the sense of these problems. The basic problem of philosophy has to do with the being of factual life in the how of its being-addressed and being-interpreted at particular times. In other words, as the ontology of facticity, philosophy is at the same time the interpretation [Interpretation] of the categories of this addressing and interpreting [Auslegen], i.e., it is *logic*. Ontology and logic need to be brought back to their original unity in the problem of facticity and understood as offshoots of fundamental research into principles that can be described as "the *phenomenological hermeneutics* of facticity" (Heidegger, 2002, p. 121).

Jen Zimmermann states: "To be human is to interpret. The task of hermeneutics as a philosophical discipline, at least for the early Heidegger, is to make visible the meaning structures within which we exist as interpreting animals. He called these structures 'existentials' (Existentialien) because they determine at the deepest ontological level how we perceive the world. For this hermeneutic effort, the scientific posture of examining an object from a distance is completely useless, because such a stance catapults the interpreter out of the very life relations he needs to probe. Instead, the interpreter has to be completely engaged and try to make transparent the very structures of being he himself inhabits" (Piercey, 2016, p. 46).

The major purpose of Heidegger's hermeneutic effort of this period is to grasp the circular structures of understanding. It is performed with the help of phenomenological (descriptive) and hermeneutical methods. The ultimate purpose of this quest is to discover the unified meaning of human self, describing and interpreting the contents of human consciousness out of the "*hermeneutical situation*" in which the (self-interpreting) self is plunged.

Thus, Fred Rush rightfully concludes that "The broadening of hermeneutics into a

general theory of experience, according to which the primary value of interpretive understanding resides in the self-transformation of the interpreting agent (and not the understanding of another), is an application of Heideggerian phenomenology to the problem of historical self-constitution" (Forster, 2018, p. 67).

The "*hermeneutical situation*", according to Heidegger, is "a complex of cultural tendencies, contemporary issues, and ways of viewing the past that are in turn individualised in a deeply personal manner" (Forster, Gjesdal eds., 2018, p. 216). It is the historical background with which the self has bound with dialectical ties, that is conditioning the self's being, making it the "historical I" [ibid.], Heidegger says: "We are history, i.e., our own past. Our future is lived from out of the past. We carry the past with us" (Heidegger, 1995, p. 173).

"The "hermeneutical situation" is, as previously described, the entire complex that structures and makes possible any interpretation. This "situation" has three elements: (1) fore-having, (2) fore-sight, and (3) fore-conception. All share the character of "fixing in advance [*Vorhaften*]" the possibilities available for understanding (*GA 17 110*)" (Forster, Gjesdal eds., 2018, p. 218).

The *second stage* of Heidegger's hermeneutics (as I see it) is associated with the appearance of his *magnum opus* "Being and Time" (1927), and a number of works called to highlight these or those aspects, coined but not fully developed in the "Being and Time".

Although some scholars unify both of these stages under the same title of "hermeneutics of facticity", associating Heidegger's "hermeneutics of facticity" with his "analytic of Dasein", expressed in the "Being and Time" (see Forster, Gjesdal eds., 2018, p. 211); which, in my opinion, is not correct enough. I would rather argue that it would be much more correct to distinguish Heidegger's "*hermeneutics of life*" from his "*analytic of Dasein*", which in turn should be considered as two distinct, but different stages, constituting Heidegger's "hermeneutics of facticity".

As the early stage of Heidegger's hermeneutics focused on interpreting of the "historical I", the stage of "Being and Time" concentrates on the subject itself and its relations to the world as being-in-the-world.

During this period the central theme of Heidegger's research is the quest for "a positive possibility of the most primordial kind of knowing" (Heidegger, 1959c, p. 15); Heidegger, 1993 p. 195 Heidegger's understanding of the hermeneutical situation in this period is similar, but not identical to the previous one: rather it suffered a number of small but characteristic changes. It is undeniable that developing in "Being and Time" the "analytic of Dasein", Heidegger was continuing the task initiated with his "hermeneutics of life".

"Phenomenology of Dasein", Heidegger wrote in his *Introduction to "Being and Time"*, is *hermeneutics* in the original signification of that word, which designates the work of interpretation. But since discovery of the meaning of Being and of the basic structures of Dasein in general exhibits the horizon for every further ontological research into beings unlike Dasein, the present hermeneutic is at the same time "hermeneutics" in the sense that it works out the conditions of the possibility of every ontological investigation. Finally, since Dasein has ontological priority over all other beings—as a being that has the possibility of existence [Existenz]—hermeneutics, as the interpretation of the Being of Dasein, receives a specific third and, philosophically understood, *primary* meaning of an analysis of the existentiality of existence. To the extent that this hermeneutic elaborates the historicity of Dasein ontologically as the ontic condition of the possibility of the discipline of history, it contains the roots of what can be called "hermeneutics" only in a derivative sense: the methodology of the historical humanistic disciplines" (Heidegger, 1993, p. 84-85).

Now Heidegger shifts his understanding of the hermeneutical process from mental (suggested by the nature of his phenomenological researches) to ontological part. Now he speaks of "understanding as an ontological process" (not mental, but ontological! – *V.D.*) the major task of which is the "disclosure of being". This stage of his hermeneutical research is the accomplishment of Heidegger's hermeneutics of facticity that leads him out of his phenomenological researches on existential subjects to the future investigations of metaphysical topics of thinking, language and poetry.

The *third stage* of Heidegger's hermeneutics has virtually begun with his

"*Lectures on Metaphysics*" (1929, 1943, 1949), and continued for the rest of his life. The other basic texts for this period are as follows: "*The Origin of the Work of Art*" (1935), the "*Letter on Humanism*" (1946), "*Building Dwelling Thinking*" (1951), "*What Calls for Thinking?*" (1951-52), "*Gelassenheit*" (1959), "*The Way to Language*" (1959), "*The End of Philosophy and the Task of Thinking*" (1966), and some others.

It is usually defined as the period of "Heidegger's Later Contribution to Hermeneutical theory" (Palmer, 1969, p. 140). This period is also known as the period of linguistic "turn". And I fully agree with Palmer, who notes that "In the later writings, the hermeneutical character of Heidegger's thought takes on other dimensions, but it becomes more rather than less hermeneutical, and even becomes hermeneutical in the sense of concerning itself with exegesis..." (Palmer, 1969, p. 141).

Heidegger's chief motto for this period can be defined as "From the generalised description of Dasein's everyday contact with being to metaphysics and poetry" [*ibid.*]. Heidegger makes an effort of passing from the concreteness of self-experience to the most abstract problematic of intersubjective relationships, from the concrete being of Dasein to the most abstract absolute being.

He begins with the *critique of presentational thinking*. The first outlines of the critique appear still in the second period, and can be found already in his "*Being and Time*". In the third period, Heidegger makes the critique of presentational thinking one of his central points, if not the overall point of departure for anything else. "Heidegger", Palmer observes, "attempts to review how Western thinking came to define thinking, being, and truth in essentially presentational terms" (Palmer, 1969, p. 142). "As everything comes to be ordered to the conception of ideas and ideation, and most importantly the concept of reason, Heidegger asserts, the earlier conception of truth as disclosure is lost. Western man no longer senses being as constantly emerging and receding from his grasp but as in the form of a static presence of an idea" (Palmer, 1969, p. 142).

Eventually, the critique of presentational thinking brings Heidegger to conclusion that the Western tradition suffers of a syndrome that he calls the *syndrome of modern subjectism* (Subjektivität).

"Subjectism", Palmer notes, "is a broader term than subjectivity, for it means that the world is regarded as basically measured by man, whose task is to master the world" (Palmer, 1969, p. 144). All this causes the majority of problems and issues the Western civilization is struggling with. Modern science served no other purpose but men's will to master, and therefore they took pre-eminence in the contemporary world. On the same grounds, the modern "value philosophies" caused the loss of the sense of sacredness of things, introducing the vision in the light of which the values themselves are considered to be the objects on their own rights. "Science and humanism become the watchwords in an age in which man is truly the centre and measure of all things" (Palmer, 1969, p. 145).

This state of affairs caused the situation in which "thinking is no longer a matter of open responsiveness to the world but of restless efforts to master it; it does not conserve and act as guardian of the riches of the earth, but exhaust the world in trying to restructure it to man's purposes" (Palmer, 1969, p. 146).

"Hermeneutics, as the theory of what understanding and interpretation are, is directly affected by these considerations, for when the interpretive problem is approached within the context of technological thinking, interpretation provides the means for conceptual mastery of the object. When thinking is defined as the manipulation of ideas and concepts, it is no longer creative but manipulative and inventive. When subjectism lies at the base of the interpretive situation, what is being interpreted but an objectification? The concept of truth as correspondence fits logically with these approaches, and truth becomes merely "correctness" (Palmer, 1969, p. 146).

Heidegger, therefore, is making effort to specify a new task for philosophical hermeneutics, taking it to consider language in a new light: "For the theory of interpretation, then, it makes a great difference whether thinking is conceived strictly in ideational terms, for then interpretation itself is dealing not with an unknown matter which has to be brought to light but with the clarification and evaluation of already known data. Then its task is not the primary "showing" of the thing but that of achieving correctness among several possible interpretations. Such presuppositions tend to keep one always in the clear light of what is

already known instead of bridging the gap between light and darkness. Language comes to be conceived as a system of signs applied to an already known set of objects" (Palmer, 1969, p. 146).

Michael Inwood also says: "Language too has found a new role. In BT ("Being and Time" – V.D.) language grows out of the significant involvements of the already established world. In OWA ("The Origin of the Work of Art" – V.D.) it plays a more fundamental part. Projective language, the naming of things for the first time, helps to found a world. Language too cannot be devised by human beings in the normal human way, which already presupposes our possession of language. So language too, at least projective language, is an impersonal force that constitutes Dasein and its world, not simply an instrument for communication. This is why Heidegger says: 'Language speaks, not man. Man only speaks when he fatefully answers to language' (PR, 96)" (Inwood, 1997, p. 127-128).

"But for Heidegger this whole set of definitions — of language, truth, and thinking — and the concept of understanding and interpretation built on them, represents a thematization of Plato's doctrine of truth. Western thinking, and especially metaphysics, since Plato represents the "text" of this thematization. Heidegger found his hermeneutical task to interpret this text by going behind it. In Kant, in Hegel, in Nietzsche, Heidegger finds hints of the older Greek approach to truth as unconcealment briefly asserting its claims, only to be overshadowed and lost. From the beginning, then, Heidegger defined his philosophical task in essentially hermeneutical terms. Hermeneutics, in this context, does not mean simply interpretation in terms of correctness and agreement; hermeneutics carries its deeper traditional overtones of bringing out a *hidden* meaning, of bringing what is unknown to light: revelation and disclosure. (...) He goes behind the text to ask what the author did not and could not say, yet which in the text comes to light as its innermost dynamic. The finished and final text is not the sole object of interpretation but rather the inner violence and struggle which were at work in the creation of the text" (Palmer, 1969, p. 146-147).

