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STAGES OF FORMING A PROJECT PORTFOLIO BASED ON THE “3M PYRAMID” MODEL

The basic standards of the project portfolio management are considered using a model of a schematic representation of a single process. The approaches to describe project portfolio management methods are identified, and a graphical model of their visualization by the main stages and management processes is proposed. A block diagram of the main stages and steps to form a project portfolio is built highlighting elements for which scientific research can be carried out. Fig. 9, tab. 2, ref. 21.

Keywords: project portfolio management standards, management processes, flowchart, portfolio formation phase.

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Statement of the problem. Recently, more and more attention has been paid to project portfolio management. International and national standards, as well as the standards of professional organizations, are published and periodically updated. Many scientific articles are devoted to various problems of portfolio management: from methodological issues to the development of specific methods and tools.

Despite a sufficient number of recommendations, from a practical point of view and based on the specific contextual conditions when it is necessary to plan and implement portfolios, most of them are not applicable. This is primarily due to the form of presentation and description of the relevant tools without disclosing their essence and application features that complicates their identification and effective use.

This issue arises in the phase of forming a project portfolio especially often, when the key issues related to the choice of managerial methodology, approaches and methods are identified at the very beginning.

Analysis of recent relevant studies and defining the unresolved part. In [1] author showed that solving the key portfolio management tasks identified by him according to the PMI model of the organizational context of project portfolio management, namely, the translation of strategic goals into portfolio components, allocation of resources to priority components, assessment of portfolio components, profit tracking, a number of theories are being applied - the modern theory of investment portfolios, multicriteria utility theory, organizational theory, theory of systems and dynamic processes, theory of complexity. The author also considers theories (complexity theory, theory of constraints) that can contribute to the development of the theoretical foundations of project portfolio management. However, he did not disclose which specific methods and tools are used in the framework of these theories and how (based on what) they should be chosen.

In [2-4], an analysis was made of the methods for managing a project portfolio, various types of groupings and classifications were proposed, and advantages and disadvantages were described. At the same time, authors agree that there are no universal methods, their precise description, identification and understanding of at what stages, phases, for which portfolio management processes and for solving which specific tasks particular method can be used.

Lack of the presentation of portfolio management as a combination of methodology, methods and tools in many sources makes it relevant to focus on their systematic and holistic consideration. One of the universal models of this
representation is the “3M Pyramid” model developed at the scientific school of Professor Rach Valentyn. This study is being conducted in the frame of this model.

**The purpose and objectives of the article.** The purpose of the article is to consider the features of the stages of forming a project portfolio based on the “3M Pyramid” model. Research objectives:

1. To consider existing standards for managing a project portfolio from the perspective of understanding existing models to describe the processes, stages, steps of portfolio management (in particular, the stage of portfolio formation).

2. To identify approaches, models within which it is possible to describe and identify existing methods of portfolio management in order to determine their areas of applicability to solve problems at the main stages of project portfolio management.

3. To describe stages of the project portfolio forming based on the “3M Pyramid” model with subsequent analysis of the elements and results of studies conducted by the author according to his proposed method to form the project portfolio of large socio-economic entities.

**Main findings.** In essence, standards are documents of a methodological level since they set out the basic principles, approaches, theories, models and tools for managing a project portfolio. It should be noted that any standard gives only general recommendations regarding management that should be adapted to the specific environment of the portfolio implementation. The subject of our analysis is, first of all, the study of models that describe the main processes, stages, steps of portfolio management, as well as determining trends in changing visions of how to manage project portfolios in modern conditions.

So, for example, the standards [5-7] (indicated in the order of their adoption), which are developed based on a number of international standards, are process-oriented, that is, based on the use of conceptual models revealing the features of project portfolio management processes. To compare these standards, we use a schematic representation of the process elements (fig. 1). It contains eight key elements (input source; input; process; resource; control action; output; output receiver; controls, monitoring, control points for measuring results). We will use this scheme as a template for analysis and presentation of the considered standards for project portfolio management.

