

Ministry of Education and Science of Ukraine  
Black Sea Universities Network

# ODESA NATIONAL UNIVERSITY OF TECHNOLOGY

International Competition of  
Student Scientific Works

# BLACK SEA SCIENCE 2022 PROCEEDINGS



ODESA, ONUT 2022

Ministry of Education and Science of Ukraine

Black Sea Universities Network

Odesa National University of Technology

International Competition of Student Scientific Works

# **BLACK SEA SCIENCE 2022**

**Proceedings**

Odesa, ONUT 2022

**Editorial board:**

**Prof. B. Iegorov**, D.Sc., Professor, Rector of the Odesa National University of Technology, Editor-in-chief

**Prof. M. Mardar**, D.Sc., Professor, Vice-Rector for Scientific and Pedagogical Work and International Relations, Editor-in-chief

**Dr. I. Solonytska**, Ph.D., Associate Professor, Director of the M.V. Lomonosov Technological Institute of Food Industry, Head of the jury of «Food Science and Technologies»

**Dr. Yu. Melnyk**, D.Sc., Associate Professor, Director of the G.E. Weinstein Institute of Applied Economics and Management, Head of the jury of «Economics and Administration»

**Dr. S. Kotlyk**, Ph.D., Associate Professor, Director of the P.M. Platonov Educational-Scientific Institute of Computer Systems and Technologies “Industry 4.0”, Head of the jury of «Information Technologies, Automation and Robotics»

**Prof. O. Titlov**, D.Sc., Professor, Head of the Department of Oil and Gas Technologies, Engineering and Heat Power Engineering, Head of the jury of «Power Engineering and Energy Efficiency»

**Prof. G. Krusir**, D.Sc., Professor, Head of the Department of Ecology and Environmental Protection Technologies, Head of the jury of «Ecology and Environmental Protection»

**Dr. V. Kozhevnikova**, Ph.D., Associate Professor, of the Department of Hotel and Catering Business, Technical Editor

**Black Sea Science 2022:** Proceedings of the International Competition of Student Scientific Works / Odesa National University of Technology; B. Iegorov, M. Mardar (editors-in-chief) [*et al.*]. – Odesa: ONUT, 2022. – 749 p.

Proceedings of International Competition of Student Scientific Works «Black Sea Science 2022» contain the works of winners of the competition.

The author of the work is responsible for the accuracy of the information.

### **Organizing committee:**

**Prof. Bogdan Iegorov**, D.Sc., Rector of Odesa National University of Technology, Head of the Committee

**Prof. Maryna Mardar**, D.Sc., Vice-Rector for Scientific and Pedagogical Work and International Relations of Odesa National University of Technology, Deputy Head of the Committee

**Prof. Baurzhan Nurakhmetov**, D.Sc., First Vice-Rector of Almaty Technological University (Kazakhstan)

**Prof. Michael Zinigrad**, D.Sc., Rector of Ariel University (Israel)

**Prof. Plamen Kangalov**, Ph.D., Vice-Rector for Academic Affairs of “Angel Kanchev” University of Ruse (Bulgaria)

**Prof. Heinz Leuenberger**, Ph.D., Professor of the Institute of Ecopreneurship of University of Applied Sciences and Arts (Switzerland)

**Prof. Edward Pospiech**, Dr. habil., Professor of the Institute of Meat Technology of Poznan University of Life Sciences (Poland)

**Prof. Lali Elanidze**, Ph.D., Professor of the Faculty of Agrarian Sciences of Iakob Gogebashvili Telavi State University (Georgia)

**Dr. Dan-Marius Voicilas**, Ph.D., Associate Professor of the Institute of Agrarian Economics of Romanian Academy (Romania)

**Prof. Stefan Dragoev**, D.Sc., Vice-Rector for Scientific Work and Business Partnerships of University of Food Technologies (Bulgaria)

**Prof. Jacek Wrobel**, Dr. habil., Rector of West Pomeranian University of Technology (Poland)

**Dr. Mei Lehe**, Ph.D., Vice-President of Ningbo Institute of Technology, Zhejiang University (China)

**Dr. V. Kozhevnikova**, Ph.D., Associate Professor of the Department of Hotel and Catering Business of Odesa National University of Technology, Secretary of the Committee

## INTRODUCTION

International Competition of Student Scientific Works “Black Sea Science” has been held annually since 2018 at the initiative of Odesa National University of Technology (formerly Odesa National Academy of Food Technologies) with the support of the Ministry of Education and Science of Ukraine. It has been supported by Black Sea Universities Network (the Association of 110 higher education institutions from 12 countries of the Black Sea Region) since 2019, and by Iseki-FOOD Association (European Integrating Food Science and Engineering Knowledge into the Food Chain Association) since 2020.

