

# **SUBSTANTIATION OF THE METHODOICAL APPROACH TO FORMATION OF A PORTFOLIO OF PROJECTS OF STRATEGIC CHANGES AT THE ENTERPRISE**

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Project Management has recently become increasingly popular. There are a number of reasons for this. In management theory, this branch should be considered relatively young. The first mention of project management is related to the US space sector and dates back to 1953, and the position of "project manager" was mentioned in the magazine "Harvard Business Review" in 1959. From the late 60's to early 70's began to form the first institutes of project management, international associations, which was further developed and took the form of standards, which primarily combined such areas of knowledge as: time, cost, quality, requirements, resources and communications management. Subsequently, procurement and risk management was given, later – integration management, in 2013 – stakeholder management, and in the last issue of 2018, the emphasis was on adaptation to the project environment, which includes strategic change management, along with flexible development methodologies of products.

Project management was primarily seen as a methodology for managing results, which was due to the inability of classical management models in the mid-80's to provide the required level of dynamics. In addition, the high level of dynamics places new demands on the functioning of enterprises, change is seen as an integral part of its development and the need to use, project management due to its flexible methodology is often seen as change management.

Project management in the domestic scientific space emerged in the mid-80s of the twentieth century in the field of systems analysis and information technology, which led to leadership in systems description of processes, a high level of standardization of management practices, widespread use of mathematical models and more. Now this field of knowledge explores the phenomena and essence, connections and patterns in the processes of management of project, programs and portfolios.

The limited use of significant scientific achievements in the field of project management in economics is due to the fact that the formers are classified as technical. On the other hand, the interdisciplinary nature of the interaction of economic research and the project approach has significant potential for new scientific results, mainly in the economic sphere.

Implementation of partial changes allows to be limited exclusively to management of separate projects. Instead, our study emphasized that strategic change involves the reconfiguration of subsystems and processes, which requires comprehensive transformations in various areas of the subject area. This indicates a lack of use of project management, and requires the development of a methodology for managing project portfolio of strategic changes.

From the point of view of one of the most famous researchers in the field of project management in Ukraine S. D. Bushuyev, portfolio management should be understood as aggregate management of both projects and programs of the organization to optimize productivity, equalize portfolio risk parameters and harmonize projects in relation to the organization's strategy as well as their implementation within the budget [1, c. 25].

From a financial point of view, portfolio management is the understanding of centralized and systematic management of one or more portfolios, which include relevant prioritized, authorized (officially recognized), coordinated and controlled projects in order to achieve certain business goals [2].

The goals of project portfolio management are considered [3, p. 64]: their choice among many alternatives to achieve the goals of the enterprise; balance between short-term and long-term projects,

between risks and income from their implementation; proper provision of projects with resources together with the desired level of efficiency of their use; finding ways to improve the efficiency of the project portfolio; comparative assessment of projects and its interactions; ensuring a sustainable and effective project management mechanism; providing advice and guidance to managers at the appropriate levels to make adequate decisions.

Given that the implementation of strategic changes, the company aims to reconfigure the existing subsystems and key processes of value added, purpose of these changes must be detailed for each company, which is pre-agreed with the current strategy of the enterprise. The portfolio management of strategic change projects should be focused on the realization of their general goal, which serves the "global" project selection criteria.

Based on the above statements, for the effective implementation of strategic changes, it is advisable to combine the management of programs and portfolios, where the latter are traditionally considered at the aggregation level higher than programs.

Based on the above, the methodology of project portfolio management differs from project management. There are a number of approaches to project portfolio management. It is worth focusing on the most common.

Standard for Portfolio Management presents the best practices of portfolio management, including the features of program management, which emphasizes the need to establish links with the strategy of the enterprise, the ability to track the achievement of goals through integrated management. Also considered in this standard cooperation with national regions. Process groups within this standard consider equalization, monitoring and management. In addition, they consider the preliminary output of the strategic planning process in the form of a plan, and at their output there are component processes. The management algorithm provides for the current strategic plan to define and categorize goals, identify key performance indicators, identify opportunities, followed by a phase of identification, categorization, evaluation and selection, which are logically related to prioritization, portfolio balancing and approval, followed by implementation and reporting, followed by a review of the portfolio and reporting on it, based on the results of which the need to change the strategy is considered. The group of equalization processes is aimed at providing current information to achieve goals and evaluate the components of the portfolio. The group of monitoring and control processes ensures the implementation of actions in accordance with the metrics of progress [4].