Fig. 1. Schematic representation of the elements of a single process
Source: modified by the author based on [8].
In [5] a descriptive model is presented which is based on the identification of three groups of processes:
- processes to ensure portfolio management (collecting information about conditions, constraints and requirements for a project portfolio, formalizing managerial procedures and parameters for evaluating a project portfolio);
- processes to form a project portfolio (identifying, evaluating, prioritizing portfolio components, optimizing and balancing a portfolio, authorizing a portfolio);
- processes to monitor and control a project portfolio (monitoring the implementation of a portfolio, managing changes).

There is no process flow chart, however, it is indicated that the processes for managing a portfolio of projects are carried out sequentially, with a certain cyclicity. Each of the processes has a description of its purpose, and exit. Separate sections of the standard are devoted to the issues of organizing portfolio management, mainly the role and organizational structure of management, requirements for documentation and terminology (a graphic model of the relationship between high-level concepts of project portfolio management is given), which in its entirety, has a greater impact on the process element of the control action. Fig. 2 shows that this standard describes only two elements (they are highlighted by filling) out of eight existing ones, according to a schematic representation of the process structure. Moreover, we are not talking about the completeness of the description of these elements, but only about the fact of the presence in the standard of any information that essentially corresponds to them.

![Diagram of project portfolio management process](attachment:portfolio_management_diagram.png)

Fig. 2. Structure occupancy of a single portfolio management process according to GOST R 54870-2011 Requirements for projects portfolio management
Source: modified by the author based on [5].

Basic principles and concepts of project portfolio management are considered within the framework of the standard [7]. This standard also provides graphic models of the portfolio structure and management. Considerable attention is paid to the creation of conditions that must be met in order to implement and maintain the portfolio management processes (according to the process description scheme, measures to create the conditions for the implementation of processes may partially relate to the input source element). There is no sequence diagram of the processes, only their list is available for the project portfolio: defining the goals; identification of potential components; development of a portfolio plan; evaluation and selection of project components; checking the portfolio as for compliance with the strategic goals of the organization; assessment of portfolio performance indicators and reporting; balancing and optimizing the portfolio. Moreover, each process has a general description revealing its essence and a list of the main stages and tasks.
recommended for implementation. The process structure corresponding to the specifics of this standard is presented in fig. 3.

Fig. 3. Structure occupancy of a single portfolio management process according to ISO 21504: 2015. Project, program and portfolio management - Guidance on portfolio management

Source: modified by the author based on [7].

In the standard of multiproject management [6] projects, programs and portfolios are considered in the context of the organization, therefore, special attention is paid to the features of construction a management system, which should be characterized by flexibility, universality, modularity, compatibility, transparency, retentiveness and as a part of the organizational management system. In this regard, all managerial processes within the organization are divided into groups: strategic management processes, multi-project management processes (portfolio, program, project management), supporting project management processes, product creation processes (production processes). The graphic model of processes reflects their logical sequence of execution at two levels of management: operational and strategic and in the context of five groups of project management processes (initiation, planning, execution, control and monitoring, completion), all indicating the most important relationships between them. To describe the graphical model of the execution sequence for each of the selected twelve processes, a tabular form is used indicating the name of the process, goals and objectives, description of the process (procedure) through input, methods, output. Within the framework of the presentation format of the unit process that we have chosen, we will determine the structural completeness and features of the description of processes in this standard (fig. 4).

Considering that the process model is described in the standard, and not the unit process, which has its own focus and implementation procedure, we provide the model features through contextual conditions in the form of the influence of external elements on the single process.

In general, comparing the considered standards [5, 7], we can conclude that they are comparable by content and complement each other (table 1). The differences are mainly appear when understanding of the processes of the portfolio optimization and balancing, which are implemented both during the initial formation of the portfolio at the planning stage as well as when changes are made at the implementation stage. An advantage of the standard [6] is the availability of significant volume of recommendations regarding conditions for portfolio management, as well as the assessment and selection of portfolio components.
Fig. 4. Structure occupancy of a single portfolio management process according to DIN 69909-1: 2013-03 Multi Project Management-Management of project portfolios, programs and projects.
Source: modified by the author based on [6].