The goal of the competition is to expand international relations and attract students to research activities. It is held in the following fields:

- Food science and technologies
- Economics and administration
- Information technologies, automation and robotics
- Power engineering and energy efficiency
- Ecology and environmental protection

The jury includes both Ukrainian and foreign scientists. In the 4 years that the competition has been held, the jury included scientists from universities of 24 countries: Angola, Azerbaijan, Benin, Bulgaria, China, Czech Republic, France, Georgia, Germany, Greece, Israel, Italy, Kazakhstan, Latvia, Lithuania, Moldova, Pakistan, Poland, Romania, Serbia, Slovakia, Switzerland, Turkey, USA.

At the same time, every year the geography has expanded and the number of foreign jury members has increased: from 46 jury members representing 25 universities from 12 countries in 2018, to 73 jury members of the 46 universities from 19 countries in 2022.

More than a thousand student research papers have been submitted to the competition from both Ukrainian and foreign institutions from 25 countries: China, Poland, Mexico, USA, France, Greece, Germany, Canada, Costa Rica, Brazil, India, Pakistan, Israel, Macedonia, Lithuania, Latvia, Slovakia, Romania, Kyrgyzstan, Kazakhstan, Bulgaria, Moldova, Georgia, Turkey, Serbia.

The interest of foreign students in the competition grew every year. In 2018, the students representing 15 institutions from 7 countries have submitted 33 works. In 2021 the number of submitted works increased to 73, authored by the students of 40 institutions from 18 countries.

The competition is held in two stages. In the first stage, student research papers are reviewed by members of the jury who are experts in the relevant fields. In the second stage of the competition, the winners of the first stage have the opportunity to present their work to a wide audience in person or online.

All participants of the competition and their scientific supervisors are awarded appropriate certificates, and the scientific works of the winners are included in the electronic proceedings of the competition. Every year the competition receives a large number of positive responses from Ukrainian and foreign colleagues with the desire to participate in the coming years.

## **2. ECONOMICS AND** **ADMINISTRATION**

**FEATURES OF ACCOUNTING OF EXPENDITURES OF BUDGET ORGANIZATIONS WITHIN THE FRAMEWORK OF CROSS-BORDER COOPERATION PROJECTS**

**Author:** Olena Brailovska,

**Advisor:** Kateryna Stasiukova; Phd. Assoc. Prof.  
Odessa National Academy of Food Technologies (Ukraine)

*Cross-border cooperation programs are one of the key tools for the European Union to support its neighbors. This assistance is provided within the framework of two large-scale initiatives of the European Union: the European Neighborhood Instrument and the Territorial Cooperation Program of the Eastern Partnership countries. The money comes in the form of grants. These funds should help address common challenges related to the rapid movement of people and goods, humanitarian and environmental issues. For accounting purposes, grants are financial resources that the donor provides to the recipient on a non-repayable basis and which are aimed at achieving certain objectives set by the grantor. From the standpoint of accounting, grants are included in income from non-exchange transactions. Grants are own revenues of budgetary institutions and bodies of government and local self-government. In this case, grants have a specific purpose and should be spent on goals defined by the person providing the grant. Upon receipt of grant funds, the grantee is provided with the Instruction within which the grantee must act. This document states that accounting is conducted in accordance with national law. The main problem of grant accounting is the lack of common approaches to developing effective mechanisms for improving the accounting system taking into account the requirements of international standards, lack of elaboration of the transition to common methodological principles, as well as creating unified organizational and information support. The paper considers in more detail the accounting in the budgetary institution of the projects of the Joint Operational Program of Border Cooperation "Black Sea Basin 2014 - 2020" Black Sea Basin. The main problems that arise in accounting under national law and the discrepancy with accounting in other EU countries are studied.*

**Keywords:** *accounting, cross-border cooperation, grants, international standards, revenues, expenditures, budget organization, audit, higher education institutions.*

## **I. INTRODUCTION**

Today, cross-border cooperation is carried out both at the interstate level and at the level of territorial communities, their representative bodies, local executive bodies. Such cooperation contributes to the social and economic convergence of border regions and the creation of new opportunities for their development, including the development of economic, social, scientific and technical, environmental, cultural and other relations, exchange of experiences.

