Economic recovery

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SCREENING TECHNOLOGIES FOR INFRASTRUCTURE PROJECTS FOR POST-WAR RECONSTRUCTION OF UKRAINIAN REGIONS

Statement of the Problem. The post-war development of Ukraine's economy will be a defining period, as the effective recovery of communities is what determines the sustainable development of regions. This, in turn, will ensure social stability and economic growth.

Infrastructure serves as a critically important foundation for the sustainable development of communities and territories. This is because it establishes not only the basic prerequisites for livelihoods but also fosters territorial integrity, enables the economic competitiveness of regions, and guarantees social cohesion. In the face of wartime challenges and the risks of post-war uncertainty, issues of infrastructure development to a greater extent define the key directions for the transformation of domestic policy**.**

The military actions have significantly impacted the functionality of local self-government, in part due to infrastructure destruction, which has also triggered substantial migration processes. The current socio-economic snapshot of territorial development is characterized by extremely uneven indicators across Ukraine's regions, which in turn necessitates a differentiated approach to rebuilding each community. Therefore, the planning and implementation of a comprehensive recovery program must be formed flexibly, based on a deep analysis of the situation in each individual settlement, taking into account its specific needs and opportunities.

The project approach serves as such an adaptive model for implementing infrastructure solutions under conditions of limited resources, high uncertainty, and multi-level governance. Infrastructure projects not only ensure the restoration of destroyed facilities but also contribute to creating new opportunities for community development. The main challenges faced by communities after the war are the destruction of critical infrastructure, a shortage of financial resources, the need for rapid housing stock recovery, migration processes, and the necessity of integrating internally displaced persons.

Meanwhile, a well-organized project management process requires a mechanism for monitoring, controlling, and evaluating results to inform further investment. Such an architecture for post-war infrastructure project design is a focus of attention for both foreign partners and investors, as well as domestic stakeholders in the post-war economic recovery of Ukraine’s regions and communities.

Furthermore, the highly unconventional conditions in which our country will find itself after the end of the military conflict will necessitate innovative approaches across all stages of approving, allocating, and utilizing investment funds.

Analysis of Recent Research and Publications. The specifics of the practical implementation of measures for infrastructure project design and the enhancement of its efficiency have been the subject of study by a number of both domestic and foreign scholars.

Thus, leading experts from the Institute of Industrial Economics of the National Academy of Sciences of Ukraine, V. I. Liashenko, V. P. Antoniuk, and Yu. M. Kharazishvili, have emphasized in various years the importance and potential of infrastructure in implementing innovative technologies, significantly increasing the investment attractiveness of territories, and developing startups and new methods of economic activity [1].

Fundamental are the recent studies by Professor V. Omelianenko on current problems of infrastructure development in the regions and communities of Ukraine, which are burdened by wartime conditions, and its role in strengthening the regional economy. Particular attention is paid to strategic priorities and modern innovative solutions in the planning and implementation of infrastructure projects, including in the postwar period [2].

Significant progress in researching methodologies for assessing the economic and social outcomes of infrastructure development in recovery areas (illustrated

by the example of affected communities in various regions of Ukraine) has been achieved by researchers from the Institute of Economic and Legal Studies of the National Academy of Sciences of Ukraine – I. V. Zablodska, Yu. S. Rohozian, and O. O. Khandii [3].

At the same time, in the works of contemporary foreign scholars Rosenstein-Rodan P.N. [4], Asheim, Grillitsch, Trippl [5], Grillitsch, Martin, Srholec [6], Frangenheim, Trippl, Chlebna [7], Tödling, Trippl [8], an analysis is conducted of the interplay between the development of regional innovation systems and effective local infrastructure development. Moreover, researchers Hansen [9] and Martin, Simmie [10] emphasize the importance of cross-border cooperation and overcoming the effects of path dependence, which is particularly relevant for post-war reconstruction.

Relevance of the research. Transparent mechanisms for attracting and allocating funds are an absolutely essential condition for effective post-war development. Among the organizational technologies that ensure the above-mentioned requirements are clear and acceptable to foreign partners, screening stands out. It operates within the framework of the Quality Infrastructure Investment Principles (QII Principles), adopted in 2019 under the auspices of the G20, and provides project risk management.

Project screening is not a one-time event, but a continuous management mechanism that helps minimize uncertainty and increase the chances of successful implementation of planned tasks.

However, given the challenges in the process of contemporary infrastructure project implementation in Ukraine, all stages of infrastructure planning for post-war regional and local development, including the project screening process, require certain adaptation.

Problem Statement. This precisely defines the purpose of the present research: to analyze the current state of regional infrastructure and the implementation of infrastructure projects across the regions of Ukraine, based on available statistical information, with particular attention to the process of evaluation and determination of compliance with planned targets; taking into account the specifics of the economic situation in Ukraine, to provide effective recommendations regarding the screening of infrastructure projects in the context of the post-war recovery of Ukraine's regions (territorial communities).