Table 1

<table>
<thead>
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<tr>
<td>The process of collecting information about the conditions, limitations and requirements for the project portfolio. The process of formalizing management procedures and project portfolio assessment parameters.</td>
<td>Creation of conditions for project portfolio management</td>
</tr>
<tr>
<td>The process of identifying portfolio components.</td>
<td>Identification of potential components of a project portfolio</td>
</tr>
<tr>
<td>The process of evaluating project portfolio components. Priority setting process. The process of optimization and balancing.</td>
<td>Development of a project portfolio plan Evaluation and selection of project portfolio components</td>
</tr>
<tr>
<td>Project portfolio authorization process.</td>
<td>Checking the portfolio of projects for compliance with strategic goals</td>
</tr>
<tr>
<td>The process of monitoring the implementation of a project portfolio.</td>
<td>Assessment of project portfolio performance indicators and reporting</td>
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<tr>
<td>Change management process.</td>
<td>Project portfolio balancing and optimization</td>
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When comparing [5–8], there are tendencies of complicating the understanding of portfolio formation processes, taking into account the context of their implementation and from the perspective of the organization of managerial levels. A significant disadvantage of the mentioned sources is not only the partial occupancy of the individual elements of the processes (as shown in fig. 2-4), but also the almost absolute absence of a description of the recommended approaches, methods and tools to implement the processes.

To a large extent, this disadvantage is offset by PMI standards [9-12]. In these standards the processes to manage project portfolio have a detailed description of the elements: input, tools and procedures for implementation, output. Given the significant volume of these standards (from 100 to 150 pages), they set out information that can be directly correlated with the content of other elements: the source of the input, the recipient of the output, resources, control, monitoring and modification. These sources consider a whole set of graphical models, process diagrams, process flow diagrams that show the interconnection of processes of various levels of management, the logic and sequence of execution of portfolio management processes, their binding to the main areas of knowledge. Based on that, it can be argued that the substantive and structure occupancy of the single process scheme selected by us for comparing the standards is the most complete in this case (fig. 5).

![Fig. 5. Structural outline of a single portfolio management process according to a series of PMI standards](image)

Source: created by author.

Different versions provide a different list of portfolio management processes. In [9-10] two groups of processes are distinguished: alignment (identification of components, classification, evaluation, selection, prioritization, portfolio balancing, authorization); tracking and control (reviews and reports on the portfolio, changes in strategy).

In [11] three groups of processes are described: identification, alignment, authorization, and control. They include sixteen processes that have been assigned five areas of expertise in portfolio management. New processes describe the
procedures for developing a strategic plan and a roadmap for a portfolio, focusing on communication plans, risk management, as well as change management, information, supply and demand, portfolio value.

The fourth version of the standard [12] outlines eight key principles to manage a project portfolio and six areas to perform management. The basic model is not a process model comparable to areas of knowledge, but a continuous life cycle consisting of four main stages: initiation, planning, implementation, and optimization. Stages are disclosed through the main tasks at the portfolio level and the level of individual components. The main difference from other standards is the emphasis on continuity and flexibility of the life cycle and, therefore, management processes and tools. Therefore, only goals that need to be achieved at each stage are described (without a clear regulation of the processes that are usually described taking into account the specifics of the particular organization where the portfolio is implemented). Flexibility refers to the ability to perform steps not sequentially, through a series of iterations, which may be due to the influence of a number of internal and external factors in relation to the portfolio. The standard also uses the concepts of the key component of the portfolio and key portfolio variables, their assessment from the perspective of identifying not only SUCCESS factors, but also NOT SUCCESS of the portfolio, that is, taking into account the possible negative impact of the portfolio being implemented on the activities of the entire organization, and not only from the standpoint of successful achievement of strategic goals.