According to Palmer, with whom I do agree, "This brings up two traditionally

familiar issues in hermeneutics: (1) doing violence to the text, and (2) understanding the author better than he understood himself. When truth is conceived as something which both emerges and plunges back into concealment, when the hermeneutical act places the interpreter on the border of that creative emptiness out of which the work emerged, then interpretation must be creatively open to the as yet unsaid. For "nothingness" is the creative backdrop of every positive creation; yet this nothingness is meaningful only in the context of being, in its positivity. When the art work is seen not as an objectification of human subjectivity but as a disclosure of being, or a window to the sacred realm, then one's encounter is a receiving of a gift, not a subject's act of grasping its subjectivity" (Palmer, 1969, p. 147).

Finally, quoting Heidegger, Palmer observes: "What is needed is not more steps forward in the development of presentational thought but a "step back out of the merely ideational, i.e., explaining, type of thinking" to a meditative (*andenkende*) thinking" (Palmer, 1969, p. 148). All this takes hermeneutics to a new perspective on the way of (philosophical) thinking.

From this standpoint, thinking is itself a hermeneutical process. As early as in his "*Introduction to Metaphysics*", Heidegger emphasises the idea that "the essence of man's being-in-the world is precisely the *hermeneutical* process of questioning, a kind of questioning which in its true form reaches into unmanifest being and draws it out into a concrete, historical occurrence. Through questioning being becomes history" (Palmer, 1969, p. 150).

However, "in later writings the emphasis shifts from man's questioning to the need for *wakeful openness to being*. Being is still historical, but its occurrence is a gift from the side of being rather than a product of man's inquiry and grasping" (Palmer, 1969, p. 150-151; the italic is mine – V.D.).

In his "*Letter on Humanism*", Heidegger says that "man is the shepherd of Being" (Heidegger, 1993, p. 234, 245), and as he suggests in "*Gelassenheit*" that "we should *do* nothing but rather wait" (Heidegger, 1959a, p. 37; Heidegger, 1966, p. 62). However, as Palmer rightfully notes: "*Not questioning but response is the key word*. Yet man is still the being who, in response, reaches into the negativity of being, into the undisclosed, the

mystery" (Palmer, 1969, p. 151; the italic is mine – V.D.).

Another important topic in Heidegger's later writings is the theme of the *linguiscality of being*. "Without language man could not be, in any mode imaginable to us" (Palmer, 1969, p. 153). Heidegger says that "For to be a man is to speak" (Heidegger, 1959b, p. 82).

However, the ability of speaking and the language itself, according to Heidegger, is not a human invention: "What an illusion to think that man *invented* language! Man does not invent language any more than he invents understanding, time, or being itself. ("How could man ever have invented the power which pervades him, which alone enables him to be as a man?" (Heidegger, 1959b, p. 156). "Even the poetical act of naming is a response by man to the being of beings" (Palmer, 1969, p. 154).

Heidegger, therefore, represents language as a power that determines entirely human being, linguiscality is the foundation stone of humanity: "The implication of this for language", Palmer writes, "is to reverse the customary direction of speaking, to say not that man speaks but that language itself speaks. This becomes most explicit in a collection of essays on language, *Unterwegs zur Sprache*" (Palmer, 1969, p. 154).

Thus, Heidegger notes in "*Unterwegs zur Sprache*": "Language is in its essence neither expression nor an activity of man. *Language speaks*" (Heidegger, 1963, p. 19). And further he says: "The sound in the silence is nothing human. On the contrary, the human is in its essence linguistic" (Heidegger, 1963, p. 30).

Commenting on this situation Palmer is rightfully observes: "Words sound in the stillness, and through them the realities of one's world, the conflict between earth and world, come to stand. (...) The human act of saying is what is specifically human. Yet the saying is in itself an act *by language*. What is brought to appearance in language: is not something human but world, being itself" (Palmer, 1969, p. 154-155).

In "*Unterwegs zur Sprache*", Heidegger finds the very essence of language in speaking, and especially in saying (*das Sagen*): "To say is to show" (Heidegger, 1963, p. 258). However, language and speaking is not only uttering the words, it also includes the capacity to listen in silence: "Thus silence can sometimes say more than words. To saying belongs a capacity to listen, so that

what is to be said can show itself; saying preserves what is heard" (Heidegger, 1963, p. 255).

Speaking on this account, Palmer notes: "In it, being shows itself in the form of occurrence. To put the matter in terms of expression and appearance: language is not an expression of man but an appearance of being. Thinking does not express man, it lets being happen as *language event*. In this letting-happen lies the fate of man and also the fate of truth, and ultimately the fate of being" (Palmer, 1969, p. 155; the italic is mine – *V.D.*).

Thus, I can fully agree with Palmer that "Heidegger's turn toward the increasing emphasis on the linguisticity (*Sprachlichkeit*) of man's way of being, and his assertion that being leads man and calls him, so that ultimately it is not man but being that shows itself, are of course of incalculable significance for theory of understanding. It makes the very essence of language its hermeneutical function of bringing a thing to show itself. It means that the discipline of Interpretation becomes an effort to take a decisive "step back" from mere analysis and explanation to the achievement of thinking dialogue with what appears in the text. To understand becomes a matter not only of questioning which is willing to be open and undogmatic but also of learning how to wait and how to find the place (*Ort*) out of which the being of the text will show itself. Interpretation becomes a helping of the language event itself to happen, for the hermeneutical function of the text itself is emphasized as the place where being shows itself. Language itself is in its essence hermeneutical, and hermeneutical in the highest degree in great poetry, for as Heidegger says in "On the Essence of Poetry,"

the poet is the messenger, the "hermeneut," between the gods and man.

Heidegger has identified the essence of being, thinking, man, poetry, and philosophy with the hermeneutical function of *saying*. Whether this is a tenable position need not be debated here. The fact remains that his own philosophy becomes centrally hermeneutical, and his major themes all seem to fall in the proper area of hermeneutics. Of course, he has changed the whole context of hermeneutics away from the older conception of it as the philological discipline of text interpretation. The subject-object schema, objectivity, norms of validation, the text as expression of life — all are foreign to Heidegger's approach. The definition of hermeneutics as dealing with the moment that meaning comes to light, which Ricoeur finds "too broad" an understanding since it does not necessarily include the act of interpreting a text, does bring a sweeping change in the topography of hermeneutics. And the very act of interpretation itself is redefined in an ontological setting" (Palmer, 1969, p. 155-156).

Thus, according to Heidegger, language cannot be and is not a mere means of communication, but a fundamental ontological force determining all human being. Thus, Heidegger arrives to accomplishment of his project of "ontological hermeneutics" (Palmer, 1969, p. 156).

Developing his ontological hermeneutics, Heidegger believed, as Palmer put it, that "the hermeneutical process in its essence comes not in the scientific explication of what is already formulated in the text; it is rather the process of originative thinking by which meaning comes to light which was not explicitly present" (Palmer, 1969, p. 157-158).

Conclusions

Heidegger has made a truly many-sided contribution to the theory of hermeneutics.

It is possible to single out three periods in the development of his hermeneutical conception: the "hermeneutics of life", the "analytics of Dasein", and the "hermeneutics of the language".

The first two periods, which are often identified under the same title of "hermeneutics of facticity", should be distinguished one from another, at the same time, they both should be interpreted in existential terms as they both represent Heidegger's existential hermeneutics. The third period, focusing on interpretation of language and poetry, in contrast, represents the hermeneutics which can be defined as ontological (or metaphysical) hermeneutics. The first two stages of Heidegger's hermeneutics, therefore, represent his study of subjective being, as the third is an effort to reach the understanding of absolute being, expressing itself in the fact of human thinking.

The development of Heidegger's hermeneutics was a transition from the phenomenological examination of "historical I", through questioning Being from the point of a subject (Dasein), to metaphysical examination of the Absolute, manifesting itself in thinking, language and poetry. Having started with Dilthey's historicism and Husserlian phenomenology, Heidegger gradually developed his own approach which over years more and more tended to metaphysics: a few he redefined the hermeneutics, and eventually expressed it in metaphysical terms, focusing on the mysterious manifestation of being that he called the process of "disclosure".

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PSYCHOLOGICAL CHARACTERISTICS OF SPEECH UTTERANCES AS A PROBLEM SUBSTING CONTROL MALADJUSTED INDIVIDUALS

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Abstract. The article is devoted to the issue of psychological peculiarities of the depth of speech utterances as a problem of subjective control of addicted persons. Thus, the United Nations in its resolution 65/95 recognizes that mental health problems are of great importance to any society and are a significant factor in increasing disease rates, reducing the quality of life, which, in turn, leads to huge economic costs. and social losses. The research direction is connected both with the search for the general patterns of development and the conditions for the effective implementation of the treatment process, and for the behavior of the drug addict, and in particular the depth of the speeches of dependent persons, as this is an important indicator of a possible forecast of the results of rehabilitation.

Actual issue is the individual act of the subjects who realizes language ability through the mediation of language as a social system. In this context, the elements of language are understood as units that possess not only their meaning, but also their significance, which is determined by the place in the system of relations of elements of language. It is important that here we are talking about the mental, mental processes that occur in the consciousness of the dependent person in the process of rehabilitation.

Modern society is in a situation of global crisis and extremely high rates of transformation of all its structures. One consequence of these changes is an increase in the number of drug addicts worldwide. Thus, the United Nations in Resolution 65/95 recognizes that mental health issues are of great importance to any society and are a significant factor in increasing disease rates, reducing the quality of life, which, in turn, leads to huge economic costs. and social losses. The research direction is related to the search for general patterns of development and conditions for the effective implementation of the treatment process and the behavior of drug addicts, and especially the speech of maladapted people, as this is an important indicator of possible prognosis of rehabilitation.

The article reveals the diagnostic essence and presents the results of the empirical indicators of speech pronouncements in the sphere of direction of subjective control of dependent persons in various life aspects. The number of respondents is determined, which is necessary to establish statistically significant differences in the psychophysical states of persons undergoing rehabilitation from dependence. The sample size and its composition ensures the statistical probability of the results obtained. The results obtained during the empirical study indicate that the clinical aspect of psychodiagnosis of speeches in the direction of subjective control of dependent persons in various aspects of life is most evident: the more fully represented the psychological portrait of a person dependent, and especially his tendency to express responsibility for the results of his activities and associate them with external circumstances or their own abilities and efforts, the more effective will be the final result of the psychotherapist her.

Keywords: *speech utterances, subjective control, maladaptation, drug addiction, life sphere, psychological features, interdependent parents.*

Introduction

Modern society is in a situation of global crisis and the extremely high rate of transformation of all their structures. One consequence of these changes is the growth worldwide the number of persons dependent on narcotic substances. So, the United Nations in resolution 65/95 recognizes that mental health issues are of great importance for any society and are a significant factor in the growth of level of disease, reduced quality of life, which in turn leads to huge economic and social losses. The research direction is connected with the search for common regularities in the development and effective implementation of the process of the treatment and behavior of drug addicts face, and especially speech utterances maladjusted individuals, as this is an important indicator of possible forecast outcomes of rehabilitation.

Analysis of recent researches and publications. Today in psychological science formulated many theories that explain the phenomenon addicts and the process of its formation from different methodological perspectives (Freyd, 2005). The available scientific knowledge is insufficient for a clear understanding of the psychological factors and mechanisms of formation of psychological vector problems of modelling personal constructs of dependence, which in turn limits the ability to consider all these factors and characteristics when designing psychocorrection and prevention programmes (Seidman & oth., 2006).

