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DEVELOPMENT OF THE CONCEPT OF BUILDING A CORPORATE STANDARD OF PORTFOLIO MANAGEMENT IN THE COURSE OF TERRITORY RESTORATION PLANNING IN THE CONTEXT OF MAKING-CITY PROJECT

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It is shown that at the current stage, there is an important issue of creating portfolio management standards that could be successfully used for the post-war reconstruction of the territory of Ukraine.

The object of research in this work is the process of restoration of the territory of Ukraine. The problem to be solved is the development of principles, processes, functions and models that underlie the portfolio management standard for territory restoration.

Specific features of territory restoration projects are formulated. An analysis of existing approaches to the management of territory restoration in Ukraine, as well as to portfolio management standards, was performed. The experience of the Making-City project was taken as a basis. It is shown that for such complex projects distributed in time and territory, there is no scientific basis for building portfolio management standards.

Based on the selected features of territory restoration projects, the principles and approach to building a corporate standard of portfolio management are formulated. It is proposed to include 9 portfolio management processes of territory restoration projects in the portfolio management standard. To implement these processes, the functions of managing portfolios of projects and programs have been allocated, the regulation of which should be included in the standard of portfolio management of territory restoration.

Previous use of the portfolio management standard for development projects has shown that such a standard can be used for reconstruction projects of the territory of Ukraine in the post-war period.

The developed principles, processes, functions and models of their implementation can be used to solve extreme tasks for the restoration of the territory of Ukraine

Keywords: territory planning, project and program portfolio management, portfolio management standard

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1. Introduction

The war that is raging on the territory of Ukraine has led to the destruction and damage of many objects that were vital

for the population. Therefore, Ukraine faces a large-scale task of restoring industrial and residential facilities, transport and energy infrastructure. And not after the end of the war, but already now as certain regions of the country are liberated.

As the Prime Minister of Ukraine stated, the approach to settlements affected by Russia's aggression will be completely new. Among the priorities is the restoration of the energy sector, humanitarian demining, restoration of housing, critical and social infrastructure, as well as development of the private sector. The plan for rapid recovery of Ukraine for 2023, presented by the Cabinet of Ministers, includes hundreds of different projects, hundreds of cities and towns, where recovery will take place simultaneously.

Usually, the solution of these problems is carried out within the framework of territorial planning actions, which are performed at the state, regional and local levels by the relevant local government bodies through the implementation of many multifaceted projects and programs [1]. One of the key elements of such planning should be the process of forming a system of portfolios, programs and projects and standards for managing them focused on the specifics of post-war reconstruction of territories. After all, for the post-war reconstruction of territories, it will be necessary to implement hundreds and thousands of various and, most often, unrelated projects and programs. This is due to the fact that this process will involve many stakeholders who will initiate, finance, and manage projects of different purposes, at different times and in different territories. And if a project or program approach can and should be used to manage individual projects or programs for territorial restoration, then only a portfolio approach is suitable for managing the entire set of poorly related projects and programs. Therefore, for the effective planning of territories for the post-war reconstruction of Ukraine, it is necessary to create tools for the formation and management of the structure of project and program portfolios and the project and program portfolios themselves. These project portfolios should provide a solution of the strategic tasks of the state – the transformation of Ukraine into a prosperous European country. In fact, it is necessary to create a management system for territorial restoration, the key element of which will be portfolio management itself. Therefore, in the course of territory planning, it is necessary to develop a corporate standard for portfolio management of territory restoration.

Experience shows that no specific scientific, technical and practical developments have yet been carried out on this path. This gives rise to an urgent scientific task, which consists in developing a concept of building a corporate standard of portfolio management in the course of planning territorial restoration.

2. Literature review and problem statement

The post-war recovery of Ukraine is reflected in the scientific literature, using similar experience of many countries around the world. The paper [2] presents a comprehensive review of the strategic principles of Ukraine's post-war recovery based on an analysis of the economic, social, political and environmental challenges that the country faced after the conflict. The author argues that Ukraine needs to adopt a holistic and collaborative approach to its reconstruction, involving all stakeholders and sectors in the development and implementation of a long-term vision of sustainable development. The paper also provides some recommendations for improving the institutional and legal framework, increasing the capacity and coordination of public administration, mobilizing domestic and international resources, and promoting innovation and competitiveness. The topic of the paper

is relevant for building a corporate portfolio management standard in the course of planning the territorial restoration in the context of the Making-City project, as it offers a valuable understanding of the context and tasks of Ukraine's post-war development. However, the paper lacks empirical evidence and data to support its claims, and has a general and normative tone that does not address specific problems and opportunities of different regions and sectors. In addition, the author of the work does not directly discuss the role and potential of portfolio management as a tool for the efficient allocation of resources and prioritization of projects in the reconstruction of post-war Ukraine. The work [3] is valuable material for analyzing the process of territorial restoration in the context of the Making-City project. The author examines the factors that contributed to the successful transformation of South Korea from a developed country to a country with a high level of income and innovation after the Korean War. It focuses on the role of state policy, institutional environment, globalization, and socio-cultural factors in shaping Korea's economic development model. The paper can be used to create a corporate standard for project portfolio management in the process of planning territorial restoration, as it contains interesting examples and advice for effectively coordinating resources, stimulating innovation, attracting international aid and ensuring social justice. However, the source also has some limitations to consider when applying it. First, the study focuses on one specific case, which may not be fully applicable to other contexts and regions. Secondly, it does not take into account the possible negative consequences of the economic recovery policy for the environment, public health and geopolitical stability. On the other hand, the paper [4] provides a historical overview of the economic recovery of Germany after the Second World War, focusing on the role of the Marshall Plan and the social market economy. The author argues that Germany's success was based on a combination of foreign aid, domestic reforms, and institutional innovation. The topic of the paper is relevant because it offers some insight into the factors that contributed to the post-war revival of the destroyed country. However, this source also has some limitations, such as a lack of empirical data, narrow geographic coverage, and possible bias toward a Western perspective. The authors [5] made a comprehensive review of the challenges and opportunities of river logistics in Ukraine, especially in the context of war and post-war reconstruction. The authors analyze the current state of the river transport system, its economic and environmental benefits, as well as the potential contribution to the reconstruction of the conflict-affected territory. The source is relevant and credible as it offers valuable insight into the role of river logistics in improving the sustainability of the urban environment. However, the work lacks empirical data and examples, and also has a limited scope of analysis, which does not address political and social factors that may affect the development of river logistics in Ukraine. The paper [6] offers three scenarios for the recovery of Ukraine's economy after the resolution of the conflict in Donbas: optimistic, basic and pessimistic. The authors analyze the influence of various factors on the growth rates of GDP, investments, consumption, exports and imports, as well as on the distribution of income among regions. The authors of the paper [7] made a comprehensive review of the challenges and opportunities for the recovery of Ukraine. The authors draw on various sources of data and expertise to offer a framework for sharing knowledge and best practices among different stakeholders, such as local communities, government

agencies, international organizations and the private sector. The source is relevant because it offers ideas and guidance on how to align the goals and interests of different actors, how to prioritize and monitor interventions, and how to ensure the sustainability of outcomes. The authors emphasize the importance of involving citizens in the joint creation and evaluation of solutions, as well as the need for a holistic and integrated approach that takes into account the social, economic, environmental and cultural aspects of the recovery process.