Also, in this standard, special attention is paid to the concept of a portfolio VALUE for organization and the concept of a portfolio COMPLEXITY (factors to determine the complexity of a portfolio and select an appropriate management structure are listed). Recommendations are made regarding the use of approaches (process, system, holistic) for making portfolio management decisions in modern conditions.

Thus, an analysis of the standards showed that most of them use process models for describing management procedures, which are comparable in essence with each other but have varying degrees of detail and presentation details. The PMI standards are most developed and accessible for understanding and application from these positions.

Within solving the second task, we found an approach that was designed to describe any methods based on various methodologies, presentation forms in a single structure. This approach was developed in the scientific school of Professor Rach Valentyn and published in [13]. The approach provides a description of a number of elements: the name of the method; areas of use; goals; essence; objective basis; basic rules; result; application of the result; implementation techniques. In our opinion, this description structure can be supplemented with the following elements: format of the source data, necessary information; conditions of use; list of the main stages of the method (application algorithm); advantages and disadvantages (in comparison with analogues); prospects for modification and development.

Using this approach makes it possible to compare various methods of the project portfolio management. To visualize the areas of application of project methods, in accordance with the tasks they solve, it is proposed to use a graphical model that reflects the main processes and stages of managing project portfolios according to current standards (fig. 6).

Fig. 6 conditionally shows the applicability zones (A, B, C) of various methods. Consideration of specific examples using the approach to the description of methods and the proposed graphical model is a perspective area for further research.

Studies within the third task, focusing on the processes and stages in the standards, we offer an approach to form a project portfolio, which provides the implementation of three stages: conceptual, project preparation and portfolio
configuration. It implements the main provisions arising from the “3M Pyramid” (P3M) model - methodology-method-methodology as the main methodological tool to organize any activity [14, p.143].

Unlike the various models and approaches discussed in the standards above, the proposed approach the name of the first stage clearly conveys its meaning - conceptualization, which corresponds to the first level of the P3M model - methodological. This stage differs in meaning from the first stages described in the standards and identified as “the stage of creating conditions for project management”. Practice shows that insufficient attention to the methodological principles of any activity, which is increasingly manifested in portfolio management, leads to inefficient management in the dynamic, rapidly changing conditions of the modern knowledge economy.

The second stage corresponds to the level of the method of the P3M model. If we consider the methodology as a doctrine of the organization of activity, then the method (from Greek. “methodos”) is the path to implement this activity. From the position of portfolio formation, the path is traced through a set of projects that claim to be included in the portfolio.

The third stage is methodical, instrumental. At this stage, practical activities are being implemented (in our case, a project portfolio is being formed).

Let we reveal in more detail each of the stages, representing it through certain stages. To indicate the stages we will use graphic displays of the elements of flowcharts provided by the international standard ISO 5807: 1985. It was last reviewed and confirmed in 2019 [15] that is, it is relevant today.

Let we consider the stages of the conceptual stage (fig. 7).
Fig. 7. Flowchart of the conceptual stage of the project portfolio formation phase
Source: created by author.

Portfolio formation is impossible without a strategy for the development of socio-economic entities/objects (SEE). The main objective of the portfolio is to achieve more effective management and ensure the achievement of strategic goals. As SEE we understand the forma entities/objects of any organizational level: organizations, regions, industries, states, etc. Issues related to the formation of a strategy are not considered in this article. It is an independent task. In the block diagram, this task is...
indicated by the element “sub-program”. As part of this phase, a decision is also made regarding the appropriateness of applying particular portfolio management methodology. After completing of this stage, the conceptual stage of portfolio formation begins.

The initial step of the conceptual stage is the step of identifying features of projects and portfolios. They are determined by the specifics of a particular SEE and its development strategy. Features (and requirements developed based on them) are associated not only with the specifics of strategic goals, the management system adopted in the SEE, but also with the conditions under which both individual projects (portfolio components) and the portfolio as a whole will be implemented.

In the case when the features of the projects and portfolio have already been identified, they proceed to the next stage. Otherwise, a decision is made about the need to study to identify such features. In the flowchart, the stages associated with conducting research, scientific justification, development of new solutions, etc. graphically highlighted and combined into a research component.