Ukraine has borders with seven states, 19 of the 27 administrative-territorial

units are border. On the territory of such border regions as Vinnytsia, Volyn, Zakarpattia, Ivano-Frankivsk, Lviv, Luhansk, Odessa, Sumy, Kharkiv, Chernivtsi, Chernihiv, Donetsk, nine Euroregions were created - Bug, Upper Prut, Dniester, Dnieper, Carpathian Lower Danube, Slobozhanshchyna, Donbass and Yaroslavna, five Euroregions created with EU member states (Poland, Slovakia, Romania, Hungary). Cross-border cooperation has been carried out within Euroregions since 1993.

The Government of Ukraine adopted a resolution "On approval of the State Program for the Development of Cross-Border Cooperation for 2021-2027" [1.1], which was developed by the Ministry of Regional Policy pursuant to the Law of Ukraine "On Cross-Border Cooperation" [1.2].

The program outlines the goals and priorities, contains specific ways and means of solving problems, action plan, sources of funding, identifies the responsible executors of these activities.

Its implementation should continue to form a positive international image of our country, solve the problem of disparities in socio-economic development of Ukraine, increase employment in the regions of Ukraine, promote exports and imports of goods and services, improve the environment, attract funding for cross-border projects and create new bodies for cross-border cooperation.

Ukraine is currently a participant in four joint operational programs (either cross-border or cross-border cooperation programs). These are: "Ukraine - Poland - Belarus", "Ukraine - Hungary - Slovakia - Romania", "Black Sea Basin", "Ukraine - Romania". In December 2016, the Government of Ukraine and the EU concluded four relevant agreements on the financing of joint operational programs for cross-border cooperation.

These programs are funded by the European Union under the European Neighborhood Policy (ENP). The EU thus supports reforms in the political, economic and social spheres in certain countries that are members of the EU or have borders with it.

Quite often the European Regional Development Fund and the Instrument for Pre-Accession participate in the financing of programs. However, the main donor of all projects is the European Union.

The European Neighborhood Instrument (ENI) is the financial instrument of the European Neighborhood Policy, through which these programs are financed and within which they operate.

Analysis of international experience shows that in many developed countries one of the important tasks is to focus on finding alternative sources of funding.

Given the limited budget, an important area of business should be to find sources of funding from non-governmental and international funds, programs and grants. For many organizations, a grant is an opportunity to move to a qualitatively different level of work. That is why it is important to be able to take advantage of this opportunity and look at potential donors from a long-term partnership.

The purpose of the work is to conduct a comprehensive study of the features of the reflection in the accounting of the costs of grants received by budgetary organizations.

## II. LITERATURE ANALYSIS

Despite the urgency of this issue, we see the lack of scientifically sound developments in the methodology of accounting for grants in domestic science and legislation. The issue of accounting for the financing of non-profit projects is the development of National Accounting Regulations (Standards) (NP) and National Standards for Public Sector Accounting (NSDS). Research in this area has been covered in the works of many scientists, such as A. Rybalchenko, S. Londara, V. Nikitenko, N. Vnukova, P.I. Gaidutsky, VP Galushko, S.I. Zorya, B.I. Paschaver, D.W. Polozenko, VV Yurchyshyn et al., But the issues of accounting methodology in modern conditions of decentralization are open and insufficiently studied. In addition, these issues are practically not considered outside the public sector.

Problems of methodology and organization of accounting and reporting of various non-profit organizations are considered in the works of many domestic scientists: PY Atamasa, MT Belukhy, F.F. Butynets, RT Jogi, S.O. Levitskaya, LG Lovinska, S.V. Svirko, VV Sopka and others

The lack of accounting regulations that take into account the peculiarities of accounting for state grants necessitates the improvement of methodological, methodological and organizational support for accounting for state grants.

## III. OBJECT, SUBJECT, AND METHODS OF RESEARCH

*The object* of the study was cross-border cooperation in the form of participation in grants provided by the European Union and the cost of items under the budget of these projects.

*The subject* of the study is the method of accounting for the costs of budgetary organizations in cross-border cooperation projects.

*The methodological* basis is scientific methods based on the requirements of objective and comprehensive analysis of cost accounting of budgetary organizations.

In solving the tasks were used general scientific methods and techniques of research: monographic, economic - statistical, graphic, balance, tabular and empirical research methods: observation, comparison, description, generalization, analogy.

## IV. RESULTS

### 4.1. The economic essence of grants

Grant (English "grant" - a gift, grant, scholarship) is a targeted financial grant provided to scientists for research [2.1].

A grant is a free targeted grant provided on a competitive basis to an organization, initiative group or individual for the implementation of the declared project in a particular field of activity [2.1].

Grant - a charitable contribution or targeted donation provided by individuals and legal entities in cash and in kind [2.1].

Grant - funds transferred free of charge by the donor (fund, corporation, government agency or individual) to a non-profit organization or individual to perform

a specific job [2.2].