The hypothesis of this article's research is the thesis that infrastructure project screening, as a tool for assessing and subsequent modeling of Ukraine's regional post-war economic development, given its systemic nature and the presence of adaptive iterative logic, is an extremely effective technology for the process of community development strategizing based on a program-project approach. The adaptive program-project approach to community development strategizing, unlike traditional program-target planning, views projects recommended for implementation as the object of management. Thus, the program-project approach bears the hallmarks of an innovative managerial technology for territorial development.

Presentation of the Core Material. The conditions for Ukraine's post-war economic recovery will require new conceptual tools for managing territorial development, capable of integrating the promptness of renovations with a strategic long-term vision. One such lever for development is the formation of a portfolio of effective future infrastructure projects for the post-war reconstruction of Ukraine's territorial communities.

Infrastructure is the cornerstone of the country's post-war regional recovery, as it plays a key role in the development of both regions and the entire country as a whole. It is the fundamental basis for the functioning of the economy, the social sphere, and ensuring the livelihoods of the population. Furthermore, the potential for its post-war development lies within the framework of Ukraine's European integration course. Well-developed infrastructure determines not only the basic living conditions of the population but also ensures spatial integrity, economic competitiveness, ecological balance, and social cohesion [3].

At the same time, the conditions of uneven regional destruction, business relocation, labor shortages, and a deficit in infrastructure project financing necessitate differentiated planning for the development of communities and regions. This planning must be based, among other things, on analytical methods for assessing both already implemented and future infrastructure development projects [2].

The initial concept of infrastructure as a system of objects and structures was formulated by American scholars in the mid-20th century within the context of military strategy [4]. However, contemporary Ukrainian researchers assert that «in the face of wartime challenges and global transformations, the issue of infrastructure emerges as one of the key priorities of national policy. Today, it is precisely infrastructure that serves as the platform upon which new models of regional development are built, the innovative potential of communities is mobilized, and the capacity for long-term recovery is formed» [2, pp. 15-23].

In contemporary research, infrastructure is conceptualized as an integral economic category, the components of which may belong to different types of activity while being united by a common goal–providing the conditions for sustainable economic growth [11]. An important function of infrastructure is to support the spatial integrity of a territory, which facilitates the effective conduct of economic activities and social development.

Broadly speaking, infrastructure encompasses a wide range of facilities and systems that serve the economy, including both «hard» and «soft» infrastructure. Soft infrastructure comprises legal, regulatory, procedural, and other auxiliary policy frameworks, as well as

human and institutional capacities. Hard infrastructure includes physical networks, such as roads, railways, and ports. The coverage and quality of such hard infrastructure are significant in reducing trade-related transportation costs. However, the effectiveness of hard infrastructure depends on the quality of soft infrastructure [2, p. 172].

Infrastructure projects form the foundation for favorable societal development and serve as the basis for regional growth. Well-planned and constructed infrastructure surrounds modern individuals, providing them with essential benefits they use in their daily lives.

In this context, it is important to emphasize that local infrastructure projects, for instance, are capable of minimizing potential risks from large-scale failed programs or initiatives. They allow for testing resident behavior, identifying drawbacks and advantages, and only then scaling up the project. This becomes particularly valuable under conditions of critical resource shortages and the need for rapid solutions, especially in affected communities. Consequently, under such circumstances, the institutional-service component gains utmost importance in the development of soft infrastructure, marking a shift from object-focused to service-oriented thinking. This refers to infrastructure projects where not only are facilities built, but an infrastructure ecosystem is formed around them–with new management formats, business models, service institutions, and feedback evaluation mechanisms.

Modern, and particularly post-war, conditions for Ukraine's economic recovery and modernization demand new ergonomic approaches to the strategic planning of regional development. This must take into account the extreme scarcity of resources while also necessitating increased community participation in financing infrastructure solutions [12].

A pool of challenges unprecedented for modern Ukraine – encompassing crisis and post-crisis development, serious demographic shifts, deindustrialization, the loss of a significant part of the workforce and the capacities of relocated businesses – simultaneously coexists with the conditions of decentralization and climate transformation. This, in turn, shapes unconventional approaches to solving these issues within infrastructure project design, as well as within the monitoring of already implemented projects, their impact on regional development, and the assessment of risks for future strategic periods.

Consequently, the present day forms a modern view of infrastructure not merely as a material base, but also as a resource that integrates social, managerial, innovative, and investment components. This integrated resource aims to achieve the goal of sustainable, inclusive, and innovative development of regions and the state as a whole.

Infrastructure Design in Post-War Recovery Modeling. Utilizing Screening Technology.