The prolonged nature of the process of rehabilitation, as well as the ambiguity of its outcome poses a diagnostic question:

- determination of factors - intrapersonal, interpersonal, and the like;
- at what stage of rehabilitation, these factors begin leading the process of change;
- what personal characteristics and communicative experience of drug-dependent person needs to pay attention to increase the effectiveness of psychotherapy.

The highest level spatial structure represents speech as a kind of universal, which

builds the social space of the individual and represents a symbolic way of communication. In this context no doubt the relevance of the treatment to study the phenomena of language and speech, is actively studied in the theory of speech activity.

In the early twenty-first century is characterized by complex and ambiguous transformations, which are in a heightened mode, there are a large number of studies on the psychological impact (Slobyn, 1976; Valkenburg & Peter, 2009; Vyhotskyi, 1982). however, issues of verbal communication and expression, in the process of which is speech influence, up to this time remains insufficiently investigated.

Actual there is a question of an individual act of implementing language ability through language as a social system of subjective control . In this context, the elements of the language are understood as units, with not only its value, but also its significance, which is determined by the place in the system of relations of language elements. Importantly, it is also about thinking, mental processes occurring in the mind osaline of the individual in the rehabilitation process. Special emphasis on changing the discourse in time when the rhetorical use of discursive resources maladjusted individuals in social interaction.

The theoretical interpretation of the provisions mollendo-thinking activity in Russian psychology is traditionally carried out in the plane of the theoretical positions of Lev Vygotsky. Scientists of this direction it is interpreted as a system of verbal reactions and as an active and purposeful speech activity, trying to "reflect in their theoretical pobuduvati dialectics of society and individual, to access the social nature and social conditionality of speech activity", allowing to organically "fit" the processes of speech and language perception in the system of human activity (Lytvynchuk, 2017, p. 13). In the logic of the analysis of the psychological organization of the process of speech production as a sequence of interrelated phases of activity of the Central idea can be expressed in a General formula: the relation of thought to word is a process of transformation of thoughts to word and word. Speech, as a means of communication, in accordance with the theoretical positions of A. Lur (1998) deployed in two real processes: on the one hand, it can embody the idea, formulating it in the form of statements, which transmits information to the interlocutor; on the other hand, the process is reversed decoding of the perceived utterance, resulting in a transformation of the expanded statements in the folded thoughts. The driving force deployed voice process in accordance with the deployment model of speech activity A. Lur, there is a motive that predmetu desire to articulate the need, identify the request, requirement; the motif may determine the need to convey information, to establish contact with another person (determines the formulation of statements of educational, informative type) or using verbal statements to implement affective charge. The motive leads to the emergence of an opinion that is interpreted as the General scheme of the content of future utterances. Transcoding the idea of creating generative schemes deployed of speech occurs through the mechanism of inner speech that includes the original intent of the system of grammatical codes of language and actualizes the previously

Research results. Determine the required number of respondents to establish statistically significant differences in psycho-physical States of persons entering treatment for dependence caused by the use of opioids and relatively healthy people. Since criteria of effect in the studies are quantitative traits (or numerical measure of a certain characteristics), which are expressed in statistical averages, the formula for calculating the minimum amount of groups for comparison index in two independent groups:

learned subject of speech the grammatical structure of the deployed of speech. The format of this unfolds foreign broadcast, which can vary depending on the nature of speech (Lur, 1998, p. 60-64).

Information obtained in the course of diagnostic examinations in a given volume is necessary to study. However, you should consider the following points: on the one hand, the addict is internally conflicted, unstructured personality. The abuse of chemical substances has a protective and adaptive functions. Use of chemicals may temporarily change to a regressive state, strengthening the protection of the Ego against the powerful affects, such as anger, shame and depression. In early psychoanalytic writings, addicts were often presented hedonistically seekers of pleasure, prone to self-destruction (Basittsev, 2001; Maksymenko, 2015). All these manifestations of deficiency create corresponding problems in personal relations. And the results of psychodiagnostics, often contain a lot of negative, stressful information (Enikeeva, 2003). On the other hand, the testing process is of great interest, the desire to get an assessment of themselves, their abilities, therefore, the drug-addicted person, as a rule, actively interested in the results. As the recovery and normalization of mental activity interest and penchant for self-knowledge increases. This information is particularly valuable in the preparation of individual programs. In addition, it helps to build new, more adequate relations between reablement and his family.

The purpose of this article is to identify speech utterances in the sphere of focus of subjective control marginalized persons in various life aspects. The implementation of this objective will be implemented based on the author's applied research objectives will include:

1. To determine the necessary sample size for the study.

2. Empirical study speech utterances in the sphere of focus of subjective control marginalized persons in various life aspects.

$$n = (Z_{\alpha} + Z_{\beta})^2 \frac{S_{x0}^2 + S_{xk}^2}{\Delta^2},$$

where S_{x0} and S_{xk} is the standard deviation of the compared experimental and control groups, the Δ of the desired value differences between the average values of the compared groups, Z_{α} and Z_{β} In a, the critical value of the normal distribution corresponding to error levels of 1 and 2 kind, which are determined by tables.

The formula shows that to estimate the sample size required is important, rather the ratio of the variance and the desired value of differences than their numerical values. This fact has important practical significance when planning a study, when the exact values of the variances may be unknown.

In an alternative form of the description of effect with frequencies (or fractions) p_0 and p_k is the number of observations in equal numbers of experimental and control groups are determined according to the formula:

$$n = (Z_{\alpha} + Z_{\beta})^2 \frac{p_0(100 - p_0) + p_k(100 - p_k)}{\Delta^2},$$

where Δ - value of the difference between the frequencies ($p_0 - p_k$). This method gives fairly accurate results when $25\% < p < 75\%$. For other values of frequencies for the adjustment of arising distortion is corrected. The sample size is calculated as:

$$n = \frac{2(Z_{\alpha} + Z_{\beta})^2}{(\varphi_0 - \varphi_k)^2}$$

However, the feature of our study is that the financial, ethical and other considerations led to the requirement of the formation of different numbers of experimental and control groups. The study gave consent 197 people on rehabilitation from drug addiction caused by amphetamine, it is possible to estimate the number of another group (n_k) to form statistically significant conclusions about the differences in psycho-physical States in between, you can use the following formula:

$$n_k \geq \frac{(Z_{\alpha} + Z_{\beta})^2 S_{xk}^2}{\Delta^2 - (Z_{\alpha} + Z_{\beta})^2 S_{x0}^2 / n_0}$$

The formulas assume the use of a unilateral test (a measure of one group better than another indicator, eliminating the advantages of the latter). In case of the need to "capture" differences in the effect in one direction or another used a two-tailed test.

Thus, substituting in the formula the corresponding values, we get that the number of the control group exceed 47,16, that is, to be at least 48 people.

Empirical base. Given the above calculations, us to conduct initial research attracted 245 people 197 people in the experimental group and 48 in the control group of the study. The experimental group consisted of 197 people who had a diagnosis that corresponds to the ICD-10 F11.2 and agreed to participate in the program of psychological rehabilitation.

The core group included drug addicts of both sexes who were treated in rehabilitation centers of Ukraine. Characteristics of subjects in this group is that they in the study were from these centres were outside the area of pain, retained a clear mind and focused adequately in the environment.

As control groups of patients were apparently healthy individuals ($n = 48$) with similar age and sex characteristics of the surveyed population was represented by students of special institutions, SCHOOLS, employees.

Sample size and its composition ensures the statistical validity of the results. The representativeness of the sample was secured using a simple random selection.

To include these persons in the pilot study had the following conditions:

the patients were examined 28 days after the last use of the drug in a sober state after a course of detoxification programs and relief of the syndrome;

- patient age 18-38 years;
- duration of drug dependence from 1 to 10 years.

according to the International classification of diseases mkkh-10 people had a diagnosis that met the category F11 - mental and behavioural disorders due to use of opioids, namely F11.2 – dependence syndrome.

Clinical assessment of patients according to the ICD-10 criteria relevant diagnosis was conducted by the head of Department of rehabilitation doctor of the highest category on a speciality "Narcology". In some cases, the verified diagnosis were placed attached to the rehabilitation centre psychiatrist-narcologists of Ukraine.

The sample was represented 65.5% men and 34.5% women, median age 24 years; the median age of first consumption of opioids was 16 years old. At the time of admission to the rehabilitation center of 69.8% of respondents had families of their own, 20% married, 10.2 percent divorced.

Surveys conducted, the interview for the formal structuring of data. During the conversation it became clear personal data – year of birth, marital status, education, occupational specialization, work experience, specialty, family structure, the nature of interpersonal relations, the degree of emotional intimacy between close relatives. In a conversation disclosed the interests of the researched assessed the commitment, the desire to change the status quo.

The survey was conducted using a specially designed questionnaire, which included questions about duration of drug use, the attitude of the investigated to the use, the effects of drugs on life, which allowed to assess the severity of motivation of substance use.

Considerable attention was paid to the drug history of subjects. It was found out, under what circumstances was the anesthesia, which caused, as well as thoughts and emotions, by nature, a private anesthesia. It was found, how to create a dependency attitude of the relatives, where and when the study took place treatment, long-term rehabilitation.

As is known, the sample is a reduced model of the General population that provides the basis for generalization of the findings of the study and disseminate them to the set of objects in respect of which the formulated research hypothesis. That is why in the main group was composed of drug addicts of both sexes, who were treated at the Khmelnytskyi regional center of re-socialization of young drug addicts, drug Rehabilitation Department of the Kyiv city narcological hospital "sociotherapy", Clinic active therapy specific States, the Center for Socio-Psychological rehabilitation of the youth NGO "Parents Against Drugs" all-Ukrainian Charitable Organization "all-Ukrainian parents' Committee of Fight against Drugs", rehabilitation Center gated "Renaissance" and other rehabilitation institutions of Ukraine.

Characteristics of subjects the main group is that they in the study were in these centers who have undergone USED were out of the zone in pain, retained a clear mind and adequately focused in the environment and voluntarily and knowingly given their consent for participation in the study. The comparison group included persons who did not pass the proposed psychological activities for rehabilitation.

Psychodiagnostic assessment of level of subjective control in different situations were carried out in the initial rehabilitation period (0-2 months) and after 3-5 months after the beginning of stationary stage of rehabilitation.

The method of "Level of subjective control" assumes that the direction of subjective control in the same person in different situations may vary.

Using the method of "Level of subjective control", we studied speech expressions in the field of orientation of subjective control of maladapted people in various aspects of life.

The obtained average indicators on the scale of general internality (Io), the scale of internality in the field of achievements (Id), the scale of internality in the field of failures (In), the scale of internality in family relations (Is), the scale of internality in service relations (Ip), the scale of internality in areas of interpersonal relationships (IM) and the scale of internality in relation to health and disease (C) are presented in table. 1. It should be noted that the indicators in both experimental groups did not differ significantly, so it allowed them to be presented together as an average.

Table 1.