But all these approaches require the creation of an effective management system for territorial restoration. Therefore, it is appropriate to implement the issue of territorial restoration using professional project management practices.

Management of territory restoration projects is mostly considered as PDR projects [8]. But in this work, PDR project management is limited to developing several administrative guidelines to start construction faster to avoid secondary damage. A continuation is the work [9], the task of which is to study problems and challenges, as well as examine success factors, in order to determine which critical success factors of PDR projects are most influential in avoiding failures of a particular project. The disadvantage of the work is that it considers the project, and territorial restoration during the war has significant difficulties. The main ones are that the country faces the issue of implementing a set of projects and programs for the restoration of various regions, united together for the purpose of effective management. Therefore, it is of interest to study portfolio management for territorial restoration. But then there are even more open questions – choosing a project from the portfolio, the priority of the project, etc. [10]. Therefore, to manage the portfolio, there should be a standard of portfolio management for the restoration of the territories of Ukraine. This standard will align portfolio components with strategic goals, stakeholder priorities, and values, as reflected in the ISO 21504 standard [11]. The disadvantage is that the document specifies what should be in a project portfolio, but does not specify how this can be implemented. Another work [12] considers the development of mechanisms for ensuring the fulfillment of tasks during project planning in compliance with time and financial constraints. However, the work does not assess the application of the developed methods specifically for project portfolio planning. A set of documents that explain or recommend in what way, in what sequence, in what terms, and using what templates to perform certain actions in the process of project management is presented in [13]. In the study, the author presents this as a corporate standard, but the disadvantage is that the work does not reflect the issue of the principles, processes and functions of such a standard. A continuation is the study [14], which proposes the formation of a specified management methodology. The work does not consider the issue of portfolio management, but it can become the basis for the formation of a corporate standard of portfolio management for planning the restoration of the territories of Ukraine. Also, the work does not reflect the possibility of automating the work – with minimal human involvement. The paper is supplemented by the work [15], which presents the implementation of electronic project management (e-PM). The decision-making tool in e-PM is an electronic project manager that automates the project management process. The disadvantage is that the work deals with the management of only those projects that can be clearly formalized in planning and execution control.

Thus, the analysis of the sources showed that research aimed at solving issues related to territorial restoration

through the initiation and implementation of many projects and programs is promising. But there is one problem here. Since the project approach is aimed at managing individual projects, and not at managing a set of poorly related projects and programs, it is necessary to use a portfolio approach for professional management of territorial restoration. As the analysis of literary sources showed, despite the scientific and practical results obtained, the issue of creating a corporate standard of portfolio management for planning territorial restoration was not sufficiently reflected in publications. The presence of an unsolved part of the problem, namely the lack of a corporate portfolio management standard for planning the restoration of the territories of Ukraine, necessitates the research proposed in this work.

3. The aim and objectives of the study

The aim of the study is to develop a concept of building a corporate standard of portfolio management in the course of planning territorial restoration. This will make it possible to focus the financial, labor and material resources of regions and cities on solving the most important tasks of territorial restoration in a single portfolio management system.

To achieve the aim, the following objectives must be accomplished:

- to formulate the principles and approach to building a corporate standard of portfolio management in the course of planning the territorial restoration;
- to propose processes for managing portfolios of projects and programs for territorial restoration;
- to propose functions for managing portfolios of projects and programs, the regulation of which should be included in the standard of portfolio management of territorial restoration;
- to develop standard portfolio management models for territorial restoration, for monitoring projects and programs and distributing labor and material resources among them.

4. Materials and methods

The object of research is the processes of territorial restoration.

The subject of the study is the processes of managing project and program portfolios for territorial restoration.

The research hypothesis is that the creation of a corporate portfolio management standard in the course of planning territorial restoration will eliminate the contradiction between the complexity of implementing large-scale territorial changes and the effectiveness of managing such changes. After all, an increase in the complexity of any system leads to a decrease in the efficiency of managing this system, if the management system itself does not undergo appropriate changes.

Within the framework of the concept, the impact of the specifics of territorial placement, management, and financing on the portfolio management standard was not considered. This standard reflects the strategic goals of restoring the territory of Ukraine in the post-war period and is based on professional views on the organization of management in the processes of large-scale changes in the country.

The assumption of the work is that the existing legislative framework of territory planning will be adapted to the processes of restoring the country's territories in the post-war period.

To define the functional standard of portfolio management of territorial restoration, under the portfolio of projects, a set of projects and/or programs grouped together to facilitate their management in order to achieve strategic goals was meant [11].

The work divides the key concepts related to the management of territorial restoration. They are based on the ISO 21504:2022 standard «Project, programme and portfolio management – Guidance on portfolio management». A project is a temporary effort to achieve one or more specific goals. For example, the restoration of a railway bridge on the liberated territory. A program is a group of projects, programs or individual works that are managed in a coordinated manner to realize benefits. The peculiarity of the program is the single purpose of the projects/programs included in it. For example, the restoration program of a thermal power plant may require the implementation of projects: restoration of the main building; restoration of power lines; purchase, installation, adjustment and start-up of equipment, etc. Only with the successful implementation of all projects can the goal of the program be achieved.

A portfolio is a set of projects, programs, other portfolios, or works grouped together to facilitate their management to achieve strategic goals. In this case, the strategic goal is the post-war recovery of Ukraine. Based on the organization of the recovery processes of Ukraine, the work considers portfolios that contain projects and programs for the recovery of the territories of Ukraine. This is justified by the fact that any portfolio that will be part of another portfolio will also require the use of the portfolio management standard. Projects and programs of the portfolio are considered as elements for which management procedures and functions are implemented, which will be included in the portfolio management standard of territory restoration.

To integrate the processes of territory planning with the tasks of portfolio management, the provisions of a system approach were used in the work. Strategic management methods were used to determine the configuration of project and program portfolios for territorial restoration, which are necessary to achieve the country's goals in the post-war period. The project management methodology was used to highlight the processes and functions of portfolio management. To develop the structure of the corporate standard of portfolio management, the ideas of the project management meta-methodology were used in the part that regulates the process of creating specific methodologies for portfolio, program and project management.

5. Results of building a corporate standard for portfolio management in the course of territory restoration planning

5.1. Principles and approach to building a corporate standard of portfolio management in the course of territorial restoration planning

The basis of the approach to building a corporate standard of project management is the organization of activities for implementing the MAKING-CITY project. This project was launched in December 2018 and is coordinated by the CAR-TIF Technology Center [16]. It aims to solve and demonstrate advanced procedures and methodologies based on Positive Energy Districts (PED) within 60 months. A PED is defined as «an area with annual zero energy imports and zero carbon emissions working to achieve annual local renewable energy

production with excess reserves» in the European Strategic Energy Technology Plan (SET Plan). This task is included as a component of Ukraine's recovery projects. After all, the restoration of the territories of Ukraine is their development, improvement and renewal. First of all, in the energy sector.