Grant - funds, equipment or other resources that are irrevocably transferred by the donor (foundation, corporation, government agency or individual) to a non-profit organization or individual to perform a specific job. Unlike a loan, the grant does not have to be repaid [2.3].

Grants are the most common tool for financing projects through donor organizations, and receiving grant assistance allows you to concentrate in the process of project implementation a large enough amount of funds for its implementation. However, the funds received in the form of a grant must be used to meet the intended objectives of the proposed project.

The most common source of additional resources for enterprises are funds that provide assistance in the form of grants. In domestic law, there are several definitions of the term "grant" presented in table. 1.

**Table 1. Definition of "Grant" in accordance with national law**

Source: Developed by the author, using the legislation of Ukraine

<b>Legislation</b>	<b>The essence of the concept</b>
<b>1</b>	<b>2</b>
Law of Ukraine "On Scientific and Scientific-Technical Activity" [1.3]	Grant - financial or other resources provided on a gratuitous and non-refundable basis by the state, legal entities, individuals, including foreign and (or) international organizations for the development of material and technical base for scientific and scientific-technical activities, specific fundamental and (or) applied scientific research, scientific and technical (experimental) developments, in particular the remuneration of scientific (scientific and pedagogical) workers in the framework of their implementation, in the areas and under the conditions specified by the grantors.
Law of Ukraine "On Culture" [1.4]	Grant - financial resources provided on a non-refundable basis to the entity conducting activities in the field of culture, for the implementation of cultural and artistic project
Law of Ukraine "On the Ukrainian Cultural Foundation" [1.5]	Grant - financial resources provided on a gratuitous and non-refundable basis by the Ukrainian Cultural Fund to an entity operating in the field of culture for the implementation of a project, the decision to finance which was made in the manner prescribed by this Law
Law of Ukraine "On Implementation of the Global Fund to Fight AIDS, Tuberculosis and Malaria in Ukraine" [1.6]	Grant - Global Fund funds provided to the principal recipient (s) on a gratuitous and non-repayable basis (non-repayable financial assistance) for the implementation of targeted measures in the field of prevention and combating HIV / AIDS, tuberculosis in Ukraine and is charitable

<p>Order "On approval of the Procedure for registration of international scientific and technical programs and projects implemented in the framework of international scientific and technical cooperation by Ukrainian scientists" [1.7]</p>	<p>Grant - financial or other resources provided free of charge and non-refundable basis by foreign states and (or) international organizations for the development of material and technical base for scientific and technical activities, conducting specific basic and (or) applied research, scientific and technical experimental developments, in particular for the remuneration of scientific (scientific and pedagogical) workers in the framework of their implementation, in the areas and under the conditions determined by the grantors</p>
---	---

The concept of grants for accounting purposes is provided in International Accounting Standard 20 "Accounting for Government Grants and Disclosure of State Aid". In accordance with paragraph 3 of IAS 20, government grants are government assistance in the form of transfers of resources to an entity in exchange for past or future compliance with certain conditions associated with the entity's principal activities. They do not apply to such forms of state aid, which cannot have a reliably determined value, as well as to transactions with the state, which do not differ from the usual commercial operations of the entity "[1.8].

Thus, grants are targeted funds provided free of charge and on a non-refundable basis to non-profit organizations or individuals for the implementation of social projects, charitable programs, research, training, and other socially useful purposes, followed by a report on their use. grantor.

Grants are awarded based on the results of grant programs-competitions, which are announced for non-profit organizations.

Grant programs can be open (when all organizations that meet certain requirements of the donor organization are eligible) or closed (when only organizations that meet the specific conditions of the grant program are allowed, for example, only regional partners of the donor organization or organization that previously received did not receive) grants from this (or other) fund, organization of a certain administrative region, etc.).

It is generally accepted that a grant is a certain amount of money. But analyzing the concepts presented in table. 1. It can be concluded that in fact not only financial but also other grants can be provided as grants, such as material and technical resources received by enterprises, citizens, public organizations and legal entities to perform certain tasks or achieve the goals specified in the terms of this grant, formulated in the whole project and described in the project application. It is important to understand that a grant is a resource that should be focused solely on implementing the project's stated intentions.

#### **4.2. Accounting for the cost of grant funds**

The methodology of accounting for grant costs in Ukraine is based on generally accepted in international practice accounting principles, which include the principles

of: continuity of activities; autonomy; accrual; double entry; monetary meter; cost; implementation; materiality; prudence; continuity; compliance; periodicity.

Both large infrastructure projects (Large Infrastructure Projects, LIP), as well as conventional and micro projects are financed. The budget of large projects can reach 7 million euros, ordinary (regular) - 2.5 million euros, micro - 60 thousand euros.