Average indicators of speech utterances in the field of subjective control of maladapted persons in various aspects of life according to the method "Level of subjective control"

<i>Scales</i>	<i>Arithmetic mean</i>
General internality scale (Io).	4.3
Scale of internality in the field of achievements (Id).	4.0
Scale of internality in the field of failures (In).	4.0
Scale of internality in family relations (Is).	4.8
Scale of internality in official relations (IP).	3.7
Scale of internality in the field of interpersonal relations (IM).	4.1
Scale of internality in relation to health and disease (From).	5.5

Hereinafter, the symbols: * the arithmetic mean of the group

Table 1 shows that the level of general internality (Io), which is equal to 4.3, has an indicator below the norm (<5.5), which corresponds to a low level of subjective control. This phenomenon can be explained by the fact that opioid addicts have stated in their statements that they do not see a connection between their own actions and significant events in life. Researchers believe that they are unable to control the development of events and believe that most important events in their lives are accidental or caused by the actions of others. Opioid addicts do not accept their own responsibility for their achievements (ID). Interestingly, the obtained indicators indicate that the subjects are reluctant to admit their responsibility for failures, as evidenced by the indicator on the scale of "integrity in the field of failures" (4.0). The low rate on the scale of internality in the field of interpersonal relations (4.1) may be explained by the fact that experiencing discomfort in the family and professional activities, drug addicts have problems in the field of communication.

Thus, analyzing the results of the method of the method "Level of subjective control" we can draw the following conclusions: the subjects are characterized by a low level of subjective control, reduced sense of personal responsibility for their own failures, family and work relationships.

We obtained other indicators after conducting the method "Level of subjective control" with parents of opioid addicts (See Table 2).

Table 2.

Average indicators of speech utterances in the field of direction of subjective control in different aspects of life in dependent parents

<i>Scales</i>	<i>Arithmetic mean</i>
General internality scale (Io).	6.1
Scale of internality in the field of achievements (Id).	5.0
Scale of internality in the field of failures (In).	7.9
Scale of internality in family relations (Is).	8.3
Scale of internality in official relations (IP).	6.1
Scale of internality in the field of interpersonal relations (IM).	4.4
Scale of internality in relation to health and disease (From).	5.3

The high indicator on the scale of general internality (6.1) corresponds to the high level of the indicator of speech expressions in the sphere of orientation of subjective control over significant situations. Interpreting the results, it can be argued that codependent parents express the view that the importance of events in their lives is the result of their own actions, and therefore feel their own responsibility for significant events in life. However, too high rates on some scales attract attention.

Thus, a high score on the scale of internality in the field of failures (7.9) indicates a developed sense of subjective control over negative events and situations, which is manifested in the tendency to blame themselves. Too high a score on the scale of internality in family relationships (8.7) indicates a great responsibility for events in family life.

The results of the 2nd stage of the study by the method of "Level of subjective control" are presented in table. 3

Table 3.

Comparative evaluation of indicators of speech utterances in the field of orientation of subjective control in different aspects of life in interdependent parents (according to the Mann-Whitney test)

<i>Scales</i>	<i>Primary study</i>	<i>Secondary research</i>	<i>U</i>	<i>Z</i>	<i>P</i>
General internality scale (Io).	4,3	4,8	966,3	- 1,027	0,05
Scale of internality in the sphere of achievements (Id).	4,0	5,9	908,0	- 1,021	0,05
Scale of internality in the field of failures (In).	4,0	4,4	1035,0	- 0,089	0,882
Scale of internality in family relations (Is).	4,8	5,2	1073,0	- 0,080	0,809
Scale of internality in official relations (IP).	3,7	3,8	1091,0	- 0,099	0,931
Scale of internality in the field of interpersonal relations (IM). відносин (Ім).	4,1	6,7	709,5	- 1,011	0,001
Scale of internality in relation to health and disease (From).	5,5	6,7	866,5	- 1,156	0,002

From table 3 shows that compared to primary research there was a slight increase on the scale of total internality (4,8). This suggests that at the time of secondary studies investigated to a greater extent felt by the subjects of its activities, which manifests itself in more tolerant terms, and respect towards others in different situations compared with the initial study.

Available shift, albeit slight, in the direction in the speech of statements of responsibility indicate changes in indicators on the scale of the internality in the field failures (4,4) and internality in family

relations (5,2). However, it should be noted that these figures are statistically insignificant ($p > 0,8$). Based on the logic of our study this means that in the presence of a therapeutic effect we can't say with certainty that it took place right through our rehabilitation program, or is it a manifestation of the influence of the "ordinary" rehabilitation procedures for changing psychophysiological state of the subjects. At the same time there is an increase in the indicators on a scale of internality in the field of interpersonal relations (6,7), indicating that the studied clearly suggests that the power to control their formal and informal relations with other people to evoke respect and sympathy. Statistically significant differences ($p < 0.05$) revealed by the indicators of total internality in the field of achievements in the field of interpersonal relationships, in health and disease.

Table 4.

Comparative performance evaluation of speech utterances in the sphere of focus of subjective control in different aspects of life have co-dependent parents (according to the Mann-Whitney test) for the experimental group

Scales	Primary study	Secondary research	U	Z	P
General internality scale (Io).	6,1	5,0	1000,5	- 1,981	0,05
Scale of internality in the sphere of achievements (Id).	5,0	5,0	1200,0	- 0,099	0,998
Scale of internality in the field of failures (In).	7,9	5,6	806,0	- 1,999	0,001
Scale of internality in family relations (Is).	8,7	5,6	809,5	- 1,999	0,001
Scale of internality in official relations (IP).	6,1	6,1	1000,5	- 0,095	0,931
Scale of internality in the field of interpersonal relations (IM).	4,4	4,7	1051,0	- 906,5	0,401
Scale of internality in relation to health and disease (From).	5,3	5,8	1000,0	- 1,200	0,098

Indices, respectively, codependent parents (table.4.) both experimental groups on a scale of total internality decreased, in fact, evenly, mostly at the expense of indicators on scales of internality in the field failures (from 7.9 to 5.7 and 5.6, respectively, with the level of statistical significance $p=0.001$) and internality in family relations (from 8.7 to 5.7 and 5.6, respectively, with the level of statistical significance $p=0.001$). These figures indicate that co-dependent parents are less prone to

statements of the charges in respect of itself and, therefore, increased self-esteem of the respondents. Codependent begins to understand that the use of opioids close relatives are own choice. Codependent parents refuse to drug addicts, but waive the disease, from its support. Statistically significant differences between the first and second examination revealed the scale of the internality in the field failures, family relations and total internality.

In addition, conducted research on statistical data wprowadz 5 years, we have established that of all patients who were in rehab during this time (two experimental groups, zagalnu number $n = 191$ face, the number $n_1=171$ person and $n_2=20$, respectively), at 40.3 % and 43.6 per cent for the second group observed a stable remission to the present time. Relatives of those studied regularly attended classes for co-dependents. Those who had interest but were not able to attend, acquainted with the relevant literature, talked through the center site. 48.2% of clients whose relatives did not recognize the fact of codependency, drug use. On further treatment of them returned 8.1 percent.

Conclusions

Therefore, we can say that the clinical aspect of psycho-diagnostics speech utterances in the sphere of focus of subjective control maladjusted individuals in various aspects of life is the most obvious: the fuller presents a psychological portrait of the person desadaptive personality, especially her tendency to Express responsibility for the results of their activities and link them to external circumstances or their own abilities and efforts, the more effective the end result of psychotherapy. Quite often the need arises in the diagnosis, that is, in establishing pathopsychological and psychopathic personality traits of drug addicts persons who may have nevirapine character in the speech utterances, but do psychotherapeutic process is inefficient, sometimes futile, less harmful.

The prospect of further research is the systematization and generalization of the results to create appropriate program that would optimize the orientation of subjective control such entities.

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MODEL OF THE VENTILATION COMPLEX OF EDUCATIONAL PREMISES



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Abstract. In modern industrialized society, most people spend more than 80% of their time indoors. Therefore, the quality of the ambient air (microclimate) of premises and workplaces determines the main environmental burden on the human body. Violation of microclimate acceptable parameters in the premise has a negative impact on human well-being, which can lead to disease and reduced working capacity. To achieve the required and comfortable working conditions in the premise the ventilation complexes and systems are used.

One of the tasks of building an effective ventilation system is to determine the possible thermal regime with different measures of its provision and to choose a cost-effective option of equipment and control system that corresponds to the optimal air-thermal regime of all premises. The purpose of the work is to increase the efficiency of the premise ventilation control system by operational control of ventilation processes.

Object of study. Aerodynamic and energy characteristics of the ventilation system.

The paper presents the mathematical description theoretical provisions of the ventilation complex components, by which created a generalized model in the Matlab application package to confirm the possibility of providing comfortable conditions by adjusting the latch and the using space heater.

Keywords: *ventilation, fan, space heater, latch, model.*

Introduction

The ventilation complex should include a set of devices for removing air from the room and replacing it with fresh, if necessary, treated air, and creates air conditions conducive to human health and well-being, corresponding to comfortable conditions (Konokha and oth. 2010; Sukach, 2013). The study of the ventilation complex includes the following elements: centrifugal fans with

electric motors, piping, space heater, air flow redistribution device (or recuperator), valves with controlled electric drive and a premise characterized by its parameters.

Literature review. Features and characteristics of creating a system model to ensure the required microclimate in the room are considered by many authors. In particular, the issue of modeling the ventilation complex is widely considered in the publications of Sukach S. (2016 a,b). The author developed a ventilation model and proposed a modern approach to the construction of control systems for ventilation systems, the use of which allows to maintain microclimatic parameters within normalized limits.

Holinko I. and Halytska I. (2018) describe a simulation of the dynamic mode for an industrial premise. The proposed model is designed to create a system of artificial microclimate and involves the use of industrial air conditioners.

In the study of Uzhelovsky V., Glinkin V. (2014) a model specifically developed for buildings thermal analysis was presented. The author emphasizes the need to take into account heat loss through the enclosing structures.

Perekrest A. in the studies (3 – 7) gives the construction principles of informational-analytical and software-hardware solutions to ensure the necessary thermal comfort by means of buildings heat supply systems.

Research methodology. To develop an adequate correct model of the ventilation complex, i.e. a model that provides the most complete correspondence of theoretical processes to the real ones, a mathematical description of all its components was carried out.

A linearized model of an induction motor was used to describe the drive asynchronous fan motors and valves (Sukach, 2016a).

The fan is represented by equations:

$$H_{vh} = H_0 V^2 - R_{vn} Q^2; \quad (1)$$

$$H_{vh} = T_v \frac{dH_{vih}}{dt} + H_{vih}, \quad (2)$$

where H_0 – pressure that develops the fan at zero supply, m; R_{vn} – internal resistance of the fan, s^2/m^5 ; V – the relative speed of the fan impeller rotation; H_{vh} , H_{vih} – pressures at the inlet and outlet of the fan impeller, respectively, m; T_v – time constant, taking into account the dynamic properties of the fan, s.