Understanding the features of projects and portfolios helps to determine the criteria for inclusion of projects in a portfolio. At the same time, the procedure similar to the situation described above is repeated - making a decision on the justification and selection of a criterion (from the list of known, used) or developing a new one, corresponding to the specifics and characteristics of developing a specific portfolio.

The next step is to select methods, approaches, models and procedures that, taking into account the identified features of the projects and a specific criterion for including the projects in the portfolio, ensure its most effective formation. If suitable methods, models, procedures are not available, their development is required.

The need to ensure multiple repetition of calculation procedures (taking into account their complexity and duration of implementation), when modeling the composition (structure) of the portfolio from a set of potential components, as well as when optimizing and balancing the portfolio at the stage of its formation, determines the need for their implementation in the form of software (SW). In this turn, a situation arises to consider making a decision regarding the choice of the appropriate SW from the list of existing ones, otherwise its development.

It should be noted that for the effective implementation of the method and its procedures, taking into account the results obtained from the previous stages at the conceptual stage of portfolio formation, it is also necessary to develop methods to represent the parameters of candidate projects (in terms of feasibility, value, duration, cost, efficiency) and methods for their presentation in SW format.

The implementation of these stages will allow proceeding to the stage of preparation of projects (fig. 8).

The first step at this stage is to develop options for financing schedules for project portfolios. For one or more than one alternative portfolios aimed at achieving priority strategic goals, several options for schedules can be developed with the same amount of funding, but with different timing of its beginning and end, the total duration of financing, as well as the distribution of funding by time stages.

The next steps are to announce a competition for financing development projects. A correctly announced competition ensures 50% success in achieving priority strategic goals for the achievement of which a portfolio of projects will be formed. The main thing at this stage is to make project documentation templates available to potential participants on time. The template should contain all sections, the completion of which, according to the specified clear recommendations, will make it possible to state in full all the primary information, the processing of which will provide secondary information, on the basis of which a decision will be made whether or not to include the project in the portfolio, about its place in the priority list of project financing, etc.

"Управління проектами та розвиток виробництва", 2019, №1(69) 129
The stage of collecting projects for participation in the competition involves the initial processing of project applications, identifying incorrect presentation of primary information, the essential mistakes or distortion of project data. Initial processing allows to prevent projects that are not related to the priority objectives of the strategy, which must be ensured, first of all, by the correct formation of the project portfolio.

After collecting pre-tested projects, the next stage is coming - preparation of projects in a format that allows to enter all the necessary information into the project portfolio formation SW. The main objective of such preparation is to bring different performance indicators of the project products to a single basis. In most cases, such a basis cannot be indicators in monetary terms. For example, for social projects the effect can be expressed in the number of people who can use the product of the project.

All stages of the second stage are more practical and do not provide essential research component. However, they use research solutions and the development of the previous conceptual stage. For example, the identified features of the implementation of portfolios and projects should be taken into account when developing schedules for financing portfolios, reflected in the requirements for projects during the tender, in templates for submitting projects (component proposals). The information collected must be in the format necessary to use in the procedures of the selected methods and for inclusion in the SW. This is achieved through the use of appropriate techniques formalized in the previous, first stage of the portfolio formation phase.

The third stage is devoted to the configuration of the portfolio (fig. 9). It begins with the stage of grouping and ranking projects.

For the purpose grouping criteria (key descriptors) are used, which can already be determined, selected from the well-known, or should be developed within the research component. Typically, the grouping criteria are strategic goals that are priority for the portfolio. Each goal is achieved by the implementation of certain projects. These projects they include in the group of projects related with this goal. The ranking criterion is the temporary priority of achieving a particular strategic goal. If it is desirable to achieve two or more goals at the same time, then these goals should have the same rank.
The next step is the formation of the portfolio. It is consistently implemented for each of the developed financing schedules. The formation of the portfolio should be carried out automatically taking into account the indicated priorities of the projects, their parameters of feasibility, value, duration, cost and effectiveness. Each calculation for each financing schedule forms the primary plan of the corresponding portfolio and the corresponding financing schedule.