Research on infrastructure project design is a focus of contemporary scientific thought. In particular, previous studies by the author have noted:

- The speed of communities returning to normal life requires qualified synchronous actions and measures. At the same time, communities lack experience and specialized knowledge in planning and optimizing the post-war recovery process, organizing project work, and attracting funding. Therefore, full-fledged organizing participation by the state and local self-government bodies in coordinating processes at the local level is necessary and appropriate, and the fastest possible restoration of communities is the driving mechanism for national economic renewal.
- Planning for future development should be based on a thorough strategy, not a set of clichés. Particular attention should be paid to communications with external stakeholders and potential grantors, as well as project and community promotion. It is the local self-government bodies that should define the community's development vision, priorities, and funding sources. Communities need targeted support to develop detailed project documentation for projects that will be submitted for grants.
- The process of strategizing and achieving relevant goals for self-development in territorial communities requires the adoption of effective management decisions, tools, and mechanisms precisely for efficient strategic planning, programming, and project management.
- The program-project approach to community development strategy considers the projects recommended for implementation as the object of management. Thus, the program-project approach exhibits the characteristics and serves as an innovative management technology for territorial development.
- In terms of practical implementation, the process of infrastructure restoration for communities should be subject to regular oversight, comprehensive monitoring, and reporting. The monitoring necessary for effective restoration must include specific performance triggers: indicators of adherence to work timelines, quality of work execution, budget volumes, etc. Then, based on assessing the effectiveness of infrastructure project implementation in a specific region, actionable recommendations can be provided to maximize the efficiency of the process for wartime and post-war infrastructure restoration and the improvement of community residents' lives [12-13].

According to UN data, in order to maintain the current level of consumption for a growing population, which will reach 10 billion people by 2050, three times more resources than currently available will be required. Certainly, in the context of Ukraine's post-war recovery, particularly given the extreme scarcity of resources, the efficient use of the investment funds that will be available is highly advisable [14]. Furthermore, it is worth noting the number of economic and social development

infrastructure projects that have already been implemented in the regions of Ukraine. For the purpose of high-quality strategic planning in subsequent periods, it is necessary and appropriate to conduct analytical research on already completed projects, their impact on regional infrastructure, and to determine future funding trajectories.

Infrastructure is a modern service complex that requires almost constant reconfiguration, as it must reflect the constantly changing demands of society, based on feedback from the residents of the territory.

Therefore, organizational technologies are needed, which are an important part of project management. They help organizations choose the most valuable and appropriate methods for implementation, one of which is screening.

Project screening is a process used in project management to evaluate and filter potential projects based on their feasibility, potential for success, and alignment with the organization's strategic goals. It is a crucial step in the project selection process, as it helps organizations prioritize their resources and focus on projects most likely to deliver value [15].

The importance of project screening for both recipients of infrastructure investments and donors is unquestionable. We believe that project screening is important for several reasons:

- Resource allocation: It helps allocate resources efficiently by prioritizing projects that are most likely to succeed and provide the highest return on investment.
- Risk management: It helps identify and mitigate potential risks associated with each project.
- Strategic alignment: It ensures that selected projects align with the organization's strategic goals.

The Infrastructure Agenda of international organizations, adopted in 2019 within the framework of G20 activities, endorsed the Principles for Quality Infrastructure Investment (QII Principles). These principles define what sustainable and investment-attractive infrastructure projects should be. The six QII Principles comprehensively cover various aspects of infrastructure project preparation and implementation, including economic, governance, social, and environmental dimensions [16]:

1. Alignment with Sustainable Development Goals and support for national economic growth.
2. Economic efficiency throughout the project lifecycle.
3. Environmental friendliness and minimal negative impact on the surrounding environment.
4. Project safety and resilience to emergencies.
5. Social orientation of project decisions.
6. Management effectiveness and transparency in investment decision-making.

A relevant challenge for infrastructure projects in many countries, from the perspective of analyzing potential risks of participation in their implementation, is that stakeholders lack comprehensive information for decision-making, particularly investment decisions. Institutional investors face the greatest difficulties in understanding whether infrastructure project initiatives align with their mandates and investment policies, which include sustainable development approaches. In contemporary Ukraine, these risks are further exacerbated by the state of war, active hostilities, significant labor force outflow, uncertainty risks, and business relocation, including abroad.

Given this, the development of the QII Principles has taken into account, to the greatest extent possible, the requirements and approaches of international financing organizations and investors, which are currently tasked with helping to bridge the infrastructure gap.