If we talk about cross-border cooperation programs, it is worth mentioning the TESIM project (Technical Support to the Implementation and Management of ENI CBC programs). This is a technical assistance project of the Directorate General for Enlargement and Neighborhood of the European Commission. The project provides support in the implementation and management of programs as a kind of main consultant during the implementation of cross-border cooperation programs.

One of the projects in which the Odessa National Academy of Food Technologies participates is the Black Sea Basin.

The program covers Armenia, Bulgaria, Georgia, Greece, Moldova, Romania, Turkey and Ukraine. During 2014-2020, 54 million euros were allocated for the program. Thematic areas of projects are the development of tourism and private entrepreneurship, modernization of the agricultural sector and increasing its competitiveness, protection of the environment, including the Black Sea and its basin.

It should be noted that all projects under international cooperation programs are similar, although not without some technical differences. Accordingly, the algorithm for cost accounting for them is also similar.

When concluding a grant agreement for a specific project, the main beneficiary and beneficiaries participating in the project are selected.

The main beneficiary is the organization specified in the Project Description, which has signed the Grant Agreement and which is responsible for the financial and substantive implementation of the Project.

Beneficiary - the organization specified in the Project Description, participating in the Project under the conditions specified in this Agreement, associated with the Principal Beneficiary under the Partnership Agreement for the implementation of the Project.

The Lead Beneficiary and Beneficiaries must ensure that expenditure for the project is easily identified and traced to and within their accounting and bookkeeping systems.

The accounts:

- a) may be an integrated part or an adjunct to the Lead Beneficiary and the Beneficiaries' regular system;
- b) have to comply with the accounting and bookkeeping policies and rules that apply in the country concerned;
- c) enable to easily trace, identify and verify all revenue and expenditure related to the project.

The common provisions on accounting included in the EC Financial Regulation no 966/2012 on the financial rules applicable to the general budget of the Union.

The project accounts are the main source of information for:

- Following up the project budget
- The preparation of the financial reporting

- The expenditure verification accompanying the payment requests
- Any financial control by MA/JTS, EC or other authorised bodies

The Project Implementation Manual (PIM) states the need for:

- ✓ Always use the accounting methods established by the national legislation of the respective country!
- ✓ Use analytical (cost) accounting codes if project accounts are maintained as part of your organization's regular accounting system.
- ✓ Be sure to organize accounts (computerized or manual), bearing in mind all supporting documents required by applicable national law.

Eligible Costs are the actual costs incurred by the Lead Beneficiary and/or beneficiaries that meet all of the following criteria:

a) they are incurred during the project implementation period; An exception to this rule concerns the costs associated with the final reports, only for the verification of costs and, if necessary, the final appraisal of the project. These costs may be incurred after the project implementation period.

b) they are indicated in the estimated total budget of the project;

c) they are necessary for the implementation of the project;

d) they are identifiable and verifiable, in particular recorded in the books of the Lead Beneficiary and/or beneficiaries;

e) they comply with the requirements of the current tax and social legislation;

f) they are reasonable, justified and comply with the requirements of sound financial management, in particular with regard to economy and efficiency, as well as the requirements of visibility;

g) they are supported by invoices, proof of payment and/or documents of equivalent probative value;

h) notwithstanding subparagraph (a), the costs associated with studies and documentation for projects, including the infrastructure component, are eligible even if incurred during the project preparation period, which begins after the date of approval of the Project Program.

The grant cannot be profitable for the lead beneficiary or any of the beneficiaries of the project. Profit is the excess of receipts over eligible costs approved by the MA at the time the balance request was submitted.

Keeping clear and up-to-date documentation is vital for the Lead Beneficiary and beneficiaries. Without them, it is not possible to prove that the declared costs are in accordance with the terms of the Grant Contract.

Eligible costs must be identifiable and verifiable, and in particular must be recorded in the books of the Lead Beneficiary. The Lead Beneficiary and beneficiaries must allow access to agents of the Audit Authority, the European Commission, the European Anti-Fraud Office and the European Court of Auditors, the relevant authorities in the countries participating in the Programme, the MA and any bodies/organizations authorized by the MA to carry out inspections, inspections and audits, as well as to examine supporting documents, accounting documents and any other documents related to project financing. Supporting documents and records must be available for verification within five years of the payment of the Program balance.

Supporting documents and records should be easily accessible and kept in such a way as to facilitate verification.

The cost of each project must be provided for under one of the budget items and a group of activities.

For costs to be eligible, beneficiaries must demonstrate that they have the appropriate supporting documentation for each type of cost, as described below for each budget line.