The resulting portfolio financing schedules go through the optimization procedure, which is the next step. The need to optimize can be caused by significant...
discrepancies between the basic (initial) schedules for financing portfolios (the amount of finances allocated for certain periods of time to achieve strategic goals) and the formed (planned) financing schedules for the formed portfolios. At the same time, a situation may arise when basic financing is not enough to finance certain components of the portfolio (in general or for certain time periods). In this case, optimization is possible due to rebalancing the portfolio, changing the priority of its components, revising the relationship between them, which leads to a change in the planned schedule for the implementation of the portfolio and the corresponding financing schedule. The basic schedule often is much less adjusted, however, this option can also be considered under certain conditions. Another situation is possible when the basic financing schedule is redundant in relation to the planned portfolio financing schedule both as a whole and for individual time periods. In this case, optimization turns to finding reserves, surplus funding, and adjusting the base schedule. Using the SW allows to quickly recalculate and check the portfolio parameters by replacing the base schedule with the planned schedule for its financing.

At the next stage, various portfolio options are compared based on the criterion of maximizing portfolio performance. Designing such a criterion is a rather difficult task, requiring appropriate research.

The final preparation of the portfolio plan is to determine the list of projects included in the portfolio, the procedure for their implementation, constructing a portfolio financing schedule, calculating indicators for the total portfolio duration, portfolio performance parameters, etc. performed in the penultimate stage. All of the above portfolio parameters are calculated automatically according to the finally approved funding schedule, project groups and their ranks.

The stage of configuring the portfolio ends with the stage of creating an archive of projects and portfolios. The purpose of archiving is to form the knowledge base accumulated when working with this portfolio, which can be used to compile new portfolios or to make changes to those already formed when they are reviewed at the implementation phase.

As can be seen from the above figures 7-9, when forming a project portfolio, at a number of its stages (this is especially relevant in the first and third stages), situations often arise related to the lack of criteria, methods, procedures, techniques and etc. These circumstances necessitate the research in the indicated areas. Such moments appear almost ever, because project and portfolio activities are unique and not repeatable, requiring a creative, creative approach. Therefore, at the indicated stages, in the proposed approach, research components are identified. We encountered these components when working with portfolios for big socio-economic entities (BSEEs). By now, we have already developed a number of elements of the research component within the previously considered block diagram of the phase of formation of the project portfolio (tabl. 2). It should be noted that when solving the indicated issues in the field of the research component, the problem arises of selecting the appropriate theories and approaches, thereby linking with the contents of the previously mentioned works [1-4, 12] regarding the use of various methodologies and theories to solve problems of managing a project portfolio.

**Conclusions and perspectives.** The analysis of actual standards for managing project portfolios from the standpoint of a single process presentation model allowed establishing the following.

Most standards use process models to describe managerial procedures. However, in different standards, the degree of detail of their description is different. The PMI standards are sufficient for understanding and practical application. The expediency of applying the “3M Pyramid” model to identify approaches, methods to manage project portfolios, as well as identifying areas of their application at the main stages of portfolio management is shown.
Table 2
Developed elements of the research component within the block diagram of the project portfolio phase of formation

<table>
<thead>
<tr>
<th>Research components</th>
<th>Author’s findings</th>
<th>Findings and perspectives</th>
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| Identification of features of projects and portfolios from a position of strategy | [16-19]          | Features of the activities and development strategies of the BSEEs expressed in the requirements for the project portfolio:  
- projects are combined in pools (categories) containing many projects of the same nature;  
- the economic performance of all project products and the portfolio is described by one indicator;  
- the possibility to finance the portfolio is presented in the form of a financial flow indicating the maximum and minimum values for time periods (month, quarter);  
- unused in a separate period, finances allocated for a specific project can be transferred to the next period of its financing in the amount of not more than 10% of the amount planned in the period from which they are transferred.  