The stakeholders in the infrastructure investment process can be schematically represented as follows:

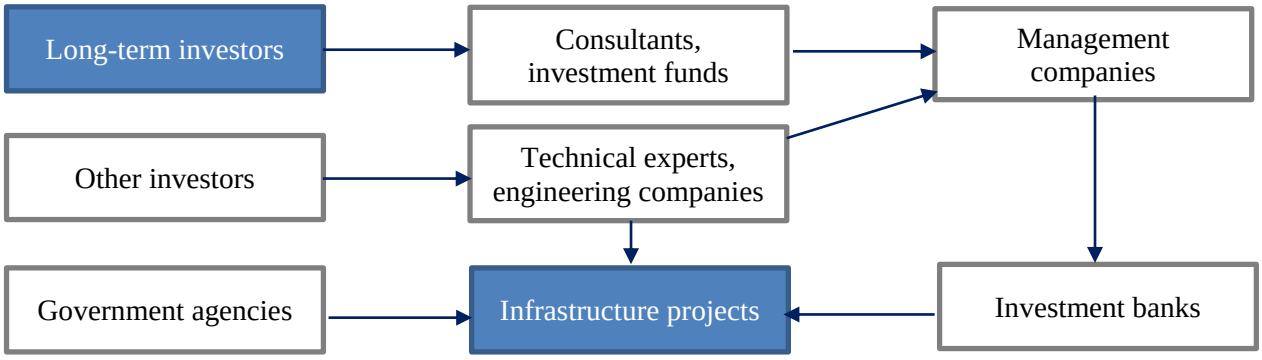

Fig. 1. **Stakeholders in the infrastructure investment process**
Source: compiled by the authors

We believe that, as part of the practical implementation of ESG principles in the contemporary and especially post-war period, in order to enhance investment attractiveness, it is necessary to develop a system for assessing the quality and sustainability of infrastructure projects, an integral part of which will be screening.

Project screening models. Advantages of their use. There are several models that can be used for screening project ideas, such as:

- *Financial Models:* These models focus on the financial aspects of a project, such as the expected Return on Investment (ROI), Net Present Value (NPV),

and the payback period. For instance, a project with a high ROI and a short payback period would be considered more favorable.

• *Scoring Models:* These models use a weighted scoring system to evaluate various aspects of a project, such as its strategic alignment, potential risks, and anticipated benefits. Each aspect is assigned a weight based on its importance, and the project with the highest total score is selected.

• *Bubble Charts:* These are graphical models that display projects on a plot based on two or three important criteria, such as cost, benefit, and risk. Projects that fall into the most favorable area of the chart (e.g., high benefit, low cost, low risk) are selected [17].

Using project screening models offers several *advantages:*

Objective Decision-Making: These models provide a systematic and objective way to evaluate and compare projects, reducing the influence of personal biases and subjective judgments.

Integrated Assessment: They allow for a comprehensive project evaluation, taking into account numerous aspects such as financial viability, strategic alignment, and risk.

Clear communication: They provide a clear and visual way to communicate assessment results to stakeholders, facilitating the justification of project selection decisions.

The European Commission, in the Guide to Cost-Benefit Analysis of Investment Projects – Cohesion Policy Economic Appraisal Tool 2014–2020 (https://www.funduszeeuropejskie.gov.pl/media/115282/Przewodnik_AKK_14_20_pl.pdf), refers to screening in infrastructure project design as a rapid comprehensive-analytical assessment of a project's profitability, aimed at filtering potential projects based on their feasibility, success potential, and alignment with strategic objectives. Screening helps in determining priorities for key reforms [19].

Challenges in the Modern Implementation Process of Infrastructure Projects in Ukraine. According to data from the DREAM analytics portal, Ukraine has currently completed or is in the process of implementing 195 infrastructure projects and programs, with a total value of almost UAH 13 trillion. [20].

The infographic on the unified state project portfolio (number of projects and programs by economic sector and funding volumes) is as follows (Fig. 2, Table 1):

Table 1. **Estimated cost of projects by sectors**

Sector	Projects
Energy	7,46 trillion
Municipal infrastructure and services	66,64 billion
Transport	732,82 billion
Dwelling	0,00
Education and science	4,45 billion
Healthcare	52,96 billion
Social sphere	8,16 billion
Environment	0,00
Public services and related digitalization	0,00
Legal activities and litigation	3,02 billion
Public Finance	2,60 billion
Public safety	2,50 billion

Source: [20]