The main goals of the MAKING-CITY project are to demonstrate the PED concept in the two beacon cities selected in the project: Groningen and Oulu. A proven procedure was then established to support the definition of the PED concept and its replication in 6 selected follower cities. To achieve this goal, business models were identified that combine the deployment of PEDs in order to support the creation of a business ecosystem around the PED concept developed within the MAKING-CITY project.

In addition, it is planned to support and promote the Vision of the city until 2050 with the methodologies and procedures necessary to implement the PED, taking into account the deadlines until 2030. The MAKING-CITY project will organize social innovation events to identify business opportunities in cities by implementing the PED concept and involving industrial enterprises, small and medium enterprises (SMEs) and non-profit organizations (NGOs). A strong communication and dissemination strategy will be established to raise awareness of the developed PED concept and promote broad collaboration with similar projects and relevant project clusters.

Expected results of the MAKING-CITY project include the following [16–19]:

1. Increasing the use of renewable energy sources as the main energy sources, waste recovery technologies and innovative solutions to increase energy efficiency and reduce greenhouse gas emissions.
2. Significant improvement of energy efficiency, maximization of positive annual energy balance and optimization of energy produced at the district level.
3. Increasing the number of installed solutions for electric mobility, such as charging stations for electric vehicles.
4. Contribution to improving air quality in urban areas through the deployment of PEDs in a wide range of European cities.
5. Transformation of the local economy of urban areas with a positive impact on the quality of life of citizens and attracting investors.
6. Creation of more than 4,358 jobs (directly and indirectly) in eight cities participating in the project.
7. Creation of about 14,500 new jobs by replicating the PED concept in at least 20 other European cities.
8. Promoting public and private investment through proven PED replication and enhanced business models.
9. Paving the way for large-scale implementation of PED through established technical capabilities, appropriate business models and broad public acceptance.

It is these results that must be obtained, including in projects of restoration of the territories of Ukraine. And then Ukraine will become a truly European country, both in the energy and technological spheres. The ideas of this project were used to develop a corporate standard for portfolio management of territorial restoration.

The implementation of many portfolio projects requires the creation of a clear management system that would minimize uncertainty and non-standard management actions of managers and specialists. Since the non-systematic nature of actions creates many threats to the information support of the management process, understanding the order and

essence of actions, incorrect interactions and as a result incorrect decisions on portfolio projects. And, accordingly, it makes it difficult to achieve the strategic goals of restoring the territory of Ukraine.

One of the most important aspects of creating a management system is organizational. In Ukraine, this issue is handled by the Ministry for Communities, Territories and Infrastructure Development of Ukraine (Ministry of Infrastructure). Corresponding subdivisions also exist in regional executive bodies. It is the subdivisions that serve as coordinators of territorial restoration (CTR).

It will be possible to effectively implement the restoration of the territories of Ukraine only when the system of managing project portfolios aimed at restoring the territories of Ukraine will prevent the emergence of negative situations, rather than correct their consequences. It is the CTR that should be engaged in creating a portfolio management system in the state, region, and city. An important role in such a system should be given to the corporate standard of portfolio management, which is a set of normative documents regulating the structuring of projects and programs for the restoration of the territories of Ukraine. In addition, such a standard should describe the interaction of project teams with the authorities that regulate and control these projects, and specify the procedure for setting priorities and directive parameters of projects. In addition, the standard must reflect the methodological principles that regulate the order of actions in projects, criteria and order of resource distribution among projects, support the work of project teams and their motivation, set the order of project evaluation, etc.

The creation of a formal project portfolio management system based on a corporate standard will allow:

- performing the work of managers and specialists according to «unified rules»;
- effectively (according to project priorities) allocating resources;
- increasing the awareness of managers and specialists;
- orienting the work of all those involved in the projects to the achievement of Ukraine's strategic goals in the process of territorial restoration;
- improving the motivation of managers and specialists.

The creation of a corporate standard of portfolio management makes it possible to free top managers from working out the rules of interaction of subordinates in the process of making project decisions. Clearly distribute authority among members of project teams, solve strategic tasks, direct their activities to improve the management of the organization of territory restoration.

In order to successfully use project management methods to manage project portfolios, it is necessary to describe quite a few processes. Therefore, the corporate standard of portfolio management includes many documents describing the main aspects of portfolio and project management. Depending on the type of projects in certain territories, the composition and content of documents may change, but there are common features. Therefore, when developing such a standard, it is best to use an approach based on the meta-methodology of project management [14]. The meta-methodology of project management refers to the methodology of creating specific conditions for the implementation of project management methodology projects [14]. This approach is based on:

a) highlighting the features of projects and conditions for their implementation (in this case, the features related to territorial restoration);

b) selection of tools of various methodologies, which in combination will allow implementing the project management process in the best way.

The selected tools will form the basis of the corporate standard for the portfolio management of territorial restoration. In this case, the term «corporate» refers not to a separate organization, but to one of the most important areas of state activity in the post-war period.

The methodological basis of the portfolio management standard will be the principles and methods laid down in the general standard ISO 21504:2022 «Project, program and portfolio management – Guidance on portfolio management». But as follows from the concept of project management meta-methodology, there are no set rules in the creation of portfolio management standards and the specifics of projects must be taken into account, in this case, the restoration of the territories of Ukraine. Therefore, the general part of the corporate standard of portfolio management, which should be developed in the process of territory planning, for all organizations should contain principles, as well as a list and structure of project management procedures and regulations. Other documents are specified by the terms of implementing project portfolios in certain territorial organizations that will manage these portfolios.

In order for the principles of portfolio management to meet the goals and objectives of territorial restoration, we will consider the features of such projects:

1. Territorial restoration is often accompanied by missile attacks, which leads to new destruction and, accordingly, changes in project portfolios.

2. The same portfolio may contain projects in which different Customers, different Investors, different State Authorities and different Laws regulate their implementation.

3. Portfolio projects and their management are distributed in nature.

4. Restoration takes place to ensure a minimum satisfactory standard of living of the population of the territories. This requirement is basic for project investors. And first of all, these projects should concern people who suffered from the war.

5. The satisfaction of investors in projects for the restoration of the territories of Ukraine is not their economic benefit, but the understanding and informational impact on society about their participation in these projects.

6. In most cases, it is necessary not just to restore «what was» but to create a new (better) infrastructure, build better real estate objects, create more amenities for the population of the territories. Territories are developed through reconstruction.

7. Recovery is accompanied by significant capital investments. So, there is a risk of corruption. To reduce it, all projects must be open to the public. Project priorities, plans, costs, resources, etc.

8. In today's conditions, it is impossible to implement grandiose plans for the restoration of Ukraine without the use of digital management tools. After all, there is a lot of information on projects, this information is related to the activities of thousands of organizations, and it is impossible to effectively manage the recovery of Ukraine without creating a digital space of recovery projects.