Identifying portfolio components involves creating a list of projects, sub-portfolios, programs and initiatives. The compliance of the strategy is assessed. Grouping of projects involves their redistribution into 4 standards according to the characteristics of work processes, management structures, team intelligence and information technology. Project evaluation and selection involves the definition of criteria and indicators for each group of projects, which is carried out on the basis of quantitative analysis. Each group's projects have an appropriate set of criteria, and estimates can be based on systems of conditional metrics and weights. As a result, a list of recommended projects is formed. At the stage of determining priorities, projects are ranked: priorities within the group are placed on the group of the portfolio or on the whole portfolio as a whole. The criteria can be used: the level of profitability for the company, the significance for the portfolio and the degree of adaptation to the environment. At the stage of portfolio balancing, investments are distributed among its components depending on value creation and risks. The analysis is carried out in terms of groups of projects. To optimize them, projects are moved from one group to another. The accounting of resource provision must be carried out in accordance with the terms of needs. At the stage of portfolio authorization, its structure is approved and implementation begins. Given the many stakeholders of all projects, the search for common interests and the creation of a project community is carried out [5; 6].

Creating portfolio value plays one of the most important roles in substantiating its structure. The paper [5] presents the methodology of value-oriented portfolio management with the classification of portfolios by types of competing values of K. Cameron and R. Quinn and the spirals of development of the organization D. Beck and K. Cowen. To create new values, the portfolio must take into account the expectations of stakeholders, requires the identification of their values by evaluation, combining experience to obtain the planned value [6].

Another standard is P2M [7], developed by the Japan Engineering Development Association and the Japan Project Management Association. In this standard, the focus is on creating value for both projects and programs and portfolios. Accordingly, program and portfolio management requires additional action beyond action on projects, which requires both costs and additional benefits. The methodology explains the combination of programs and portfolios with business strategy.

In addition to these standards, there are a number of methods of portfolio management. But unlike standards, which cover all management processes in general, the methods are considered in most ways to justify the best set of projects in the portfolio. In addition to the methods of substantiating the composition of the project portfolio by criteria, there are other approaches to their development.

Summing up the generalization, it is necessary to make a number of key provisions on the approach to substantiating the portfolio of strategic change projects. Among the models and approaches, there is no unambiguous set of defining characteristics according to which the project portfolio should be formed. In fact, all models use a different set of criteria for selecting projects for the portfolio together with the mechanism of this selection. It is worth noting the difference between the "criterion" and the "parameter" of the project.

The parameters should be understood as the magnitude, the value of which allows to distinguish individual objects from each other. Instead, the criterion is a measure used to classify objects within a set. Such differentiation is critical to understanding the description of projects in the portfolio. The set of parameters allows you to create a preliminary description of all projects, some of which are used as criteria for selecting projects for the portfolio. This allows us to classify the considered features within the models as parameters and as criteria. All estimates that classify each project should be recognized as parameters. Individual parameters, according to the values of which projects will be selected in the portfolio, are the criteria. The criteria themselves should be classified into selection, restrictive and optimization criteria. The first group of criteria concerns those parameters whose value is described by binary numbers: in case of compliance the project is accepted and has value "1", in case of discrepancy it is rejected and receives value "0". Such criteria should include consistency with stakeholders. From the above generalization taking into account the interests of stakeholders is not presented in all models. Based on the developed concept of strategic change management, the need to take into account their interests is critical, which allows us to consider it as selective. Another criterion for selection should be the compliance with the overall goal. Due to the very high importance of this criterion, it should be considered both as a selection and as optimization criteria. In the stages of pre-selection of projects in the portfolio, those that do not meet the goal of strategic change should be abandoned at the earliest stages. In the future, depending on the level of compliance of each project with the strategic goal, a final portfolio of projects is formed.

Restrictive criteria, the total values of which establish the possibility of implementing a certain number of projects in the portfolio, include the amount of the budget and available resources. Unlike the previous selection criteria, these are not unambiguous and categorical. Strategic changes are long-term and flexible, that is why considering the availability of resources or the available budget is not entirely consistent with their content. On the other hand, the analysis can generate a very high number of projects, the implementation of which, even with allocated budgets can become an unbearable burden for the company. This indicates the need to determine the targeted allowable amount of the budget, which should be guided by prior approval of the portfolio. The relationship between resources and budget is to determine the composition of the required resources by groups: in the absence of resources of the required quality in the required amount, the budget can be used to obtain them. Human resource planning remains the most difficult issue. Involvement personnel to the projects of strategic changes implementation that do not correspond to the existing ones at the enterprise in terms of specialties or qualification level, as well as training for the staff of the enterprise requires separate coordination within the portfolio. The second critical resource is the existing equipment, which requires the analysis of capacity reserves or justification for the acquisition of new based on the objectives of the portfolio. In practice, this criterion is used in the financial dimension at the preliminary stage of substantiation of the portfolio structure. Time constraints can be used as selection criteria when the implementation of projects within the portfolio requires more time than the duration of the pessimistic scenario of entering the market for a new product, or in a situation where the duration of the project in

the relevant field is greater than the company's permission to implement it. This allows us to consider this criterion as variable selection. In any other situation, time is considered as a project parameter.