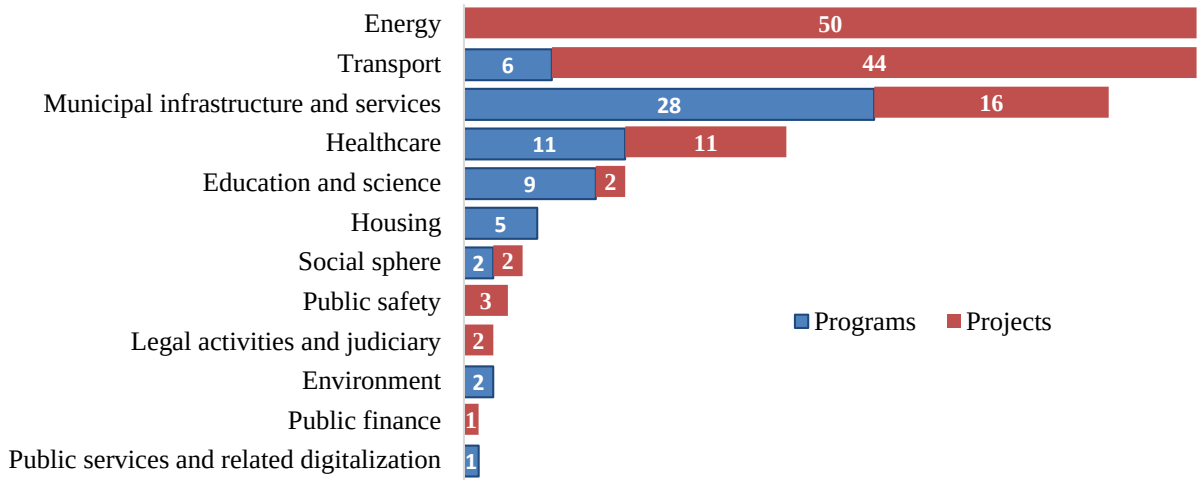

Fig. 2. **Number of infrastructure projects and programs by economic sectors, units**
Source: [20]

Statistics by regions of Ukraine regarding the implementation of infrastructure projects are as follows:

• Total number of projects – 14949;

• Total estimated budget – 2.03 trillion UAH,

• Available funding 181.3 billion UAH.

• Financial coverage – 9% The infographic by regions of Ukraine looks like Fig. 3.

From the provided charts, it is evident, first, that there is an objectively conditioned yet significant disparity among regions in the implementation of infrastructure projects, and second, that the figures concerning the financial coverage of these projects are striking in their inadequacy.

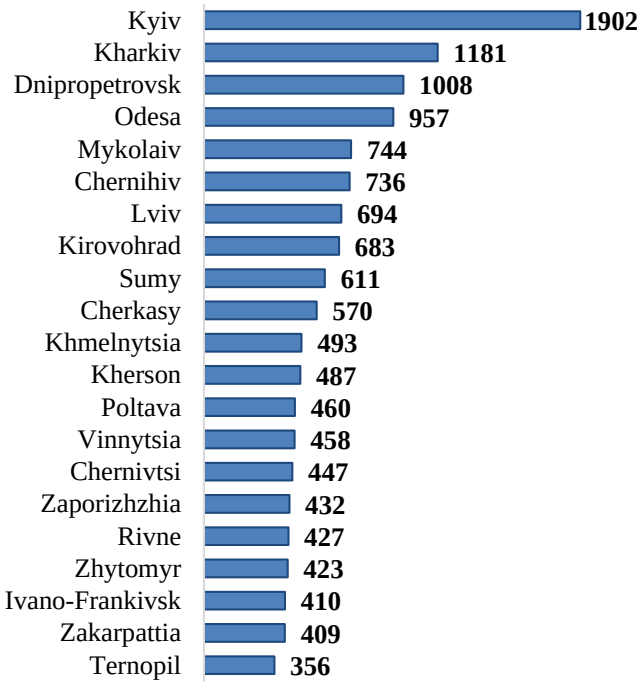

Fig. 3. **Number of infrastructure projects implemented by regions of Ukraine**
Source: [20]

Project screening is a complex task of analyzing its key parameters aimed at determining compliance with planned indicators, identifying deviations, and developing corrective actions. It covers all stages of the life cycle – from the start of work to their completion – and serves as the basis for making management decisions.

In contrast to superficial oversight, evaluation involves a thorough analysis of a range of aspects:

- efficiency – how well the project aligns with the assigned tasks;
- resource intensiveness - the optimal use of budget, time, and human capital.
- risks – potential threats and their impact on project execution outcomes;
- quality - compliance of completed tasks with the project stakeholders' expectations.

Therefore, project screening is not a one-time event but a continuous management mechanism that helps minimize uncertainty and increase the chances of successful implementation of planned tasks.

Project Screening Methods. Financing infrastructure projects in the postwar period is a complex task that requires attracting significant funds from various sources, including international financial institutions, the state budget, the private sector, and donor organizations. The state budget is also an important source of infrastructure project funding; however, its capacity may be limited due to the consequences of the war and the need to allocate resources to social needs. Consequently, public policy should be aimed at developing effective mechanisms for distributing budget funds and creating favorable conditions for attracting additional resources.

Public-private partnerships can play a significant role in financing, as they allow for attracting business investments to implement strategically important infrastructure projects. Another source of funding is crowdfunding platforms and public initiatives, which enable raising funds from the population and the international community. Under conditions of recovery, communities can independently initiate projects and attract resources through online platforms, promoting active citizen engagement in the restoration process [18].