Based on the highlighted features in the corporate standard, we can present the principles of managing project and program portfolios for territorial restoration. These principles determine the nature of the standard itself – the vision of the concept scope, the mechanisms and tools of its implementation, the place in the subject area:

1. The principle of dynamism. The project portfolio is not fixed once and for the entire period of territory restoration. With the arrival of funds from investors, new projects may be included in it, the priorities of those already included may change, new resources may be purchased and distributed among projects, which will lead to changes in their implementation plans.

2. The principle of entry and the information space of strategic planning. The project management standard is part of the information space that determines the nature of the implementation of Ukraine's recovery strategy. Therefore, it must comply with the strategy of territorial recovery. For example, priority management procedures and regulations should reflect the priority criteria defined in the recovery strategy for classes of projects, parts of territories, investors, etc.

3. The principle of a distributed project environment. The portfolio management standard should take into account that the projects of the portfolio are executed by different organizations, managed by different companies, and they are integrated in the strategic plan for the territory's restoration. Therefore, in the portfolio management standard, special attention should be paid to the issues of interaction and integration of efforts of different companies to restore territories.

4. The principle of selective reflection of project management processes. The portfolio management standard should reflect those project management processes that influence strategic decision-making on the restoration of the territories of Ukraine. First of all, this is information that reflects the compliance of the project's implementation with the strategic plan for territorial restoration.

5. The principle of meeting the needs of the population of the territories being restored. All projects create value. It is values that determine the necessity, importance, and priority of projects. The main value of the projects aimed at restoring the territories of Ukraine is to enable the population to live in proper conditions. Get positive from life. Accordingly, the standard should reflect criteria that evaluate the project based on the extent to which it meets the needs of the population of the territories being restored.

6. The principle of satisfaction of investors of projects of territorial restoration of Ukraine. Every investor comes to territorial restoration projects not for the sake of profit, but to help in the restoration of Ukraine. The value created by projects for investors is the satisfaction and gratitude of people living in this area. Therefore, the standard should reflect the processes of informational impact on investors as a result of project implementation.

7. The principle of organic restructuring and perspective. Every territory to be restored had some kind of infrastructure, industrial, commercial, social, and residential facilities. Since the project portfolio pursues the strategic goals of the state in the post-war reconstruction, it becomes possible to implement such projects within its framework that will rebuild and improve the structure of industrial, commercial and residential facilities and improve the infrastructure of the territory.

8. The principle of openness. Projects for the restoration of the territories of Ukraine are associated with the investment of significant funds in the construction of real estate, infrastructure projects, etc. Therefore, the question will always arise: how much money was spent on a particular project, and why exactly on it. In this case, in order to avoid corruption or suspicion of corruption, all decisions regarding the project portfolio (priorities, allocation and distribution of resour-

ces, plan and execution) must be in an open digital space. In accordance with the principle of digital management. In addition, different projects may have different customers and other stakeholders. This also requires openness of the project portfolio for all stakeholders.

9. The principle of prioritizing the interests of citizens who suffered losses during the war. This principle also determines which projects the funds are allocated to in the first place. Which projects are more prioritized. It is necessary to take into account the extent to which each project creates value for those most affected by the war. The implementation of this principle can also be ensured only by creating a digital space that reflects the needs of war victims.

10. The principle of digital management. The complexity of presenting all portfolios, programs and projects that must be implemented during the recovery of the territories of Ukraine makes effective state management of the recovery strategy almost impossible. Therefore, it is necessary to digitize portfolio management in order to create a unified state management system for the post-war restoration of Ukraine. Thus, the standard should prescribe the functions of digitization of the information space of projects and methods of digital portfolio management.

If the ISO 21504 standard says what should be done in project portfolio management, but does not say how it should be done. The formulated principles precisely answer the question of what views on portfolio project management will be the basis for managing the restoration of the territories of Ukraine.

Based on the above principles, we can proceed to defining the processes of the corporate standard of portfolio management of territorial restoration.

5.2. Processes of portfolio management of territorial restoration

Portfolio management processes should ensure the achievement of strategic goals of territorial restoration. For this, on the one hand, they must comply with the stated principles of portfolio management, and on the other hand, provide projects with information, resources, and methodology for their successful implementation. Therefore, they should be aimed at forming the project and program portfolio in such a way that it meets the above principles. On the other hand, they will be directed to influence and control the implementation of projects and programs included in the portfolio. Based on such a dualistic vision of the philosophy of project and program portfolio management, the following portfolio management processes of territory restoration can be identified:

1. Initiation of the project/program. This process differs from the initiation process in traditional portfolios by a large dependence on external factors. First of all, the process is influenced by the state, investors, and society. Moreover, it is impossible to evaluate the need to initiate a project or program based on classical ideas – whether it is economically profitable or simply profitable. Based on the proposed principles of portfolio management of territory restoration, the selection criteria are the value that a project or program creates for people affected by the war, the willingness of investors to invest in this project or program, and the availability of resources.

2. Approval of the project/program. It is mainly a technical procedure, which consists in signing relevant orders. A feature of project and program management in the field of territorial restoration is that the same portfolio can contain

projects and programs with different customers. Therefore, relevant documents are approved within the framework of different processes of different organizations.

3. Closing the project/program. A feature of the project and program portfolio for territorial restoration should be a significant dependence of the evaluation of their results on the opinions of society. Therefore, the closing of the project/program should be accompanied by a discussion and evaluation of various public and volunteer organizations and foundations. And the most important thing is to be evaluated by the people for whom these projects and programs are implemented.

4. Administration of projects/programs. Administrative functions are performed to support the projects and programs of the portfolio. They consist in the formation of project/program teams, appointment of managers, work with sponsors, the customer and other stakeholders. As in the process of project/program approval, the feature is working within the same portfolio with different organizations that perform the same roles in different projects. Therefore, it is very important to reflect in the standard clear procedures for administering projects and programs that would be mandatory even with different actors.

5. Recording of indicators. It is difficult to control a large number of projects and programs for territorial restoration with a limited number of employees. Moreover, one of the principles of portfolio management in the field of territorial restoration is the principle of openness. Therefore, a method for such project and program portfolios is proposed, which consists in reflecting key tasks and milestones in the digital environment of project management, as well as project/program events as indicators of its implementation and automatically monitoring projects and programs based on these indicators. Such tasks and milestones primarily include those on a critical path. But not always. These can be events related to obtaining permits for project or program work, receiving financial or material resources, making key decisions by CEOs who are responsible for territorial restoration.

6. Management of labor resources. The labor resources of each project/program are planned within the framework of project/program management. For the project and program portfolio, control over the total planned volume of resources and compliance of this volume with the capabilities of the region are relevant. Therefore, this process is implemented according to the same algorithms as in traditional portfolio management systems. Building an integrated schedule of the need for labor resources and control of the actual level. But there is one feature related to the fact that the recovery projects and programs included in the portfolio are different in specifics. And they require labor resources of various professions and qualifications. This diversity is much greater than that for the portfolio of an individual enterprise, the projects or programs of which are very similar in the specifics of work. Therefore, the management of labor resources of project and program portfolios is implemented in a different direction. In essence, this is HR management for projects and programs. Selection of specialists of the required profession and qualification. Maybe even from other regions.