Features of the activities and development strategies of the BSEE presented in the project requirements:  
- it is advisable to set the schedule for financing projects in the form of a cumulative S-shaped curve, the minimum time step is a month, quarter;  
- the same project on different BSEE under potentially identical resource and time conditions has actually different S-shaped implementation curves;  
- products of the same projects in different BSEEs have different value orientations;  
- the different priority of values at different BSEEs increases the uncertainty of predicting the results of projects;  
- each project has a different temporal effectiveness, and the use of the project product or its individual parts can begin before the completion of the project and portfolio;  
- the effectiveness of the same type of projects depends on the characteristics of the BSEE. |
| Development of criteria for inclusion of projects in the portfolio                  | [20, 21]         | A criterion for inclusion of the project in the portfolio based on: an indicator of maximizing the hourly performance of the portfolio is proposed (the portfolio includes projects that maximize the total effectiveness at an earlier point in time from the start of project implementation indicator of project attractiveness: consisting of coefficients, each of which varies between 0-1. The first is the coefficient of temporary attractiveness of the project. The second is the project feasibility ratio. The third is the reach ratio of the effect. For each of the coefficients, a methodology for their determination is being developed. |
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<table>
<thead>
<tr>
<th>Development of a method and procedures for portfolio formation</th>
<th>[21]</th>
<th>In the process of development.</th>
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<tbody>
<tr>
<td>Software development</td>
<td>-</td>
<td>In the process of testing/adjustment.</td>
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<tr>
<td>Development of project presentation methodology</td>
<td>[21]</td>
<td>A presentation technique and a project presentation template are being developed. The template contains requirements: regarding S-shape representation of financing and effect on the value indicator of the project product; descriptions of the innovativeness of the project idea, team competence, value attractiveness of the project product for stakeholders (beneficiaries) - potential participants of the project product consuming process.</td>
</tr>
<tr>
<td>Development of a methodology for preparing projects within software format</td>
<td>-</td>
<td>Instructions, recommendations for preparing projects in software format are being developed. Methodology for determining the reach of the effect. Methodology for determining the temporal attractiveness of a project. Methodology for determining the feasibility of a project. The technique of bringing effects of various in nature to a single base of comparison based on the method of multi-criteria scales. The standardization technique for any project performance indicator based on its translation into point values from 0 to 5 using the procedures of the multi-criteria scaling method. Methodology for determining the value attractiveness of a project product for stakeholders (beneficiaries).</td>
</tr>
<tr>
<td>Development of criteria for grouping and ranking projects</td>
<td>-</td>
<td>In the process of development. Grouping by type of project-target orientation and ranking by effects.</td>
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<tr>
<td>Development of an optimization criterion for a project portfolio financing schedule</td>
<td>-</td>
<td>In the process of development</td>
</tr>
<tr>
<td>Development of a method, procedure for optimizing the schedule for financing a project portfolio</td>
<td>-</td>
<td>In the process of development. In the future, a procedure that is based on a comparison of the basic schedule for portfolio financing with the planned schedule for financing costs for projects (components) of the formed portfolio. Identification of reserves, surplus financing. Basic schedule adjustments and re-checking the project portfolio for feasibility with an optimized schedule.</td>
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Based on the “3M Pyramid” model, it is proposed to present the phase of forming a project portfolio as three stages: conceptual, projects preparation, and portfolio configuration. The contents of each stage are disclosed in detail using standard graphic elements applicable when constructing flowcharts. The availability of research components in the first and third stages is established. Their elements determine those subject areas of research that require the development of scientifically based results. The list of elements of the research components is presented, according to
which the author obtained and published findings to form the project portfolios of big socio-economic entities. As part of the development of a method to form project portfolios of big socio-economic entities, it is expedient to continue researches in order to develop methods for preparing projects in the format of the software used, to develop criteria for grouping and ranking projects, and to optimize the financing schedule of a project portfolio.

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д.т.н., проф. Бушуєв С.Д.

Стаття рекомендована до публікації 27.03.2019 р.