The method of electroaerodynamic analogy (Sukach, 2016a) was used in the modeling of the pipeline air network, because the equations of pressure wave propagation in pipes are similar in shape to the laws of electromagnetic wave propagation and are described by a quasilinear system of differential equations:

$$\begin{cases} \frac{\partial H}{\partial x} + \frac{1}{gS} \frac{\partial Q}{\partial t} + \frac{\lambda}{d} \frac{1}{S^2} \frac{Q|Q|}{2g} = 0 \\ \frac{\partial H}{\partial t} + \frac{c^2}{gS} \frac{\partial Q}{\partial x} = 0 \end{cases}, \quad (3)$$

where h , q – is the piezometric pressure and air flow in the current section of the pipeline, respectively, m, m^3/s ; $S = \frac{\pi d^2}{4}$ – cross-sectional area, m^2 ; d – is the pipeline diameter, m; λ – dimensionless coefficient of pipeline resistance; c – speed of sound propagation in the environment, m/s (for air $c=340$ m/s); $g=9,81$ m/s^2 – acceleration of free fall.

The aerodynamic characteristics of the adjustable **valve** in the general case can be represented by the expression:

$$\xi_z(\beta) = A((1/\beta) - 1)^C + B((1/\beta) - 1)^D + \xi_0, \quad (4)$$

where ξ_z – latch resistance coefficient; $\beta = \varphi_{sh} / (2\pi n)$ – the relative degree of latch opening; $\varphi_{sh}(t) = \int \omega_{sh}(t) dt$ – current angle of rotation of the latch, rad.; $\omega_{sh} = \omega_{dv} / i$ – the current speed of the valve, s^{-1} ; ω_{dv} – current speed of rotation of the drive motor shaft, s^{-1} ; i – gear ratio of the gear valve of the valve; n – is the number of revolutions required for complete closing of the latch; A, B, C, D – approximation coefficients depending on the type of pipeline fittings; ξ_0 – is the coefficient of aerodynamic drag at full opening of the valve ($\beta=1$).

To obtain a mathematical model of the space heater with the stabilization of air temperature in the air duct by adjusting the amount of heating medium supplied to the section, the following notation is used: G_z – total flow of air entering the room, m^3/s ; G_k – air flow through the space heater, m^3/s ; G_x – flow of cold air entering the air duct for further mixing with hot air, m^3/s ; t_x – temperature of external cold air, $^{\circ}C$; t_p – is the temperature of the heated air after the section of the space heater for mixing with cold air, $^{\circ}C$; t_{sm} – the temperature of the inlet mixed air (initial value settings that should be stabilized), $^{\circ}C$.

The amount of air entering the room can be determined as follows:

$$G_z = G_k + G_x \quad (5)$$

During the transition process, the change in the amount of heated air is equal to the difference between the amount of mixed air entering the room and the amount of cold air entering the air duct at the same time, i.e.:

$$G_x \cdot t_x + G_r \cdot t_k - G_z \cdot t_{sm} = V_{C.K.} \frac{dt_{sm}}{dt}, \quad (6)$$

where $V_{C.K.}$ – the volume of the mixing chamber with controlled temperature and t_{sm} (temperature sensor installation site), and the volume of the air duct from the heater to the connection to the mixing chamber, m^3 ; t – time, s .

Since the control effect in this variant of regulation t_{sm} is the flow rate of the heating medium, the heat consumption required to heat the air by the values of t_p

$$Q = G_k \cdot C_p \cdot (t_p - t_x), \quad (7)$$

where Q – is the heat consumption for air heating, W ; C_p – heat capacity of air at constant pressure, J/kg .

The change in temperature of the heated air occurs in proportion to the change in heat consumption.

$$\Delta Q = G_k \cdot C_p \cdot \Delta t_p, \quad (8)$$

The expense of the heat medium W , on space heater makes:

$$W = \frac{Q}{C_W \cdot (t_{vh} - t_{vih})} = \frac{G_k \cdot C_p}{C_W \cdot (t_{vh} - t_{vih})} \cdot \Delta t_p, \quad (9)$$

where C_w – water heat capacity, J/(kg·°C); t_{vh} – water temperature at the space heater inlet, °C; t_{vih} – water temperature at the space heater sections outlet, °C.

Ventilated room, taking into account the heat transfer process that takes place in the recuperator, described by the heat balance equation:

$$(G_n + G_B) \cdot C_c t_c = G_n C_n t_n + G_B C_B t_B, \quad (10)$$

where G_n – the mass of air in the room, m³; G_B – mass part of the air supplied from the outside, m³; t_n , t_B , t_c – temperature of indoor air, air supplied from outside and temperature of mixture, °C; C_n , C_B , C_c – heat capacity of indoor air, outdoor air and their mixtures (0,2402 cal/h·°C.).

At the same time, some assumptions were made, namely: temperature inertia of enclosing structures and convection of air layers in the room were not taken into account.

In accordance with the mathematical description of the individual components a ventilation complex mathematical model block diagram was developed (fig. 1) and implemented by using the MatLab application package (fig. 2). The model allows to study the temperature in the premise by artificially setting the perturbation temperature, the temperature of the outside air and the volume of the room. It consists of separate sub-blocks, which are components of the ventilation complex and are connected by input and output parameters.

After the passage of air through the pipeline, the heat loss changes, the air pressure in the air network changes, and the fan speed changes, which depends on the frequency of the supply voltage of the drive motors. According to the user-defined operating mode for the ventilation system, the position of the valves changes, and after the passage of air through the valves, the temperature, pressure and heat flow changes.

Taking into account the pressure H_0 , developed by the fan at zero supply and the pressure at the inlet of the pipeline air network section, the nominal level of productivity increases to 1600 m³/h (fig. 6).

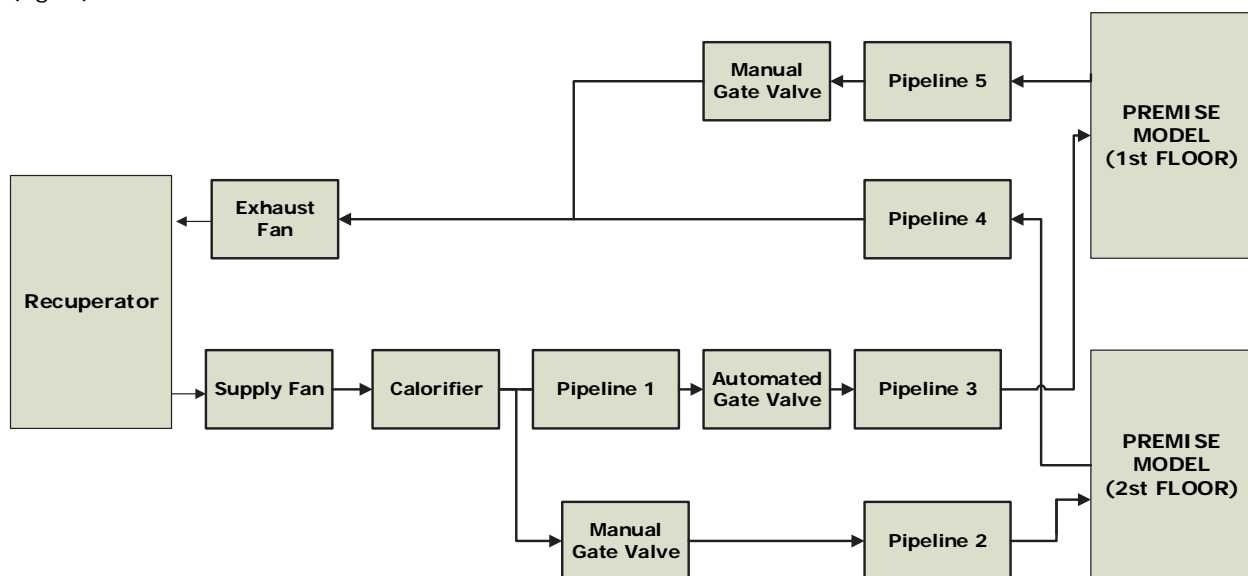


Figure 1. Block diagram of a ventilation complex mathematical model

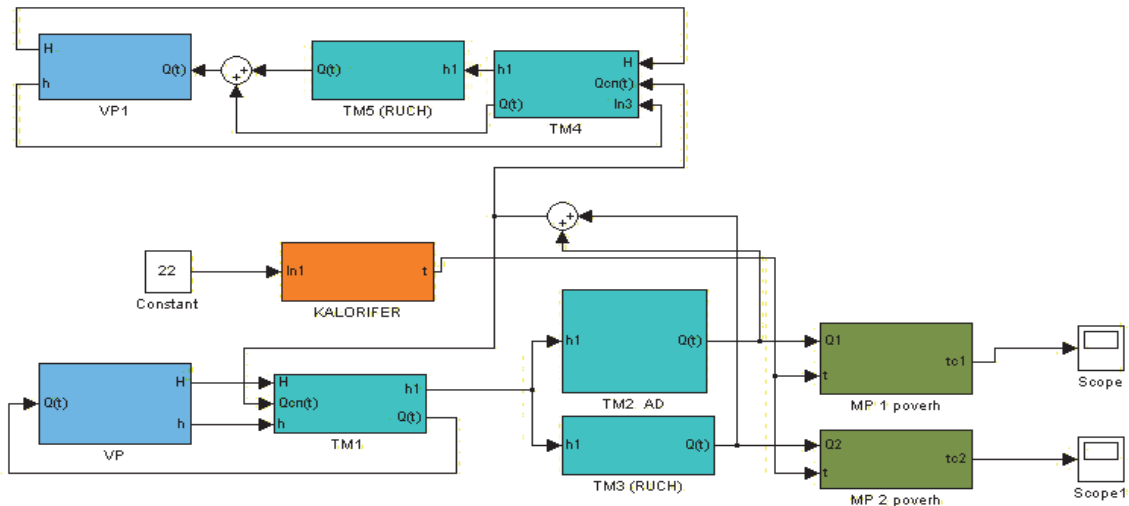


Figure 2. Mathematical model of the ventilation complex in the MatLab application package

Simulation results. When modeling the ventilation complex, the initial data shown in table 1 were used.

Table 1

Input data for ventilation complex modeling

Parameter	Initial	Value
Maximum fan pressure, Pa	H_0	585
Rated motor power frequency	f	50
Internal resistance of the fan, s^5/m^2	R_{vn}	5,27
Gear ratio of a latch reducer	i	167
The number of revolutions of the valve drive shaft until its complete closing, rev.	n	0,2
Premise №1 volume, m^3	V_{n1}	19
Premise №2 volume, m^3	V_{n2}	39
Setpoint temperature, $^{\circ}C$	t_z	22
Acceleration of free fall, m/s^2	g	9,81

Source: table compiled by the authors on the basis of materials

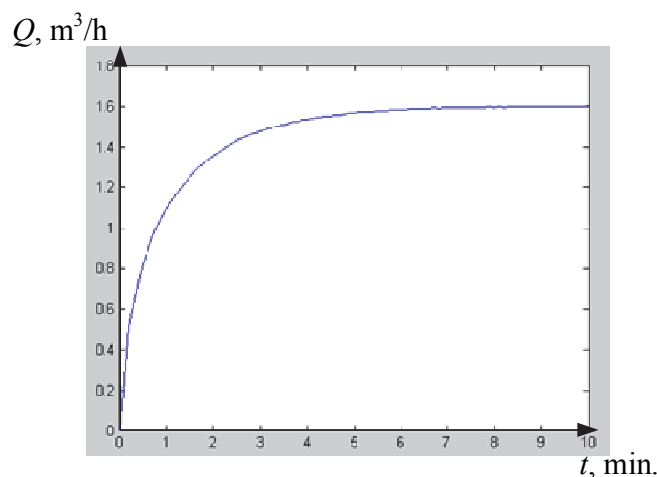


Figure 6. Fan performance alteration $Q(t)$

With the changes and the coefficient of aerodynamic friction λ and aerodynamic drag of the valve ξ_0 , productivity decreases by almost 50 % (fig. 7). As the fan continues to operate during valve adjustment, the air performance in the air network is still maintained. If signal control to turn off the fan was transmitted, then its performance is reduced zero.