7. Management of purchased material resources at the project/program portfolio level. As in the management of labor resources, it is mainly implemented within the framework of project/program management. It is best to bring risk management issues in the supply of material resources to the portfolio level, as well as deliveries of scarce or foreign mate-

rials, structures, equipment. Since the portfolio level is closer to the regional administration, such issues will be resolved more quickly at this level.

8. Budgeting of a project and program portfolio. Since the projects/programs of territorial restoration will be financed from different sources, which will be from different investors, the formation of a single budget is not of great importance. But due to the need to quickly implement the processes of restoring the territories of Ukraine, risks, deviations, changes, and uncertainties will arise. Therefore, at the level of portfolio management, it is necessary to have a reserve fund from which it would be possible to cover expenses that were not planned in projects/programs.

9. Management of production activities of enterprises under the project and program portfolio. This process is implemented if there are enterprises in the region that supply products to the projects. For example, metal structures. In this case, it is necessary to coordinate project/program plans with enterprise plans. In order not to do this many times for each project or program, the process of managing the production activities of enterprises must be implemented at the portfolio level.

Using these processes, it is possible to proceed to creating a functional environment of the corporate standard of portfolio management of territorial restoration.

5. 3. Project and program portfolio management functions of the portfolio management standard of territorial restoration

Let's highlight the functions of the portfolio management standard in terms of the given processes of project and program portfolio management. These functions are aimed at implementing portfolio management processes, and are not functions for managing individual projects or programs. After all, project and program management relies on the appropriate management (managers and project and program management groups), and, accordingly, management at the portfolio level cannot in any way influence, interfere, replace, duplicate, substitute those functions that this management has.

The above functions are the basis for the development of procedures in the portfolio management standard, which will ensure systematic coordinated work of project and program portfolio management groups (PPPG) in the territorial restoration (Table 1). The main role is played by the project and program portfolio manager (PPPM).

The implementation of each function can be presented as a procedure that will contain a number of interrelated actions. Most of the proposed portfolio management functions can be performed automatically, without human involvement. The issue of filling out the procedure is related to engineering, and this work can be performed by specialists in the development of a specific project management methodology using the description of functions (Table 1) based on an understanding of the business process of its implementation.

So far, the proposed concept has not been tested in projects or programs for the restoration of the territory of Ukraine. It summarizes the authors' knowledge in the field of territorial development through development [20, 21]. A similar concept was developed and implemented as part of project and program portfolio management systems in a number of development companies, such as ICD Investments (Ukraine) and the «Real Estate» business of EASTONE (Ukraine). These concepts differed from the proposed one only by a centralized management system (one company). The proposed concept is focused on a distributed control system.

Table 1

Functions of portfolio management of territorial restoration

Functions	Description	Key role
1	2	3
Project initiation process		
Registration of a potential project/program	Information about a potential project/program is entered into the database. The initiators of this are: initiative groups, central and local authorities, enterprises, public organizations	Information manager
Development of a project/program review plan	PPPG develops a plan for the study, analysis, and expert evaluation of the project/program	PPPM
Expert assessment of a potential project/program	Executors engaged in project evaluation prepare a feasibility report for the project/program, which contains financial, economic, technical, legal, SWOT analysis, etc.	Experts
A decision on a potential project/program	PPPM agrees with the CTR on the decision to launch/reject the project/program	PPPM
Project/program approval process		
Project/program registration	The CTR makes the decision to launch the project/program. The project/program is registered in the portfolio	Information manager
Creating a role structure of the project/program management group	PPPM forms an order for the structure of the project/program management group with the definition of functions, areas of responsibility and subordination of roles	PPPM
Entering a description of the project/program into the digital environment	In the digital space, information about the project/program is required in accordance with the principle of openness. Therefore, the description of the project/program is entered into the digital environment	Information manager
Project/program closure process		
Archiving information about the project/program	An information standard for restoring the territory of Ukraine is created, which will be used in new projects/programs	Information manager
Summing up	New knowledge on projects/programs is formed	PPPM
Project administration process		
Appointment of a project/program manager	An order for the appointment of a project/program manager is prepared and signed. The candidacy of the head is determined by the CTR	PPPM
Replacement of the project/program manager	An order to replace the project/program manager is prepared and signed. It can be initiated by CTR or PPPM	PPPM
Formation of a project/program team	A project/program team is formed under the approved role structure	HR manager
Making changes to the project/program team	The initiator – the project/program manager prepares proposals for changes in the team	HR manager
Formation of directive parameters and restrictions of the project/program	Project/program restrictions and policy parameters are set by the CTR and communicated to project/program teams	Project initiator
Monitoring compliance with the project/program directive parameters and restrictions	CTR monitors compliance with the specified restrictions and directive parameters	Project initiator
Process of recording indicators		
Displaying part of the project/program tasks as indicators of its execution	The PPPM defines important events for monitoring the progress of the project/program. They are recorded as indicators of the project/program implementation	PPPM
Process of managing project/program labor resources		
Creation of a schedule of labor resources of a project and program portfolio	An integral schedule of the need for labor resources is automatically calculated from project/program plans	HR manager
Coordination of schedules of labor resources with the capabilities of the region	CTR services assess the possibility of providing projects with given resources. The schedule that corresponds to the capabilities of the region is approved	CTR
Adjustment of the plans of individual projects/programs in connection with the clarification of the schedule of labor resources	Based on the schedule of permissible volumes of labor resources, the PPPM provides limits on the use of these resources to project/program managers. Which adjust the project/program plan to the allocated volumes	Project/program managers
Provision of projects/programs with scarce (limited, highly qualified) labor resources	Selection of those from the integrated schedule of the need for labor resources that will be provided by the management of the project and program portfolio. Solving issues related to their allocation for projects/programs of territorial restoration	HR manager