All other features of the model should be considered as optimization criteria. First of all, it concerns risks. This criterion together with the expected economic efficiency is most often used in all considered models.

This criterion includes the assessment of the degree of uncertainty and allows to take into account the sensitivity to the external environment. Its importance is justified by the fact that its use is used to assess the success of the project. Estimation of profitability can be carried out using the classical formulas for calculating the net present value of the theory of the value of money over time, or using the parameters of probable scenarios of project implementation. The analysis of the relationship of projects should be considered not as criteria but as a parameter, as within the portfolio the priority is to achieve the strategy of the enterprise, and in the context of strategic change management – the implementation of set of goals. Instead, interrelated projects that shape programs require separate research, because a program, unlike a portfolio, cannot exclude a project without critically harming its goals.

On the basis of substantiated key provisions on the selection of project criteria in the portfolio of strategic changes, we present the general sequence of the approach to its formation.

The first stage. Preparatory. As a result of the analysis of the level of environmental impact and assessment of the potential for strategic changes, projects for their implementation at the enterprise are developed, each of which is described by the following parameters: duration, amount of required resources by types (with mandatory human and technical), different scenarios (pessimistic, optimistic and most probable), description of the most significant risks of the project, determined goal of implementation and expected economic efficiency.

The second stage. Selection of alternatives according to selection criteria. Many projects are brought to the attention of all stakeholders in the implementation of strategic changes in the enterprise. The most appropriate method of determining the views of stakeholders and obtaining an overall picture should be considered the Delphi method, the content of which is an individual assessment of possible alternatives by all stakeholders. The main purpose of the evaluation is to determine the commitment or refusal of support from stakeholders. After the first stage of the analysis, when the projects that received the highest number of failures are identified, re-interaction with stakeholders is carried out with an adjusted portfolio of projects. The possible discrepancy of experts' opinions on many projects is solved by a step-by-step examination. In the presence of persistent conflicts – it is necessary to organize joint communication events to discuss the desired portfolio of projects. Given the specificity of individual stakeholders, communication, regarding the composition of the project portfolio, may be limited to owners, managers, investors and technical contractors, taking into account the specifics of the industry.

The third stage. Analytical. After the selection of projects, the key values of the criteria for evaluating all possible options of the portfolio are calculated. Based on the generalization, the set of criteria for evaluating projects of the strategic change portfolio should be presented as follows: the amount of investment, the required amount of resources (in man-hours), the expected profitability of the project, the level of risk and relevant objectives of strategic change. There is a variant of calculating the expected return and level of risk, which best allows to assess the probability of these two indicators in [8]. It is proposed to calculate the expected return as a weighted average of the level of profitability on the probability of obtaining it, and the level of risk is the standard deviation. The degree of achievement of the goals of strategic change can be assessed only by expert methods, for this purpose it is offered to carry out ranking of projects on measure of realization of the purposes of strategic changes where agreed according to experts it is offered to calculate with use of coefficient of concordance. Experts should involve all stakeholders, project implementation technicians, information technology specialists, and managers at all levels.

The fourth stage. Design. At this stage, the values of the portfolio are calculated. Based on the obtained set of projects, portfolios are built, each of which includes arbitrary interaction of selected projects. Taking into account the previously implemented stages, the portfolio options differ except for each of them by 1 or 2. As a result of the grouping, a generalized assessment of each portfolio is

performed on the basis of five selected indicators. To select the best project, it is advisable to use the method of taxonomic analysis proposed by V. Plyuta, the content of which is to calculate a conditional standard – in our study it is a conditional portfolio of projects – the values of which are the best among the whole set. After that, the distance of each of the actual portfolios to the reference is calculated, where based on the calculations, the best portfolio is determined as the one closest to the reference. The resulting portfolio is considered the best, and its composition is final before implementation.

Fifth stage. Completion. The resulting set of portfolio projects is analyzed for the relationship between them, the search for common goals, which will have a synergistic effect and thus strengthen the ability to achieve the goal of strategic change. The generated project profile is communicated to the stakeholders together with the communication plan for monitoring its implementation.

Thus, based on the generalization of the existing methodology of project portfolio management, which belongs to the field of technical sciences, a modern approach to the formation of a portfolio of projects is designed to implement strategic changes for the company, which differs in the sequence of stages portfolios using selection, restrictive and optimization criteria. The obtained results are on the border of economic and technical sciences and have a strong potential for cooperation for further development in order to ensure the sustainability of the operation to increase the competitiveness of domestic enterprises.

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