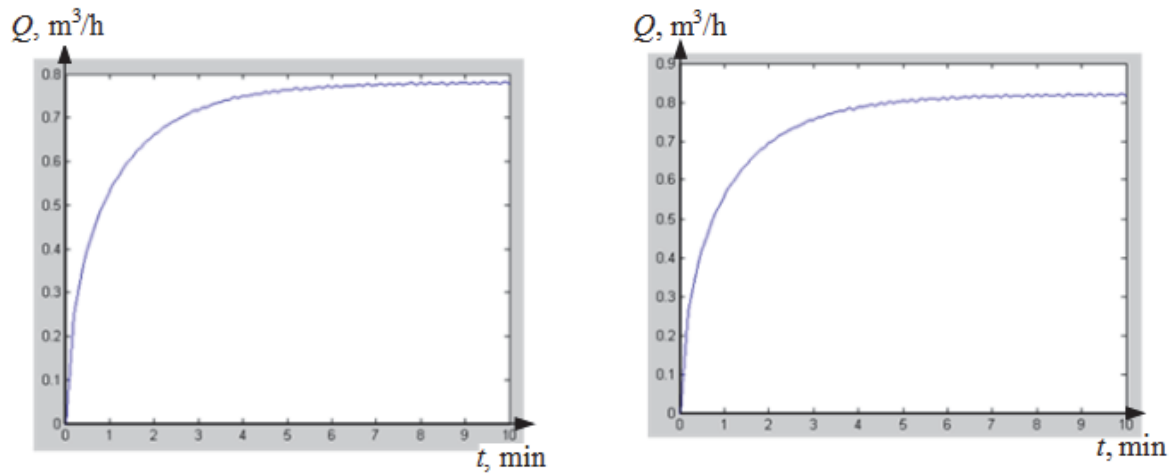


Figure 7. - Fan performance alteration $Q(t)$ when changing the input parameters

Model experiments allowed to obtain graphs of temperature changes in the studied rooms at the temperature of the outside air $T_o=19\text{ }^\circ\text{C}$ and room temperature $T=22\text{ }^\circ\text{C}$ (Fig. 8.).

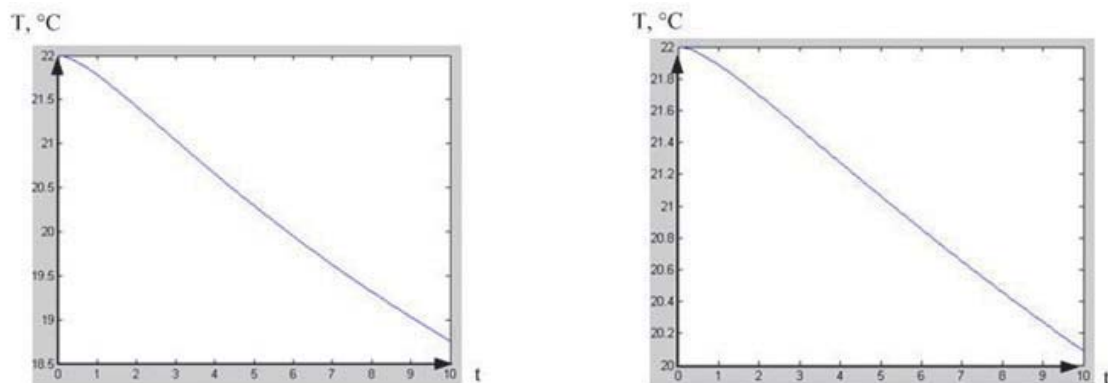


Figure 8. Transient characteristic of air temperature

Studies of the mathematical model of the ventilation complex with air heating by means of a space heater were also conducted. The change in the amount of heated air is equal to the difference between the amount of mixed air entering the room and the amount of cold air sucked into the air duct at the same time. The space heater, into which air is supplied through a branched air network, is characterized by various disturbing effects on temperature. The device is activated in several modes, due to actuation of one, two or three heating elements simultaneously, in accordance with the temperature increasing at a rate in the range of $0 \dots +4\text{ }^\circ\text{C}$.

Table 2.

Input data for space heater modeling

Parameter	Notation	Value, $^\circ\text{C}$		
		option 1	option 2	option 3
Setpoint temperature	t_o	22	22	22
Supply (exterior) air temperature	t_i	-10	-5	0
Indicator of temperature increase, at inclusion of a space heater		+4	+2	0

Source: table compiled by the authors based on materials

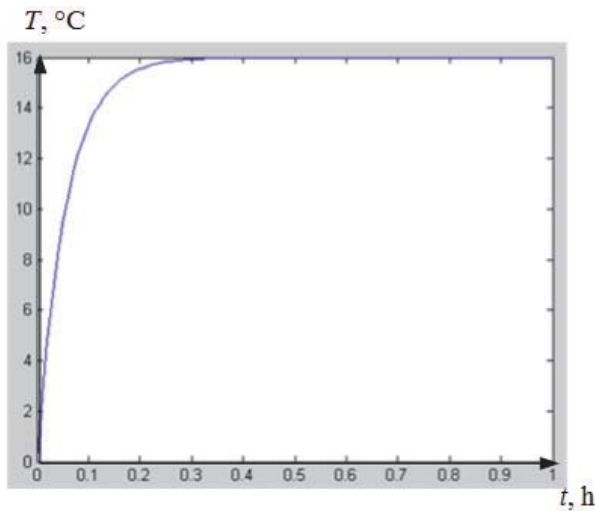


Figure 9. Temperature transient characteristic
option 1

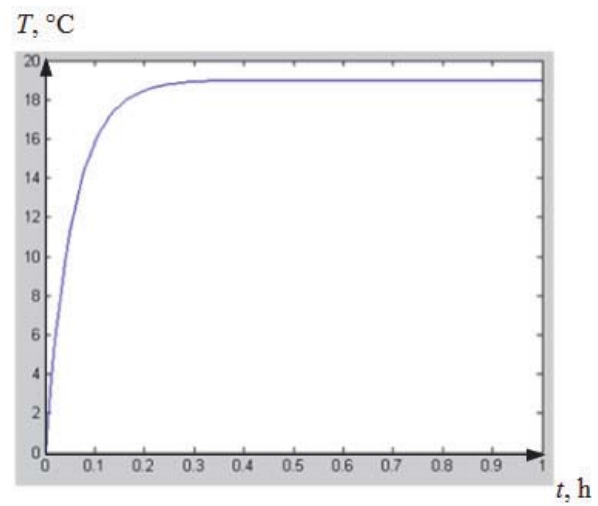


Figure 10. Temperature transient characteristic
option 2

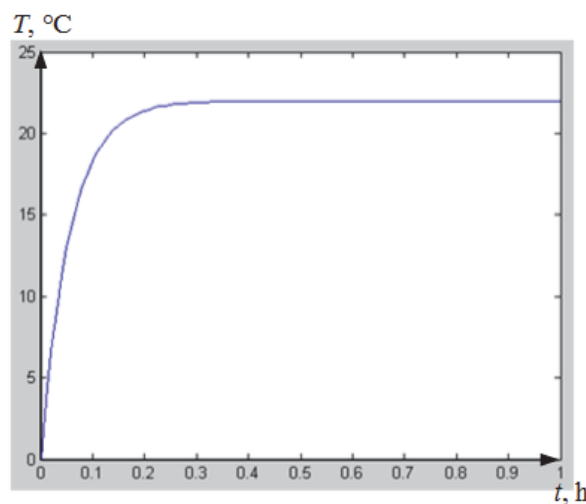


Figure 11. Transient characteristic of air temperature without space heater use, option 3

Conclusions

On the basis of the system approach the ventilation complex mathematical model that allows to receive the ventilation elements and systems aerodynamic processes mathematical description was developed, to find the optimal solution of a specific technical problem. The model of the ventilation complex allows to study the dynamic characteristics of the air network when the temperature in the premise is stabilized by controlling the air productivity by turning on / off the ventilation unit and adjusting the position of the valves. The temperature in the premise is changed by artificially setting the initial values. On the basis of the conducted researches it is established that by joint use of regulation of a latch and use of a space heater in the cold and transitional periods of the year it is possible to reach the required and comfortable conditions of indoor microclimate.

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Professor Demianchuk A. S. is the author of 10 monographs, 4 manuals, 63 methodological recommendations, more than 300 scientific works on the problems of education and upbringing, published in Ukraine and abroad. Demianchuk A. S. is the President of the Volleyball Federation of the Rivne region and is a full member of the International Pedagogical Academy (1994), a full member of the Academy of Pedagogical and Social Sciences (1995).

University

Academician Stepan Demianchuk International University of Economics and Humanities (IUEH) began its formation in 1993. Nowadays, there are 9 faculties in the IUEH: Faculty of Law, Faculty of Journalism, Faculty of Cybernetics, Faculty of Economics, Faculty of History and Philology, Faculty of Health, Physical Training and Sport, Faculty of European Education, Pedagogical Faculty, Faculty of Nature and Geography. The decision of the Attestation Board of the Ministry of Education and Science of Ukraine granted the right to open postgraduate studies in the following specialties: 011 "Educational, pedagogical sciences", 081 "Law", 122 "Computer sciences", 061 "Journalism", 051 "Economics". The University has five modern educational buildings, Sports and Recreation Complex, a swimming pool, hostels, computer classes, a publishing center, a library with an electronic catalog etc.

The University cooperates with many higher educational institutions, organizations and foundations in the international arena. The IUEH has established productive relationships with many foreign HEIs, in particular: Georgia, Great Britain, Hungary, Poland, Czech Republic, Slovakia, Germany, Russia, Belarus, Finland, Spain, Lithuania, Azerbaijan and the USA. Agreements concluded with foreign partner universities include the exchange of students and teachers, the study of students abroad, the publishing of joint collections of scientific works, the publication of joint scientific journals, the conduct of joint research, the organization and conduct of international scientific conferences and seminars, exhibitions and forums. The IUEH is actively involved in various international projects and grants, in particular, in the Erasmus+ program. In 2018, the Faculty of Journalism won the grant "DESTIN: Journalism Education for Democracy in Ukraine: Developing Standards, Integrity and Professionalism. The University is open to new initiatives for international cooperation

The University pays considerable attention to the problems of education and organization of leisure for student youth. In particular, the only Peace Museum in Ukraine was created, which is a unique educational museum for higher educational establishments of Ukraine. Thanks to Rector Demianchuk A. S., the university implements programs of self-realization of student's personality and student's self-government.