However, developing long-term strategies for Ukraine's post-war economic recovery, taking into account international experience, requires the creation of monitoring and evaluation mechanisms for the implementation of restoration measures. This will help ensure the sustainable development of territorial communities and the country's overall recovery.

Project evaluation requires a comprehensive approach, depending on the scale, specifics, and stage of implementation. Modern professionals use a variety of methods to obtain objective data for making management decisions and completing tasks.

The following architecture for screening infrastructure projects in the context of post-war recovery in the regions (territorial communities) of Ukraine is proposed (Fig. 4):

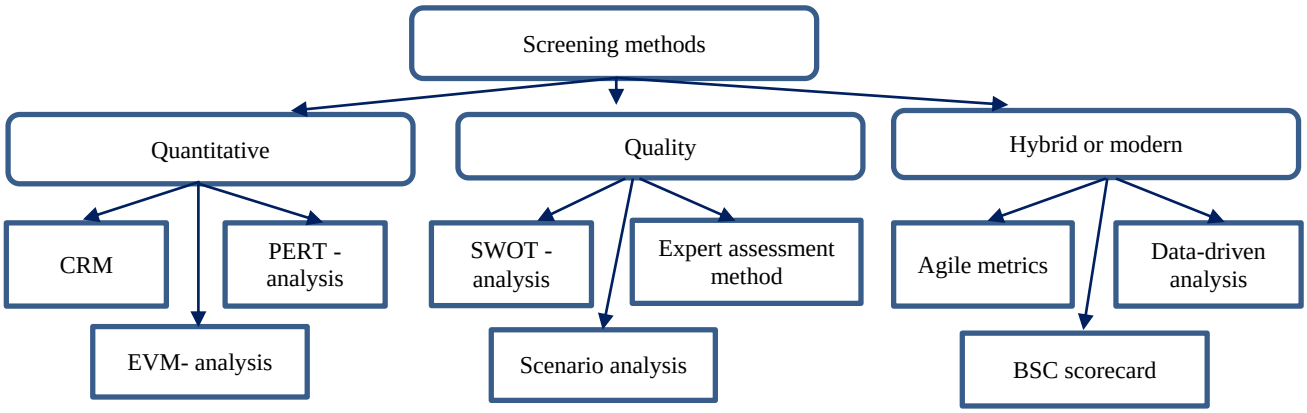

Fig. 4. **Case study of screening methods**
Source: compiled by the authors

The details of the methods presented in Figure 4 are as follows:

Quantitative Methods

- Critical Path Method (CPM) – identifies key tasks that affect project deadlines, helping the team to optimize time expenditure.
- PERT analysis - uses probabilistic estimates of project duration, which is particularly useful for tasks with high uncertainty.
- Earned Value Management (EVM) – integrates planned versus actual data for cost, schedule, and work performed.

Qualitative methods

- SWOT analysis – identifies the strengths and weaknesses of the project, as well as potential opportunities and threats to the accomplishment of tasks.
- The method of expert assessments – involves specialists for a subjective, yet professional analysis of key aspects.
- Scenario analysis – examines different potential courses of events, helping to prepare for possible changes in project implementation plans.

Hybrid and Modern Approaches

- Agile metrics (sprint velocity, task completion rate) provide operational assessment in flexible methodologies.
- Data-driven analysis – uses Big Data technologies and machine learning to predict outcomes.
- The Balanced Scorecard (BSC) - evaluates a project from several perspectives: finance, processes, customers, development.

Proposals for a combined metrics case in the infrastructure design of post-war regional recovery.

Particular attention should be paid to metrics as indicators of a system's state in general and as indicators of the effectiveness of infrastructure projects in particular. Thus, contemporary Ukrainian researchers V. Omelianenko and I. Mitsenko have proposed adaptability metrics and evaluation metrics. However, the proposed tools are applied by the researchers only for strategizing the post-war development of industrial regions [2].

At the same time, the development of recommendations for the effective post-war development of regional infrastructure and the strategizing of post-war infrastructure planning must consider the potential of interregional cooperation, as well as be adapted for nationwide projects.

Therefore, we consider it necessary to supplement the presented set of metrics with Agile metrics. This toolkit is the most adapted and has proven itself best in conditions of extreme dynamism and high uncertainty. Furthermore, thanks to their flexibility and rapid adaptability, Agile metrics help maintain competitiveness by enhancing the efficiency of project teams and improving the quality of final results. However, implementing Agile requires not only a change in management approaches but also the development of a metrics system that allows for an objective assessment of work outcomes, identification of problem areas, and optimization of processes. The main task is not merely to state facts but to provide data for process improvement. In Agile approaches, assessment is iterative in nature, allowing for flexible adaptation of the project to changing working conditions.