For example, personnel costs, including internal management or internal expertise, are eligible provided they are paid to employees who are directly employed by the relevant beneficiary and who perform tasks related to the project. Personnel may either be already hired or hired by the Beneficiary specifically for the project after the conclusion of the Grant Contract.

Personnel costs should only be declared on the basis of actual costs!

With regard to civil servants involved in the implementation of the project, their salary is entitled to the condition:

- a) civil servants directly employed by the Lead Beneficiary and/or beneficiaries
  - b) wages are paid in accordance with the relevant national legislation of the relevant Lead Beneficiary/beneficiaries in relation to the employment of civil servants.
- In such a case, these salaries can be considered as co-financing.

Expenditure on staff costs shall be limited to the following:

- a) salary payments related to activities which the entity would not carry out if the project concerned was not undertaken, fixed in an employment/work contract, an appointment decision (both hereinafter referred to as “employment document”), or by law;
- b) any other costs directly linked to salary payments incurred and paid by the employer, such as employment taxes and social security payments provided that they are:
  - fixed in an employment document or by law;
  - in accordance with the legislation referred to in the employment document and with standard practices in the country and/or organization where the individual staff member is actually working; and
  - not recoverable by the employer.

In brief, the calculation of the cost of an employee includes the following:

- Gross salaries;
- Social security costs;
- Other remuneration-related costs, according to the national legislation provisions in force.

Up to 7% of eligible direct costs of the project, excluding costs incurred in relation to the provision of infrastructure, can be applied for indirect costs incurred by the Lead Beneficiary/Beneficiaries and necessary for the implementation of the project.

The following costs shall not be considered eligible:

- a) debts and debt service charges (interest);
- b) provisions for losses or liabilities;
- c) costs declared by the Lead Beneficiary and/or the Beneficiaries and financed by another project or programme from any other sources;
- d) purchases of land or buildings;
- e) exchange-rate losses;

f) duties, taxes and charges, including VAT, except where non-recoverable under national legislation, unless otherwise provided in appropriate provisions negotiated with CBC partner countries and as identified in the related Financing Agreement;

g) loans to third parties;

h) fines, financial penalties and expenses of litigation;

i) contributions in kind;

j) costs exceeding the threshold of 15% of the EU contribution established for activities outside the Programme eligible area;

k) used purchased equipment.

The savings identified in the project’s budget during its implementation can be used to broaden the scope of planned activities and/or undertake additional complementary activities.

All the additional activities, financed from the saved funds, should have a complementary character to the implemented project, ensure a stronger contribution to the project’s results and objectives and guarantee greater benefits to the identified target groups.

#### 4.3. Verification of costs in the framework of cross-border cooperation projects

European institutions, which allocate funds and want to be sure of their legal and correct use, are the customers of project cost audits. That is why the opinion of an independent auditor, who provides objective and unbiased information, is extremely important, and therefore such work will be in demand. In addition, the number of cross-border cooperation programs will grow.

**Table 2. National system of management and control over the implementation of cross-border cooperation programs**

Source: Developed by the author, using the legislation of Ukraine

<b>National Authority for Joint Operational Programs</b>	<b>National Checkpoint</b>	<b>Representative of Ukraine in the group of auditors</b>	<b>National contact point</b>
Ministry of Economic Development and Trade	Ministry of Finance of Ukraine together with the State Audit Service and the Audit Chamber of Ukraine	Accounts Chamber	Ministry of Internal Affairs of Ukraine
Effective functioning of the national system of management and control over the implementation of cross-border cooperation programs	Formation of an open list of independent auditors for auditing expenditures on projects within the framework of cross-border cooperation programs, their training	Cooperation with the audit team, participation in the development of procedures for the audit team and audit strategy	Cooperation with the European Office for the Prevention of Abuse and Fraud

Moreover, the inspection is quite formalized, and its features are clearly prescribed by the customer. All the auditor needs is to strictly adhere to these requirements and understand their essence. Any deviation from the templates, rules, requirements is highly undesirable, because in this case the work of the auditor may not be accepted.

When starting work on a project, the auditor should read the Project Implementation Manual very carefully. In essence, this is a technical task that is an appendix to the grant agreement. It determines the front of the auditor's work, provides guidance on the procedures to be followed, and describes the customer's expectations from the audit.

It is also necessary to read the Guidelines for reporting in eMS (Guide on reporting in eMS).

Electronic Monitoring System (eMS) is a special electronic monitoring system, which contains all the necessary information on projects and documents for the work of the auditor. It also shows the stages of project implementation, the results of cost audits, etc. The appointed auditor receives individual access to the project and works in this system.