Independent Analytical Center for Geopolitical Studies "BORYSFEN INTEL"



Is engaged in information, analytical and consultative work, the goal of which is geopolitical research, analysis, evaluation and forecast of the situation in the world as a whole, in Europe as well as around Ukraine.

The Center was created at the initiative of former servicemen of the armed forces and special services of Ukraine. The Center conducts scientific and geopolitical exploratory researches in the context of development and strengthening of the Ukrainian geopolitical school and national security.

The center is a public organization. Its founder and leader is Doctor of Military Sciences, Honored Lawyer of Ukraine, Lieutenant General of the reserve Victor Hvozd. At one time he headed the Main Intelligence Directorate of the Ministry of Defense of Ukraine (2008–2010) and the Foreign Intelligence Service of Ukraine (2014–2016).

In its work the Center adheres to the principles of being non-political, non-party and is not involved in the sphere of interests of financial and oligarchic groups. To date, the Center has been operating without state and grant funding.

The Center plans to expand its activities by analyzing and forecasting the development of the situation in the Ukrainian society and determining the priorities of its formation and development, taking into consideration Ukraine's geopolitical prospects in Europe and in the world.

Based on its own original researches, detailed analysis and evaluation of problematic issues, the general and specific political, military, economic (including military-economical, military-technical, and energy) situation, issues of national (information) security, the Center provides information, analytical and forecasting materials to entities and persons to resolve their problems and challenges.

Analytical materials are prepared by the Center's own experts — former servicemen of the Armed Forces, former diplomats and representatives of special services of Ukraine, known political scientists, economists and lawyers. All our experts have academic degrees and ranks, years of experience in highest bodies of state power and in known government and independent analytical structures. We also work closely with Ukrainian and foreign experts from international organizations, governmental and non-governmental structures.

The Center's information and analytic product is, in the first place, for government officials and non-governmental organizations in Ukraine and abroad, who prepare and make decisions in the wide circle of geopolitical and security theme.

The information of the Center can also be useful for researchers, teachers, students and post-graduates community, people seeking to thoroughly examine the trends and methodology of the processes occurring in the world, in Europe as well as in Ukraine and also to understand the modern Ukraine's role and place in them.

The Center's product can be useful for a wide range of potential investors and businessmen to get acquainted with the real situation both, in Ukraine and around it, as well as everyone who studies geopolitics, geo-strategy, political science, political geography, foreign relations and international law, national security, challenges of our time and who wants to use an objective analytical information on these issues.

The Center is ready to cooperate with all interested state and non-governmental organizations, foundations, legal entities and individuals, both in Ukraine and abroad.

For reference: The printed edition of the Independent Analytical Center for Geopolitical Studies "BORYSFEN INTEL" — Geopolitical Analytics Journal "BINTEL". The journal publishes analytical materials from leading experts in their field of research. The authors of the publications are both, analysts — citizens of Ukraine, and representatives of other countries. It is published quarterly in Ukrainian and English. Is distributed by subscription in Ukraine and through the Internet.



National University of Water
and Environmental
Engineering

National University of Water and Environmental Engineering (NUWEE) is one of the best technical Universities of Ukraine. For more than 100 years our University creates thriving environment for students and researchers, and provides professional engineering expertise and services to the Government and private companies.

Today the University is one of the prominent modern educational establishments of Ukraine that became Alma mater for more than 70,000 domestic and international alumni. Our advances in water management engineering, advanced water treatment and environmental technologies, latest information technologies, economics and business made the National University a truly unique place for students to excel in technical disciplines as well as in business. Our graduates work in a variety of industries both in Ukraine and abroad.

NUWEE is the only higher education establishment in Ukraine that trains personnel for the water management and ameliorative complex of our state.

The nine Institutes of the University are guided by 374 Philosophy Doctors, 72 Habilitated Doctors - Professors, 45 Academics of the Academy of Sciences of Ukraine.

The University has extensive international relations with higher education institutions and international organizations of Poland, Germany, France, the USA, Georgia, the Republic of Azerbaijan, Turkmenistan, Kingdom of Morocco, China, Republic of Ecuador, Comoros and many other countries all over the world.

The University is the largest higher education establishment in Rivne region and the leading HEE of Ukraine; it consists of 9 institutes, 5 training and consulting centres, 5 colleges. The University offers full-time and part-time studies, distance learning studies in 39 bachelor degree programs and 41 master degree programs. University also provide 24 PhD and 7 Doctoral studies. The main institutes and specialties are listed below:

RESEARCH AND EDUCATIONAL INSTITUTES

WATER MANAGEMENT AND ENVIRONMENTAL ENGINEERING

- Building (Hydraulic Engineering Construction)
- Hydropower Engineering
- Water Engineering (Water Resources)
- Heat Power Engineering

AUTOMATICS, CYBERNETICS

- Automation and Computer Integrated Technologies
- Applied Mathematics
- Informatics. Computer Science
- Computer Engineering

AGROECOLOGY AND LAND MANAGEMENT

- Agronomics
- Water Bioresources and Aquaculture
- Geodesy, Cartography and Land Management
- Ecology, Environment Protection and Balanced Natural Resources Application

LAW

- Law

ECONOMICS AND MANAGEMENT

- Entrepreneurship, Trade and Stock-Taking Activities. Economics of Enterprise.
- Management
- Accounting and Auditing
- Human Resource Management and Labor Economics
- Finance, Credit and Banking Affairs
- International Economics

- Marketing

BUILDING AND ARCHITECTURE

- Architecture
- Construction.
- Civil Engineering.

MECHANICS

- Automobile Transport
- Mining
- Mechanical Engineering
- Transportation Technology Means

HEALTH AND CARE SCIENCES

- Physical Rehabilitation

The main research directions of the University:

- technologies of water treatment, drainage and wastewater treatment, sludge disposal
- energy efficient and resource saving technologies in water management and agriculture
- construction objects, building materials
- architectural forms, design environment
- sustainable development solutions, system modeling
- social, economic and environmental studies on rational nature management
- methods for assessing and forecasting the impact of man-made pollution on the environment
- problems of economic assessment of natural resources and environmental quality.

The University has extensive international relations with more than 100 higher education institutions and international organizations of 25 countries, namely of Poland, Germany, France, the USA, Georgia, the Republic of Azerbaijan, Turkmenistan, Kingdom of Morocco, Republic of Ecuador and many other countries all over the world. So, our students are active in exchange programmes with university-partners. NUWEE has also concluded agreements on joint bachelor's and master's degree programs with six Polish Universities and our students have the possibility to obtain two diplomas during their studying, of Ukrainian standard and European standard. In the University there was implemented the first in Ukraine exchange traineeship programme with the University of the Kingdom of Morocco.

NUWEE is among 20 of best Universities of Ukraine according to the ranking "Top-200 Ukraine" of the international social and political journal "Mirror of the Week". The University was awarded the Order of Friendship of Peoples, is listed in the "Golden Book of Business Elite of Ukraine", and is a multiple winner of ratings "Golden Fortune", "Best Enterprises of Ukraine" in the category "Higher education" and in the field of water management.





**Lviv University
of Business and Law, Ukraine**

EEDA n.o. ponúka možnosť štúdia na partnerskej Univerzite biznisu a práva Lvov, Ukrajina. Ide o možnosť štúdia dennou alebo externou formou na I. stupni Bc. a II. stupni Mgr..

Kontaktujte nás
mail: eeda@eeda.sk
mobil: +421 905 450 765





**Vienna
Konservatorium
Budapest**



ЛВІВСЬКИЙ УНІВЕРСИТЕТ БІЗНЕСУ ТА ПРАВА



**University of the State Fiscal
Service of Ukraine
Slovansk Scientific
Educational Institute**



EURÓPSKY INŠTITÚT DALŠIEHO VZDELÁVANIA
EUROPEAN INSTITUTE OF FURTHER EDUCATION



VÝCHODDEURÓPSKA AGENTÚRA PRE ROZVOJ n.o.
EASTERN EUROPEAN DEVELOPMENT AGENCY n.o.

www.eeda.sk Tel: +421 905 450 765



PENZIÓN
TERMÁL

NGO “Green Initiatives Rivne”



General information

Non-governmental organization (hereinafter - the Organization) is a voluntary social formation, based on the decision of the founders of the Law of Ukraine "On public associations" and bases its activities on the principles of voluntariness, legitimacy, governance, transparency, equality of Members.

The purpose of the activity is the implementation of ideas and projects of economy ecologization and the implementation of European state vector. The main objectives of the Organization are:

- information support, development, distribution and promotion of the ideas and projects of public, private and other institutions and organizations aimed at introducing the environmental technologies and organic farming; ecologization production and sale of European integration vector of the country;
- assistance in providing and getting the legal, information and other help to institutions, organizations, farmers and private landowners, whose activities help to solve the existing problems in Ukraine of rational land use, growing the ecological and organic agricultural products and forming the ecological culture in society and consumption outlook;
- comprehensive assistance to educational, health, social organizations, agricultural associations and farmers who are engaged or wish to be engaged in ecological and organic farming and processing the products; reclamation of eroded lands; tourism; organization of gardening and berry growing; landscape design; organic aquaculture; collection and cultivation of wild plants; beekeeping; introduction of modern highly ecological cultivation facilities;
- consultancy, development of grant proposals and advisory services in various sectors of economy with ecologization of its development;
- development and implementation of programs and projects in the field of various types of biomass, alternative energy sources, implementation of cleaner technologies to achieving the social, environmental and economic effects;
- organization of permanent courses, seminars and other educational forms of creating the regional center of ecological and organic farming, growing and processing the raw materials and products, resource and energy efficiency;
- assistance in implementation of patents and copyright certificates in the field of energy saving, highly efficient, environmentally friendly land use technologies, processing, labeling and promoting the products; restoration of land and other natural resources; environmental technology in various sectors of the economy;
- initiating and supporting the scientific, environmental, social, spiritual and other modern studies of human interaction with the environment;
- promoting the development of projects of natural reserves and proposals on the development of environmental affairs;
- promoting the market research, labeling, manufacturing, distribution standardization, certification and use of ecological and organic products consumption to achieve the social impact;
- preparation and publication of materials, articles, books, dedicated to the development of ecological and organic farming, the production of environmentally friendly products, and other economic, environmental and social problems.



Penzión TERMÁL sa nachádza v katastri obce **Podhájska**, ktorá sa dostáva do povedomia našich a zahraničných turistov vďaka geotermálnemu prameňu silne mineralizovanej vody v hĺbke 1900 m (voda má pri ústí teplotu 80° C a výdatnosť 50 litrov za sekundu), okolo ktorého sa na 12 ha rozprestiera areál termálneho kúpaliska. Voda z geotermálneho prameňa má blahodárne účinky na celý organizmus. Podrobné štúdie preukázali, že má hlbšie a trvalejšie regeneračné efekty ako voda z Mŕtveho mora. Účinky tejto termálnej vody využíva k regenerácii celá rada športovcov z rôznych športových odvetví, a preto Vás do mikroregiónu TERMÁL pozývame.