The choice of a specific method or their combination depends on the objectives: operational control requires agile metrics, while strategic management calls for comprehensive approaches like the Balanced Scorecard (BSC).

Thus, it can be argued that contemporary scientific discourse is a synergy of various methodological approaches to strategizing the development of regional infrastructure, social and territorial innovations, marketing, and digital solutions. The toolkit for conducting comprehensive assessment and selection of projects for future strategizing is also a subject of interest, as the success of the evaluation largely depends on the tools. They enable the automation of data collection, visualization of indicators, and prompt management decision-making.

The key categories of tools for conducting comprehensive project analysis are as follows:

Project Management Systems

- Jira – powerful tool for agile teams that offers built-in development velocity metrics, burn-down charts, and task performance analysis.
- Microsoft Project – a comprehensive solution for traditional project management with PERT analysis and critical path functions.
- Asana/Trello – cloud platforms with task tracking and workflow automation capabilities.

Innovative technologies

- AI-analytics (Clari, Forecast) – artificial intelligence-based systems for predicting task completion timelines and risks.
- Blockchain trackers – ensure transparency and data immutability in distributed teams.
- VR-simulators – are used in complex engineering projects for virtual evaluation of work results.

Tool selection should be based on the specifics of the project: for IT development, Jira and GitLab are optimal; in construction, Primavera is indispensable; and for startups, lighter solutions like Trello are suitable. It is important that tools not only provide data but also integrate into existing business processes, ensuring a continuous cycle of evaluation and improvement. Modern cloud solutions enable real-time remote project monitoring, which is particularly relevant for distributed teams.

Guidelines for Structuring a Project Screening Assessment

Project evaluation is a structured multi-level task that requires the sequential execution of interdependent stages to obtain reliable results. A well-organized evaluation system enables not only the assessment of the project's current state but also the forecasting of its development, as well as the formulation of effective corrective measures. A detailed structure of each key stage of this process is proposed (Table 2).

Table 2. **Stages of conducting a screening assessment of infrastructure projects**
Source: compiled by the authors

Evaluation stage	Essence
Preparatory stage of screening	The initial stage includes a set of preparatory measures. Defining goals and objectives: • formulating specific measurable goals; • highlighting key aspects for analysis; • establishing a time frame for the assessment; • forming an assessment team; • selecting qualified specialists; • assigning roles and areas of responsibility; • organizing a system of interaction between participants Developing a methodological framework; • selecting assessment criteria and indicators; • determining methods for collecting and analyzing data; • establishing measurement scales and standards.
Development of the regulatory framework	development of evaluation regulations: • approval of reporting forms; • coordination of procedures with interested participants Particular attention is paid to coordination with key project participants, which ensures objectivity and practical value of future conclusions. At this stage, it is also important to determine the evaluation budget and necessary resources.
Data collection and systematization	This phase includes a set of measures to obtain reliable information: • Monitoring of current indicators; • Qualitative research; • Documentary analysis; • Data verification
Analytical data processing	The stage of deep processing of the collected information: • Quantitative analysis; • Qualitative analysis; • Comprehensive assessment
Forming conclusions	• assessment of the degree of achievement of goals; • determination of the efficiency of work of team members; • analysis of rational use of resources; • identification of successful practices and problem areas

Each stage requires thorough methodological development and must be adapted to the specifics of the particular project, taking into account its scale, industry affiliation, and implementation phase.

Regular evaluation based on this framework enables the creation of a continuous improvement system for project activities, minimizes risks, and enhances the overall effectiveness of infrastructure project management.

Conclusions. Post-war community reconstruction is the mainstream of today, since delays or ineffective recovery processes result in increased population migration, decreased quality of life, and reduced access to utilities and other basic services.

Strategic planning for post-war development is, first and foremost, a navigation mechanism in the face of external and internal uncertainty, multifaceted influences, and fundamental economic changes confronting countries that have experienced deep post-crisis structural deformations.

The process of strategizing, implementing regional infrastructure projects, and enabling territorial communities to achieve relevant goals for their own development requires the involvement of effective management decisions, tools, and mechanisms specifically for efficient strategic planning, programming, and project management.

An adaptive program-project approach to community development strategizing, in contrast to traditional program-target planning, considers projects recommended for implementation as the object of management. Thus, the program-project approach possesses the features and serves as an innovative management technology for territorial development.

Simultaneously, infrastructure project screening serves as a systemic tool for assessing and subsequently modeling regional post-war development, as it is systematic, incorporates adaptive iterative logic–meaning the ability to analyze and model the further development process of regional infrastructure based on obtained indicators and quantitative metrics.