Continuation of the Table 1

1	2	3
Process of managing purchased material resources		
Allocation of scarce material resources and construction of a schedule of needs	An integral schedule of the need for material resources is automatically calculated, the supply of which is transferred to the project/program team	Resource manager of the project and program portfolio
Coordination of schedules for the need for material resources, the supply of which is transferred to the project/program team	The services of the governing body for territorial restoration evaluate the possibility of providing projects/programs with the specified amounts of material resources. The schedule that corresponds to the capabilities of the region is approved	Resource manager of the project and program portfolio
Adjustment of the plans of individual projects/programs in connection with the approval of the schedule for the supply of material resources	Based on the approved schedule of permissible amounts of material resources, the PPPM provides limits on the use of these resources to project/program managers. Which adjust the project/program plan to the allocated volumes	Project/program managers
Identification, assessment and planning of responses to risks related to the supply of purchased material resources	Resources are allocated, the supply of which has significant risks. A reserve fund is created. Risk elimination measures are developed. The delivery of these resources is coordinated by the project and program portfolio team	Risk manager of the project and program portfolio
Process of budgeting a project/program portfolio		
Control over the implementation of project/program budgets	The control is carried out to prepare summary information for the governing authorities for territorial restoration	Finance manager of the project and program portfolio
Formation of a reserve fund of the project and program portfolio to counter risks and unforeseen works	The reserve fund is formed from the funds of individual projects/programs and is distributed in the event of unplanned expenses	Finance manager of the project and program portfolio
Control over the use of the reserve fund of the project and program portfolio for unforeseen works and countering risks	The governing body for territorial restoration supervises the use of the reserve fund. Complies with the principle of openness	Finance director
Process of managing production activities «for portfolio projects and programs»		
Building a summary schedule of the demand for products of the region's enterprises	An integral schedule of the demand for products of the region's enterprises is automatically calculated from project/program plans	Resource manager of the project and program portfolio
Alignment of the demand schedule for products of the region's enterprises with the region's capabilities	Managers of enterprises in the region assess the possibility of providing projects/programs with specified products. The schedule that corresponds to the capabilities of these enterprises is approved	Resource manager of the project and program portfolio
Adjustment of the plans of individual projects/programs in connection with the approval of the schedule of product release at the enterprises of the region	Based on the approved schedule of allowable volumes of products, the PPPM provides limits on their use to project/program managers. Which adjust the project/program plan to the allocated volumes	Project/program managers
Control over compliance with the product release schedule at the region's enterprises	The project and program portfolio management team monitors compliance with the product manufacturing schedule at the region's enterprises	Resource manager of the project and program portfolio

In the process of implementing project and program portfolio management systems in development companies, it was possible to standardize project/program management processes, which increased the order in the actions of management personnel, decreased the number of changes in projects, and reduced the number of untimely completed works. Based on this, it can be argued that the concept of portfolio management of territorial restoration will benefit the state.

5. 4. Models for allocating portfolio resources and monitoring the progress of projects and programs

Among the functions (Table 1), there are some that can be performed automatically (without human intervention) based on a priori information about effective portfolio management solutions. These functions include:

- the function of displaying part of the tasks of the project/program as indicators of its execution;
- the function of coordinating the schedules of labor resources with the capabilities of the region;
- the function of coordinating the schedules of the need for purchased material resources of projects/programs;

– the function of coordinating the schedule of demand for products of the region's enterprises with the region's capabilities.

Building models of the above functions allows using the elements of digital project management in the portfolio management standard. When some procedures and decisions are made with minimal human involvement. In addition, the use of such models creates an algorithmic standard for the performance of portfolio management functions in the process of post-war reconstruction of the territories of Ukraine.

Models are considered that will allow the implementation of the above functions in software and information tools of portfolio management.

5. 4. 1. Model for displaying part of the tasks of projects and programs as indicators of their implementation

The purpose of developing and using this model is to include indicators and rules for monitoring the implementation of projects and programs for the restoration of the territories of Ukraine in the portfolio management standard.

It is based on information obtained from projects about events that affect the rhythm of its execution, or which are key milestones of the project. Using this information, indicators of portfolio management of territorial restoration include those events, the disruption of which significantly increases the probability of untimely implementation of the project:

$$r_{kn} \in P, p(\tau_k^{fakt} > \tau_k^{dir} / t^{fakt}(r_{kn}) > t^{plan}(r_{kn})) \geq p^{\min}, \quad (1)$$

where P – set of indicators of portfolio management of territorial restoration; r_{kn} – event in the project R_k ; τ_k^{fakt} – time of actual completion of the project R_k ; τ_k^{dir} – directive time of completion of the project R_k ; $t^{fakt}(r_{kn})$ – time of actual occurrence of the event r_{kn} ; $t^{plan}(r_{kn})$ – planned time of occurrence of the event r_{kn} ; p^{\min} – threshold value of the probability of untimely execution of the project, if some of its events occur untimely.

Automatically receiving information from projects, the portfolio management system, based on the data calculated in the process of project simulation or taken from the company's information standard, determines whether this event should be classified as a key event. And control the implementation of the project according to it.

5. 4. 2. Model for aligning labor resource schedules with the region's capabilities

The purpose of developing and applying this model is to include the rules of rational use of labor resources of the region in accordance with the priorities of projects and programs for the territorial restoration of Ukraine in the portfolio management standard.

It is based on information obtained from the projects about the loading of labor resources, and information about the available labor resources in the region. If the total demand of all projects is lower than their available volume, then the schedule of labor resources is agreed. If there are time periods where the volume of available labor resources is less than planned in the projects, then limitations in the volume of labor resources are calculated for each portfolio project:

$$\exists v_i \in V, \sum_{R_k} Z(R_k, v_i, t) > Z_{v_i}, \quad (2)$$

where R_k – project; V – set of labor resources; v_i – labor resource; $Z(R_k, v_i, t)$ – planned volume of the resource v_i in the project R_k in the period t ; Z_{v_i} – allowable volume of the resource v_i ,

$$Z'(R_k, v_i, t) = Z(R_k, v_i, t) - \frac{Z_{v_i} \cdot \frac{\pi_i}{\sum_l \pi_l} - Z(R_k, v_i, t)}{\sum_{v_j} \left[Z_{v_j} \cdot \frac{\pi_j}{\sum_l \pi_l} - Z(R_k, v_j, t) \right]} \left(Z(R_k, v_i, t) - Z_{v_i} \right), \quad (3)$$

provided that:

$$Z_{v_j} \cdot \frac{\pi_j}{\sum_l \pi_l} > Z(R_k, v_i, t); Z_{v_i} \cdot \frac{\pi_i}{\sum_l \pi_l} > Z(R_k, v_i, t), \quad (4)$$

where $Z'(R_k, v_i, t)$ – volume of labor resources allocated for the project R_k in the period t ; π_l – priority of the project R_l .

For resources that do not meet the condition (4):

$$Z'(R_k, v_i, t) = Z(R_k, v_i, t).$$

As follows from formula (3), the volume of allocated labor resources for less priority projects decreases. Moreover, it remains planned for high-priority projects.

5. 4. 3. Model of aligning delivery/production schedules of material resources of projects

The purpose of developing and using this model is to include the rules for the distribution of material resources in accordance with the importance of projects and programs in the tasks of restoring the territories of Ukraine in the portfolio management standard.

It is based on information obtained from the projects about the planned volumes of resources, the supply or production of which is carried out centrally through project portfolio management. If the total demand of all projects is lower than the amount of resources that can be supplied or produced, then the schedule of the demand for material resources is agreed. If the amount of material resources that can be supplied or produced is less than the demand of the projects, then this amount is reduced in accordance with the project priorities:

$$\exists q_i \in Q, \sum_{R_k} W_t(R_k, q_i) > E_{q_i}, \quad (5)$$

where Q – set of material resources; q_i – material resource, the delivery of which is transferred to the project portfolio team; $W_t(R_k, q_i)$ – planned volume of the material resource q_i for the project R_k in the period t ; E_{q_i} – allowable volume of the material resource q_i , which the project portfolio team will be able to deliver or produce in the period t .