Penzión TERMÁL Podhájska

941 48, Podhájska Za humnami 508/28 časť Belek

Slovenská republika

Mobil:

+421 905 369 138 - rezervácia

+421 905 450 765

E-mail: penzion.termal.podhajska@gmail.com

www.termal-podhajska.sk

OPENING HOURS :

Monday: closed
 Tuesday : 9,00 – 20,00 hrs.
 Wednesday : 9,00 – 20,00 hrs.
 Thursday : 9,00 – 20,00 hrs.
 Friday : 9,00 – 20,00 hrs.
 Saturday, Sunday: 9,00 – 21,00 hrs.

PRICES :

Adult 3,00 € / 1 hrs
 Disabled person 2,50 € / 1 hrs
 Kids under 15 1,50 € / 1 hrs
 Kids under 3 free
 Adult 12,00 € / 1 per day
 Disabled person 10,00 € / 1 per day
 Kids under 15 6,00 € / 1 per day
 Indoor locker free

Swimming pool in Relaxing complex

PRICES :

Adult 3,00 € / 1 hrs
 Disabled person 2,50 € / 1 hrs
 Kids under 15 1,50 € / 1 hrs
 Kids under 3 free
 Indoor locker free

WELLNESS CENTRUM AQUAMARIN

OPENING HOURS

Monday: 13,00 – 21,00 hours.
 Tuesday – Sunday: 9,00 – 21,00 hours.

P R I C E S

Indoor world	Adult	Kids 3 – 15 yers
3 hours	12,00 €	7,00 €
2 hours	9,00 €	5,00 €
Extra 30 min.	1,50 €	1,00 €
Monday all day entry	17,00 €	9,00 €
Tuesday – Friday all day entranses	22,00 €	12,00 €
Disabled person per day	17,00 €	9,00 €
with guide	17,00 €	17,00 €
Sauna world	Adult	Kids 3 – 15 yers
1 hour	9,00 €	-----
One-time entry to the sauna	6,00 €	-----
Extra 30 min.	4,00 €	-----

INFORMATION CENTER Tel.: +421 911 103 443

e-mail: info@obecpodhajska.sk

**THERMAL PARK
 PODHAJSKA**



**DEAD SEA
 IN THE CENTRAL EUROPE**



WINTER SEASON

POD H Á J S K A

is small village situated in the south of Slovakia, close to city of Nitra, at an altitude of 170 meters above sea level. Podhajska is famous for its natural geothermal springs with their healing and relaxing effects fo the human body. The healing thermal water, the effects of which have already helped many people, can be found in such a composition only here and it has similar effects to the Dead Sea. Thermal Park is open for visitors all year round.

RELAXING COMPLEX

Offers:

- ** sitting pool with the hottest and the most mineralized water (38 – 40°C)
- ** kids' pool with mineralized water (32°C)
- ** indoor pool for swimmers (28°C, 1,50 m deep)
- ** cooling pool (18°C)
- ** hot tub with mineralized water
- ** gym, solarium
- ** massages and pedicure
- ** cosmetics and hairdressing salon
- ** restaurant Jantar (open in winter)



THE AQUAMARIN WELLNESS

Indoor world :

- ** the Wild River (36°C, 1 m deep)
- ** relaxing pool (33°C, 1,3 m deep)
- ** waterfall
- ** 2 whirlpools (36°C, 1 m deep)
- ** kids' pool (32°C, 0,25 m deep)
- ** kids' playground
- ** Turkish bath (36°C, 1,1 m deep)
- ** pool bar
- ** massage
- ** rest areas, botanical garden, a café (open in winter)
- ** Sauna complex includes: Finnish and bio sauna, salt and herb inhalation, cooling pool and water attractions (ice bucket, 3 heated beds, sea bath)



Outdoor world :

- pool with mineralized water deep) **relaxing (39°C, 1,2 m **
- kids' pool with mineralized water (32°C)
- ** cooling pool (18 – 20°C, 1 m deep)
- ** cooling bio lake (28°C, 1,3 m deep)
- ** walking Kneipp bath with changing cold and hot water

DIFFERENT FACILITIES / DINNING

- ** outdoor gym and natural rest area
- ** multisport pitch

- ** kids' playground
- ** restaurants, fast foods
- ** shops
- ** bakery and café

WATER INFORMATION

Thermal salt water is:

- ** a temperature of 80°C,
- ** similar to the one of the Dead Sea
- ** unique of its Kind Europe
- ** beneficial on the human body

Water helps people with:

- ** the respiratory system
- ** arthritis and rheumatism
- ** after bons surgery,
- ** eczemas
- ** thyroid gland problems
- ** vascular and joint problems and persisting back pains

Salty water does not allow further reproduction of brought bacteria, but it kills them.

**Seating pool with thermal water
 at the Relaxing complex
 WINTER SEASON from 21.10. 2019**

Obec Podhájska



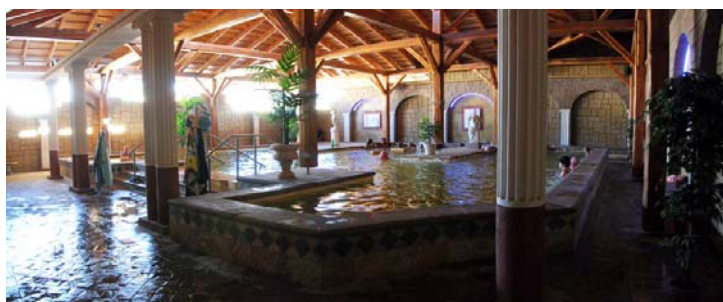
sa nachádza na južných výbežkoch Pohronskej pahorkatiny v nadmorskej výške 170 metrov nad morom. Najvyššia nadmorská výška je 288 m n.m a najnižšia je 161 m n.m. Patrí do Novozámockého okresu a do Nitrianskeho kraja. Leží na železničnej trati medzi Levicami a Šuranmi. Susedí s obcami Trávnica, Radava, Pozba, Veľké Lovce.

Oblíbené termálne kúpalisko v Podhájskej, poskytuje návštevníkom možnosť oddychu a rekreácie tak v letnom ako i v zimnom období.



Je malým slovenským morom, ktoré Vám poskytuje svoje služby a možnosť rekreácie počas celého roka. **Termálna voda**, pri ústi vrtu s teplotou 83 °C, je slaná a pôsobí priam zázračne na ochorenia: reumatizmus, dna, bolesti chrbtice, kĺbové ochorenia, cievne ochorenia, ekzémové ochorenia, prieduškové ochorenia a ochorenia dýchacích ciest. Obsahuje sírany, lítium, jodidy, bromidy, zlúčeniny vápnika. Blahodarne pôsobí aj na doliečenie zlomenín, zmiernuje bolesti a stimuluje štítnu žľazu.

Návštevníkov kúpaliska tvoria nielen Slováci, ale aj turisti z Čiech, Poľska, Maďarska, Rakúska a iných krajín.



V **letnej sezóne**, ktorá začína prevažne od mája a končí niekedy až v októbri, je v areáli kúpaliska pre návštevníkov k dispozícii **10 bazénov** s teplotou vody 18 °C až 40 °C, kde patria plavecké bazény, dva veľké bazény, jeden sedací bazén, jeden detský bazén a toboganový bazén. V sedacích bazénoch je teplota vody 33 °C, v zime minimálne 36 °C. Rekrečná zóna termálneho kúpaliska poskytuje oddych a relaxáciu návštevníkom na ploche 12 hektárov, kde sa okrem bazénov nachádza aj **športový areál** (volejbalové ihrisko, plážový volejbal a pod.), prírodné oddychové miesta s bujnou vegetáciou na slnenie, športoviská, výtvyry sochárov, ktoré sa realizovali priamo v areáli kúpaliska za mimoriadneho záujmu rekreatantov z domova i zo zahraničia. V areáli kúpaliska sú poskytované i ďalšie služby ako sú masáže, elektroliečba, požičiavanie slnečníkov a lehátok.

Novinkou posledných rokov je novovybudované **Wellness centrum Aquamarins** komplexnou ponukou služieb, kde môžete relaxovať pri rôznych procedúrach. Dostatok teplej termálnej vody si užijete v **Bazénovom svete** vo vnútorných a vonkajších bazénoch. Nechýba tu relaxačný bazén, vírivý bazén, detský, ale ani turecký bazén. **Vitálny svet** zahŕňa komplex sáun, v ktorom si môžete vyskúšať fínsku saunu, bylinkovú saunu, bio saunu či soľnú inhaláciu. Ďalej vo vitálnom svete nájdete tepidárium, morský kúpeľ, ľadopád, ochladzovací kúpeľ ale aj vodné pekló.

Międzynarodowa Konferencja Naukowa „1919-2019 – BEZPIECZEŃSTWO NA TERENACH POLSKI POŁUDNIOWO-WSCHODNIEJ”





EURÓPSKY INŠTITÚT DALŠIEHO VZDELÁVANIA
EUROPEAN INSTITUTE OF FURTHER EDUCATION

**European Institute of Further Education
invites you to benefit from other collaboration
opportunities:**

- **Publication of a monograph written by an author (or by co-authors)** (ISBN Slovakia, Serbia).
- **Publication of a monograph in the European Science journal** (*ISSN, the status is special issue of the journal, which amounts to a journal indexed in Scopus*).
- **Organization of international scientific** (conferences, seminars), **informational and educational** (round tables, meetings), **cultural** (exhibitions, presentations) **events**.
- **Certified examination in EU languages** (B2 and above).
- **International scientific and pedagogical internship**
- **Professional development for teachers**.
- **Professional development under the program of MBA** (*Master of Business Administration*), **LL.M.** (*Master of Laws*).
- **Holiday and recreation schemes for the group of participants**.

Contact

European Institute of Further Education

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Тел: +421 905 450 765

Journal homepage: www.eidv.eu
eidv.ukraine@gmail.com (Editorial Board)
www.european-science.sk
europska.veda@gmail.com (Publisher)

The annual International Scientific Conference
„SECURITY, EXTREMISM, TERRORISM 2019“ (BET-2019)
was held in Podhajska, Slovak Republic, on November 7-8, 2019.

The conference marked the 10th anniversary of *Eastern European Development Agency n.o.* (EEDA) whose President and founder is Dr.h.c. mult. JUDr., Honor. Prof. mult. Jozef Zat'ko.

The conference was attended by representatives of educational institutions and scientific establishments from the Slovak Republic, Ukraine, Poland, Czech Republic.

Scientists and legal experts discussed innovations in security issues and ways to prevent extremism and terrorism in their countries. The main agenda was focused on security issues in the European and Transatlantic space, the European Union anti-corruption policy and security sector reform. Special attention was paid to the challenges of civil protection of the population and territories against emergency situations and its prevention, emergency response and recovery. The issues of information and cyber security were actively discussed as well as underlying principles of its provision in Ukraine. The participants were able to share their security experience and practices against corruption in the country they represented.

Upon completion of the event all participants received relevant certificates and commendations for their cooperation in the implementation of the program objectives of *Eastern European Development Agency n.o.* (EEDA) and contribution to the international cooperation development in education and science.