Post-war development is a unique phenomenon that requires both short-term and long-term strategic planning. The research materials present and justify a number of recommendations for enhancing the effectiveness of infrastructure planning in the post-war development of regions and communities, including:

- A comprehensive approach to the strategizing process has been proposed by augmenting the program-project approach, substantiated in the author's previous research as an innovative management technology for territorial development, with an institutional-service component. This addition enables the shift from an object-based to a service-oriented mindset.
- detailed combined case of infrastructure project metrics, proposed to supplement the presented case with agile metrics. This particular toolkit is the most adapted and has proven most effective in conditions of extreme environmental dynamism and high uncertainty;
- the architecture of screening methods is presented, and the stages of its implementation are systematized.

For Ukraine, which will emerge from military actions under non-standard, unique conditions, the process of modeling post-war recovery will require a holistic vision of the effects, extremely rational use of resources, and not just quantitative, but precisely qualitative revival of all spheres of life.

Undoubtedly, regional infrastructure is the cornerstone of the country's post-war recovery. It is strategizing and modeling based on the efficient use of resources and the assessment of the impact of already implemented infrastructure projects that become intellectual tools for forecasting the country's development, integrating information from various sources, and designing interrelationships between the actors of post-war recovery over a time horizon.

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Borodina O., Korytko T. Screening technologies for infrastructure projects for post-war restoration of regions of Ukraine

The research conducted in the article is devoted to the consideration of screening as a technology for assessing and filtering potential projects for the development of regional infrastructure based on their feasibility, potential for success and compliance with the strategic goals of post-war development of the territory. The close connection between infrastructure development and the transformation of domestic policy in the context of the challenges of wartime and the risks of post-war uncertainty is emphasized. Based on the analysis of the current socio-economic cross-section of territorial development, the need for a differentiated approach to the reconstruction of each community is noted. Transparent mechanisms for attracting and controlling the use of investment funds are identified as a necessary condition for effective post-war development. Screening, as one of the organizational technologies for project management that provide the above requirements, is a relevant and acceptable mechanism for foreign partners. It lies in the plane of the Principles of Quality Infrastructure Investment (QII Principles), adopted in 2019 within the framework of the G20 activities, and ensures project risk management. The analysis of screening as a continuous management mechanism that helps minimize project uncertainty allowed the stakeholders of the infrastructure investment process to be systematized and a case study of screening methods was proposed. The study paid special attention to metrics as indicators of the state of the system in general and indicators of the effectiveness of infrastructure projects, and a combined approach to determining their set in the process of infrastructure design of post-war development was proposed. Based on the research materials, the entire process of conducting a screening assessment of infrastructure projects was systematized with its detailing into stages. It was found that the adaptive program-project approach to community development strategizing, unlike traditional program-target planning, has the characteristics and plays the role of an innovative management technology for territorial development.

Keywords: screening, infrastructure projects, post-war development, regions, project management.

Бородіна О. А., Коритько Т. Ю. Технології скринінгу інфраструктурних проєктів для повоєнного відновлення регіонів України

Дослідження, проведене у статті, присвячено розгляду скринінгу як технології оцінки та фільтрації потенційних проектів розвитку регіональної інфраструктури на основі їхньої доцільності, потенціалу успіху та відповідності стратегічним цілям повоєнного розвитку території. Наголошено на тісному зв'язку розвитку інфраструктури та трансформації внутрішньої політики в умовах викликів воєнного часу та ризиків повоєнної невизначеності. На основі аналізу актуального соціально-економічного зрізу територіального розвитку відзначено необхідність диференційованого підходу до відбудови кожної громади. Необхідною умовою ефективного повоєнного розвитку визначено прозорі механізми залучення та контролю за використанням інвестиційних коштів. Скринінг, як одна з організаційних технологій управління проєктами, що забезпечують наведені вимоги, є актуальним та прийнятним для іноземних партнерів механізмом. Він лежить у площині Принципів якісних інфраструктурних інвестицій (Принципи QII), прийнятих у 2019 році у рамках діяльності G20, та забезпечує управління ризиками проєктів. Аналіз скринінгу як безперервного управлінського механізму, що допомагає мінімізувати невизначеність проєктів, дозволив систематизувати стейкхолдерів процесу інфраструктурного інвестування та запропонувати кейс методів проведення скринінгу. Окремої уваги у дослідженні приділено метрикам як індикаторам стани системи взагалі та індикаторам ефективності інфраструктурних проєктів, запропоновано комбінований підхід до визначення їх набору у процесі інфраструктурного проєктування повоєнного розвитку. На основі матеріалів дослідження проведено систематизацію усього процесу проведення скринінгової оцінки інфраструктурних проєктів із деталізацією його на етапи. Констатовано, що адаптивний програмно-проєктний підхід до стратегування розвитку громад, на відміну від традиційного програмно-цільового планування, має ознаки та виконує роль інноваційної управлінської технології розвитку території.

Ключові слова: скринінг, інфраструктурні проєкти, повоєнний розвиток, регіони, управління проєктами.