Limits on the supply/production of such resources are established by projects.

For projects for which inequality is valid:

$$E_{q_j} \cdot \frac{\pi_j}{\sum_l \pi_l} > W_t(R_k, q_j), \quad (6)$$

the limits are equal to the planned volumes:

$$W'_t(R_k, q_i) = W_t(R_k, q_i),$$

where $W'_t(R_k, q_i)$ – a limit on the supply/production of the material resource q_i for the project R_k in the period t .

For projects for which condition (6) is not fulfilled:

$$W'_t(R_k, q_i) = W_t(R_k, q_i) - \frac{E_{q_i} \cdot \frac{\pi_i}{\sum_l \pi_l} - W_t(R_k, q_i)}{\sum_{q_j} \left[E_{q_j} \cdot \frac{\pi_j}{\sum_l \pi_l} - W_t(R_k, q_j) \right]} \left(W_t(R_k, q_i) - E_{q_i} \right), \quad (7)$$

provided that:

$$E_{q_j} \cdot \frac{\pi_j}{\sum_l \pi_l} > W_t(R_k, q_j).$$

The use of the given model allows providing the most priority projects with the planned amount of resources. It also allows informing managers of less priority projects about the maximum amount of resources that will be allocated to them in a given period.

In general, the developed models are the basis for managing both the execution time and the distribution of material resources among portfolio projects.

6. Discussion of the results of creating a concept for building a corporate standard of portfolio management

Project, program and portfolio management standards are aimed at improving systematization, clarity, reducing errors and changes in the activities of project managers and specialists. The projects and programs of the post-war reconstruction of the territories of Ukraine, which are very necessary for Ukraine and very complex in their totality, require specific management standards. And if the management of projects and programs can be described by standards from other fields of activity (for example, from development), then portfolio management, which is characterized by a large number of distributed in time, space and interested organizations, requires the development of its own management standard. This task was solved in the study.

The main beneficiary of projects and programs for the restoration of the territories of Ukraine is the population of Ukraine. Destroyed housing, broken infrastructure, mined territories – all this requires the implementation of projects for people, to restore and improve their lives. Stakeholders of projects and programs are various charitable organizations, foreign and domestic foundations, the state, the Ministry for Communities, Territories and Infrastructure Development of Ukraine and its units in regional executive bodies. It is in their structures that groups of professional managers should be created, who will perform the functions of portfolio management. They are the main users of the proposed portfolio management standard.

A distinctive feature of the concept of creating an information standard of portfolio management is the focus on creating a single management system for a complex temporally, territorially, and organizationally distributed set of projects of territorial restoration in Ukraine based on the portfolio management standard. The peculiarity of this concept is that it forms a scientific and methodological basis for creating a portfolio management standard for territorial restoration based on the proposed principles, processes and functions. Moreover, most of the proposed functions of portfolio management can be performed automatically, without human involvement. And this not only reduces the time for decision-making at the project portfolio level, but is also a source of more accurate and complete information, since the impact of the human factor, and therefore errors, is reduced. While traditional concepts use the general rules prescribed in the project portfolio management standard [11]. This approach made it possible to specify the actions of project portfolio managers. Moreover, based on taking into account the peculiarities of the projects of restoration of the territories of Ukraine, which is done using the ideas of meta-methodology of project management. According to the authors, the portfolio management standard, which will be created on the basis of the proposed concept, will allow integrating all those involved in the projects into a single management system.

Based on the given feature, the principles, approach, procedures, functions, models of the portfolio management standard for the restoration of the territories of Ukraine were obtained. These results reflect the features of the proposed concept and are presented by the principles, the approach to the formation of the portfolio management standard for territorial restoration, the processes and functions of portfolio management in subsection 5.3 (Table 1). In addition, the concept of building a corporate portfolio management

standard in the course of territorial restoration planning is supplemented by models of portfolio resource distribution and project progress control at the portfolio management level – formulas (1)–(7).

The presented results – principles, approach, processes, functions and models made it possible to achieve the goal of the research, namely to obtain the concept of building a corporate standard of portfolio management in the course of planning the territorial restoration. This concept allows you to solve the scientific and practical problem of building methodological foundations of effective management of projects and project portfolios in the process of post-war reconstruction of the territories of Ukraine. The proposed concept of creating a portfolio management standard is aimed at:

- introduction of unified approaches, principles, rules for managing projects for the territorial restoration of Ukraine;
- creation of unified standards for the implementation of processes and functions of managing portfolios of projects and programs for the restoration of the territories of Ukraine.

The implementation of such a standard will allow organizing a regulated interaction of managers and specialists, which will reduce the number of errors, inaccuracies, and changes in their work. This, in turn, will increase the efficiency and quality of the work of managers and specialists at the levels of projects, programs, and portfolios.

The limitations in this study are related to the narrow scope of the concept's application only to distributed sets of projects. Another limitation of this work is that it is not brought to the development of specific procedures for implementing certain functions, since this work is related to the technical implementation of portfolio management in certain conditions. The disadvantage of this work is that it has not fully undergone experimental and practical testing. The use of the standard of portfolio management of development projects, which was the basis of this development, does not fully confirm that this standard will be equally successful in the projects of restoration of the territories of Ukraine.

The importance of the task of post-war reconstruction of Ukraine requires the search for new concepts, standards, tools and mechanisms of portfolio management. And this problem is solved in the study. On the other hand, this formulation of the problem is not entirely complete in terms of the development of project management methodology. After all, the proposed concept only allows you to adjust portfolio management tools for territorial restoration projects. But the task of creating a methodology for managing portfolios of projects that have a dynamic distributed nature remained unresolved. If such a methodology existed, the standard of portfolio management of territory restoration could be obtained using the scientific and methodological basis of such a methodology. But this is the task for future research.

7. Conclusions

1. The principles and approach to building a corporate standard of portfolio management in territorial restoration planning are formulated. The peculiarity of the approach is the choice of the project management meta-methodology in the context of the Making-City project as a methodological basis for creating a portfolio management standard. 8 features of projects for the restoration of the territories of Ukraine were highlighted. Based on these features, 10 principles of portfolio management of territorial restoration were

formulated. Thanks to this, the concept of the portfolio management standard received a problematic orientation – the post-war reconstruction of the territories of Ukraine.

2. 8 processes for managing portfolios of projects and programs for territorial restoration are proposed. The peculiarity of these processes is that they arise from the selected features of territorial restoration projects and allow you to adhere to the formulated principles within portfolio management. The above processes overlap with those traditional for managing project portfolios, but have features related to the dynamic distributed nature of projects. Another feature is that, despite the large number of various projects, there is always a single planning and control body for territorial restoration.