To date, projects of three cross-border cooperation programs have been included in eMS: "Ukraine - Hungary - Slovakia - Romania", "Black Sea Basin", "Ukraine - Romania". Implementation of the projects of the program "Ukraine-Poland-Belarus" is still carried out outside of this system.

The system is maintained by the Joint Technical Secretary (JTS). It is created by the governing body (global and national) for the purpose of practical implementation of programs and projects.

The main purpose of the auditor - to verify the reality, correct reflection in the accounting and legality of income and expenses on the project.

During the cost audit, the auditor performs general procedures, budget cost compliance procedures, analytical review, and some selected costs in accordance with the terms of the grant contract.

The auditor uses the rules and regulations applicable to the selection of the relevant cost sections, as well as the principles and criteria for verifying the cost recovery specified in the cost verification engagement.

The auditor examines all costs incurred: staff, travel, external examinations, equipment, administrative and entertainment costs, etc., depending on the specifics of a project.

The auditor's report is prepared according to a form that can also be found in eMS. As a rule, the report should be prepared in English, as it is working in cross-border cooperation programs.

Thus, the audit of project costs under cross-border cooperation programs is, in essence, a set of arithmetic operations that confirm or refute the proper use of funds by the recipient, audit compliance with the beneficiary of all documents accompanied by grants, and collection of evidence of productive work. over the project. At the same time, the auditor must take very seriously all the formal requirements of the clients of such an audit.

## V. CONCLUSIONS

The legislation allows higher education institutions to attract additional grant funding to develop their core business. However, as our study shows, raising such funds is associated with significant difficulties due to legislation. These difficulties are due to the fact that higher education institutions, which are financed from the state budget, have the status of budgetary institutions. This imposes significant procedural restrictions on them, both in terms of accounting and in terms of the use of funds - even those they receive from donor organizations in the form of grants or charitable contributions. In particular, the legislation clearly regulates the procedure for accounting for such funds, possible areas of their use, the procedure for purchasing works and services, the level of remuneration of employees involved in the implementation of projects, and so on.

The analysis of the legal framework showed the unregulated accounting and analytical support of grants as alternative sources of enterprise financing. Based on a thorough analysis of existing regulations, the essence of the concept of "grants" is determined. It is determined that one of the main directions of improving the regulation of accounting for grant expenditures in cross-border cooperation is the development of a separate regulatory document that would regulate the methodological principles of accounting, receipt and use of funds and its reflection in financial statements.

The practice of accounting for the costs of budgetary organizations in the framework of cross-border cooperation projects shows the inconsistency of Ukrainian legislation with accepted European standards. Thus, the adaptation of accounting of the received guarantors to the requirements of international standards will help increase the informativeness of the reporting of budgetary organizations and increase the provision of assistance and implementation of programs of socio-economic development of Ukraine.

## VI. REFERENCES

### I. LEGISLATIVE ACTS

- 1.1. On approval of the State Program for the Development of Cross-Border Cooperation for 2021-2027: Resolution of the Cabinet of Ministers of Ukraine of April 14, 2021 № 408. <https://zakon.rada.gov.ua/laws/show/408-2021-%D0%BF#Text>
- 1.2. On cross-border cooperation: Law of Ukraine of 24.06.2004 № 1861-IV. URL: <https://zakon.rada.gov.ua/laws/main/1861-15#Text>
- 1.3. On scientific and scientific-technical activities: Law of Ukraine of November 26, 2015 № 848-VIII. URL: <https://zakon.rada.gov.ua/laws/main/1977-12,848-19>
- 1.4. On culture: Law of Ukraine of 14.12.2010 № 2778-VI. URL: <https://zakon.rada.gov.ua/laws/main/2778-17#Text>
- 1.5. On the Ukrainian Cultural Foundation Law of Ukraine of August 2, 2018 № 2481-VIII URL: <https://zakon.rada.gov.ua/laws/term/5636>
- 1.6. On the implementation of the programs of the Global Fund to Fight AIDS, Tuberculosis and Malaria in Ukraine: Law of Ukraine of April 20, 2014 № 1197-VII URL: <https://zakon.rada.gov.ua/laws/term/5636>
- 1.7. On approval of the Procedure for registration of international scientific and technical programs and projects implemented within the framework of international scientific and

technical cooperation by Ukrainian scientists, as well as grants provided within such cooperation: Order of the Ministry of Education and Science of Ukraine of December 20, 2017 URL:<https://zakon.rada.gov.ua/laws/term/5636>

- 1.8. International Accounting Standard 20 "Accounting for State Grants and Disclosure of State Aid" URL: [https://zakon.rada.gov.ua/laws/show/929\\_041#Text](https://zakon.rada.gov.ua/laws/show/929_041#Text)
- 1.9. Regulations Regulation (Eu, Euratom) No 966/2012 Of The European Parliament And Of The Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002. URL: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012R0966&from=EN>
- 1.10. On Accounting and Financial Reporting in Ukraine: Law of Ukraine of 16.07.1999 № 996-XIV. URL: <https://zakon.rada.gov.ua/laws/show/996-14#Text>

## **II. MANUALS, MONOGRAPHS, TEACHING WORKS, BROCHURES**

- 2.1. Fundamentals of fundraising: textbook. allowance. - Ekaterinburg: Federal Agency for Education, 2008. - 230 p.
- 2.2. Balashova AL Fundraising for a youth organization: lecture notes / A.L. Balashova. - M.: МІТУ ім. М.А. Шолохова, 2008. - 103 p.
- 2.3. Bangun OV Influence of marketing and fundraising on the transformation of libraries / Nauk. ed. V.S. White, Dr. tech. Science. - Donetsk: UKCentr, 1999. - 204 p.
- 2.4. Komarovskiy OV Fundraising in questions, answers and quotes: textbook. way. / O.B. Komarovskiy. - Luhansk, 2007. - 54 p.
- 2.5. Holov S.F. Accounting and financial reporting according to international standards / S.F. Head, VM Kostyuchenko; 2nd ed., Reworked. and add. - H.: Factor, 2008. – 1008p.

## **III. ARTICLES FROM PERIODIC EDITIONS**

- 3.1. T. Lyubimova. Accounting for grants. URL: <https://uteka.ua/en/publication/commerce-12-xozyajstvennye-operacii-9-uchet-grantov>
- 3.2. Compliance program: [tutorial] / P.G.Pererva [et al.]; ed.: P.G.Pererva, G.Kozziszky, M. Veres Somosi. - Kharkov; Miskols: NTU "KhPI", 2019. - 689 p
- 3.3. Problems of accounting and analytical support of grants as alternative sources of financing enterprises/ V.V. Voitko, O.N. Kudina, T.N. Serikova. - Kharkov; Miskolc: NTU "KhPI", № 23. 2019.

TECHNOLOGY OF MOUSSE PRODUCTS FROM HYDROBIONTS Author: Alona Ternova Advisor: Menchynska Alina National University of Life and Environmental Sciences of Ukraine.....	84
IMPROVEMENT OF RYE-WHEAT BREAD TECHNOLOGY BY APPLYING SUSPENSION NANO SUPPLEMENT Autors: Ivan Chobotar, Sofiia Chumachenko Advisors: Iryna Tsykhanovska, Lydiia Tovma National Academy of the National Guard of Ukraine (Ukraine).....	95
<b>2. ECONOMICS AND ADMINISTRATION.....</b>	<b>110</b>
PROSPECTS OF TECHNOLOGY INTRODUCTION OF CORPORATE BLOCKCHAIN IN THE CONDITIONS OF DIGITALISATION OF ECONOMY Author: Pavel Yatchenko Advisor: Liana Maznyk National University of Food Technologies (Ukraine).....	111
BUSINESS PROJECT TO START AND DEVELOP THE BUSINESS OF DODON&CO DESIGN AND CONSTRUCTION AGENCY Author: Zachosa Olha Advisor: Denysenko Nataliia Kyiv National University of Construction and Architecture (Ukraine).....	132
FEATURES OF ACCOUNTING OF EXPENDITURES OF BUDGET ORGANIZATIONS WITHIN THE FRAMEWORK OF CROSS-BORDER COOPERATION PROJECTS Author: Olena Brailovska Advisor: Kateryna Stasiukova Odessa National Academy of Food Technologies (Ukraine).....	147
RESEARCH OF STRATEGIC GUIDELINES FOR THE DEVELOPMENT OF HOTEL ENTERPRISES Authors: Angelina Zaitseva, Anastasia Melnik Advisors: Irina Ageeva, Denis Sedikov Odessa National Technological University (Ukraine).....	159
DIRECTIONS OF SMALL BUSINESS SUPPORT IN UKRAINE IN THE CONDITIONS OF THE COVID-19 PANDEMIC Authors: Golikova Yelyzaveta <sup>1</sup> , Kosharnovska Anastasiia <sup>2</sup> Advisor: Velychko Kateryna <sup>2</sup> <sup>1</sup> Simon Kuznets Kharkiv National University of Economics (Ukraine) <sup>2</sup> Kharkiv University of Humanities “People's Ukrainian Academy” (Ukraine).....	177