3. 32 functions of project and program portfolio management are proposed, the regulation of which should be included in the portfolio management standard for territory restoration. The peculiarity of the functions is that they correspond to the features of territorial restoration and form a functional space for implementing the processes of managing portfolios of projects and programs of territorial restoration. Another feature of this functional space is that it is configured for automatic implementation. Functions such as the integration of resource schedules of projects, assessment of the possibility of providing them, portfolio monitoring of projects can be performed automatically. The developed functions are the basis for the procedures of the portfolio management standard of territorial restoration.

4. Models of the portfolio management standard for territorial restoration have been developed for project monitoring

and distribution of labor and material resources. A feature of the models is that they are configured for the automatic interaction of project management systems and project portfolios through a distributed information environment. Thus, input information for solving the tasks of project monitoring and distribution of labor and material resources is obtained automatically. The use of the models allows you to automatically control the implementation of projects and distribute material and labor resources in accordance with the capabilities of regional enterprises.

Conflict of interest

The authors declare that they have no conflict of interest in relation to this research, whether financial, personal, authorship or otherwise, that could affect the research and its results presented in this paper.

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References

- Husár, M., Finka, M., Jamečný, L., Ondrejčka, V. (2019). Innovations and Changing Role of Public Sector in Spatial Development Strategies: Problems and Challenges for Local and Regional Development in Central and Eastern European Countries After 2020. *The Role of Public Sector in Local Economic and Territorial Development*, 7–24. doi: https://doi.org/10.1007/978-3-319-93575-1_2
- Kistersky, L. (2023). Strategic principles of Ukraine's post-war recovery. *Economy of Ukraine*, 2023 (2), 3–16. doi: <https://doi.org/10.15407/economyukr.2023.02.003>
- Nebrat, V. (2022). Post-war economic recovery policy: experience of the Republic of Korea. *Ekonomika i Prognozuvannâ*, 2022 (4), 43–64. doi: <https://doi.org/10.15407/eip2022.04.043>
- Slyvka, T. (2022). German concerns: post-war revival and the role in economic recovery. *İstoriâ Narodnogo Gospodarstva Ta Ekonomičnoi Dumki Ukraïni*, 2022 (55), 63–76. doi: <https://doi.org/10.15407/ingedu2022.55.063>
- Horoshkova, L., Vasylyeva, O., Maslova, O., Sumets, A. (2023). River logistics amid war and post-war recovery in Ukraine: current situation and prospects. *University Economic Bulletin*, 56, 113–125. doi: <https://doi.org/10.31470/2306-546x-2023-56-113-125>
- Skrypnychenko, M. I., Kuznetsova, L. I., Bilotserkivets', O. H. (2022). Scenario based macro assessments of the post-war recovery of Ukraine's economy. *Ekonomika i prognozuvannâ*, 2022 (3), 48–74. doi: <https://doi.org/10.15407/eip2022.03.048>
- Anisimov, O., Fedoriv, P., Tkachenko, O., Lawson, J., Buitelaar, E. (2023). Rebuilding a place to call home. Sharing knowledge for the recovery of Ukraine. The Hague: PBL Netherlands Environmental Assessment Agency.
- Enshassi, A., Chatat, T., von Meding, J., Forino, G. (2017). Factors Influencing Post-disaster Reconstruction Project Management for Housing Provision in the Gaza Strip, Occupied Palestinian Territories. *International Journal of Disaster Risk Science*, 8 (4), 402–414. doi: <https://doi.org/10.1007/s13753-017-0155-4>
- Ismail, D. et al. (2014). Project management for post disaster reconstruction project: a literature review. Conference: The 4th International Malaysia-Ireland Joint Symposium on Engineering, Science and Business (IMiEJS). Penang Island. doi: <https://doi.org/10.13140/2.1.3661.4403>
- Golghamat Raad, N., Akbarpour Shirazi, M., Ghodsypour, S. H. (2020). Selecting a portfolio of projects considering both optimization and balance of sub-portfolios. *Journal of Project Management*, 5 (1), 1–16. doi: <https://doi.org/10.5267/j.jpm.2019.8.003>
- ISO 21504 «Upravlinnia portfeliamy». Available at: <https://pmdoc.ua/iso/iso21504/>
- Mulesa, O., Horvat, P., Radivilova, T., Sabadosh, V., Baranovskyi, O., Duran, S. (2023). Design of mechanisms for ensuring the execution of tasks in project planning. *Eastern-European Journal of Enterprise Technologies*, 2 (4 (122)), 16–22. doi: <https://doi.org/10.15587/1729-4061.2023.277585>

13. Derenska, Y. M. (2009). A construction of corporate management of projects system in the conditions of management of quality. *Upravlinnia, ekonomika ta zabezpechennia yakosti v farmatsiyi*, 3 (5), 29–34. Available at: https://nuph.edu.ua/wp-content/uploads/2015/04/UE-K_3_2009_29-34.pdf
14. Teslia, I., Yehorchenkov, O., Khlevna, I., Khlevnyi, A. (2018). Development of the concept and method of building of specified project management methodologies. *Eastern-European Journal of Enterprise Technologies*, 5 (3 (95)), 6–16. doi: <https://doi.org/10.15587/1729-4061.2018.142707>
15. Teslia, I., Yehorchenkova, N., Yehorchenkov, O., Kataieva, Y., Zaspá, H., Khlevna, I. (2017). Development of principles and method of electronic project management. *Eastern-European Journal of Enterprise Technologies*, 5 (3 (89)), 23–29. doi: <https://doi.org/10.15587/1729-4061.2017.109534>
16. The Making-City Project. Available at: <https://makingcity.eu/>
17. Hajduk, M., Jaško, M., Husár, M., Ondrejčka, V. (2022). Citizen engagement within the process of realisation of the city energy transition projects. *AIP Conference Proceedings*. doi: <https://doi.org/10.1063/5.0105174>
18. Husar, M., Varis, S. C., Ondrejčka, V. (2017). Analysis of The Planning Education in the Light of the Contemporary Trends in Planning. *IOP Conference Series: Earth and Environmental Science*, 95, 052005. doi: <https://doi.org/10.1088/1755-1315/95/5/052005>
19. Ondrejčka, V., Hajduk, M., Jamecny, L., Husar, M., Jasso, M. (2021). Positive Energy District Replication – Case Study of the City of Trencin, Slovakia. *IOP Conference Series: Materials Science and Engineering*, 1203 (2), 022087. doi: <https://doi.org/10.1088/1757-899x/1203/2/022087>
20. Teslia, I., Yehorchenkova, N., Khlevna, I., Yehorchenkov, O., Biloshchytska, S., Kataieva, Y. (2022). Approach and structure of special organizational, methodological and technological components of project and program portfolio management systems. *Scientific Journal of Astana IT University*, 10, 119–132. doi: <https://doi.org/10.37943/ahfo5398>
21. Teslia, I., Khlevna, I., Yehorchenkov, O., Yehorchenkova, N., Grigor, O., Kataieva, Y. et al. (2022). Development of the concept of building project management systems in the context of digital transformation of project-oriented companies. *Eastern-European Journal of Enterprise Technologies*, 6 (3 (120)), 14–25. doi: <https://doi.org/10.15587/1729-4061.2022.268139>