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VALUES MODELS IDENTIFICATION OF SYNCRETIC METHODOLOGY IN IMPROVEMENT CONTEXT IN SELF-MANAGED ORGANIZATIONS

Abstract

Introduction. The recovery of Ukraine from the consequences of the full-scale aggression of the russian federation requires the development of new scientific approaches to the implementation of restoration projects, programs and portfolios. Modern research on project and program management includes the direction of value-oriented management, the implementation of which increases the accuracy and flexibility of the management system, increases the probability of the project's success in achieving its goals and meeting the specified limitations. At the same time, the syncretic methodology that is being created to manage infrastructure restoration projects is not sufficiently developed in the direction of using value approaches. Therefore, scientific task of applying value-oriented management within the syncretic methodology of infrastructure restoration project management is relevant.

Problem statement. The problem of implementation of self-managed restoration projects using the syncretic project management methodology is described. The need to develop a syncretic methodology for such projects is emphasized. The importance of applying value-oriented management within syncretic project management methodology is founded. The scientific task of developing value management models of the restoration project implemented by a self-managed organization using syncretic project management methodology has been formulated.

Purpose. Development of value models for use by self-managed organizations in restoration projects, which will use the syncretic methodology as the one that best meets the modern challenges of the field of infrastructure restoration in Ukraine.

Materials and methods. To achieve the goal, the following models and methods were used: research of literary sources, methods of analysis and synthesis, models and methods of classification and structuring, models of set theory, optimization methods. Materials for the analysis were projects and restoration portfolios, the implementation of which is overseen by the State Agency for the Restoration of Infrastructure of Ukraine (SARDI).

The results. A model of P2M-like classification of values of restoration projects implemented by self-managed organizations using syncretic project management methodology is proposed. Two types of values have been added to the known features of the classification - restoration values and syncretism values. Thanks to this expansion, the classification model acquires more completeness, which allows to take into account more differentiated values and more accurately implement value-oriented management in the context of the studied projects. A model of four-vector classification of values is also proposed, based on the specifics of the studied projects. Four vectors of values are defined in the model - values of stakeholders, values of syncretism, values of self-management, values of effectiveness. This model represents a three-level structure of values "vector-type-value" and provides further development of the value approach. Identification of the main stakeholders of the studied type of projects was carried out. On the basis of the above models, the set model of the total value of a restoration project implemented by a self-managed organization using the syncretic project management methodology is proposed.

Conclusions. Reconstruction of Ukraine's infrastructure is a complex, complex and unique practical task that requires the development of new scientific approaches for its effective implementation. Within the scope of the proposed syncretic approach, this article develops models of value-oriented management for use by self-managed organizations in infrastructure restoration projects in Ukraine. The use of these models

is intended to streamline and systematize the management system of restoration projects and increase its transparency, flexibility and efficiency. A SWOT analysis of the proposed models was conducted, which proved the prospects of the studied approaches. Prospects for further research in the chosen direction are outlined.

Keywords: infrastructure restoration projects, program and project management, value-oriented management, syncretic methodology, self-managed organization, set model.

Introduction

The issue of post-war reconstruction of Ukraine, infrastructure facilities, housing, and industry is extremely practical [1]. It is clear that the most important thing for now is the victory of Ukraine in the war with the Russian invaders, which involves the overwhelming financing of the relevant capabilities, as a result of which the restoration projects have a reasonably lower priority. However, in any case, the restoration projects are relevant even now, and after the victory they will gain overwhelming importance. It is also obvious that there is a corresponding scientific problem regarding the development (the development itself, not the choice) of the methodology for managing restoration projects. After all, it is clear that the scale of destruction, which was carried out and will continue to be carried out by the Russian aggressor, is unprecedented in the world. In such conditions, the implementation of restoration projects will require the qualified efforts of leading specialists and contractors from all over the world, primarily from Europe, North America, Japan, etc. In this context, the problem of establishing effective interaction of many different participants with different management cultures arises.

The development of a methodology for managing restoration projects that meets these complex modern conditions, which will be an undeniable scientific novelty. This methodology is proposed by the author [2, 3], however, the concept of values can reasonably serve as an important basis for establishing effective interaction in cross-cultural projects. And since the scientific issues of value-oriented management, the separation of values by participants in restoration projects, within the scope of their use of syncretic methodology, is not sufficiently researched, it can be considered an actual subject of scientific developments regarding value models identification of syncretic methodology in improvement context in self-managed organizations. The fact that it applies to the trendy type of modern project management — self-managed organizations add additional importance to the research topic. Therefore, it is possible to identify the following goal of this research: the development of value models for use by self-managed organizations in recovery projects that will use syncretic methodology as the one that best meets the modern challenges of the field of infrastructure recovery in Ukraine.

Literature review

The selection of an adequate project management methodology for solving a class of practical problems in a certain field (or in the context of an interdisciplinary superstructure) has been the subject of consideration by many scientists and researchers. In particular, [4] substantiates the need to choose a better methodology in the context of the development of technological maturity of organizations in the field of project management. In particular, at the third level of the Kerzner model (Singular Methodology) in a project-oriented organization, project management processes should be described, thus the corporate methodology will already be formed. At the fourth (Benchmarking) and fifth (Continuous Improvement) levels, this methodology acquires further improvement. At the same time, Kerzner emphasizes that the corporate project management methodology should be based on the specifics of the organization's projects and the industry in which they will be implemented. However, in the field of project management, typical solutions have been developed that can form the basis of corporate methodologies. Among such solutions, first of all, [5] and [6] standards should be singled out. The first of them is the latest revision of the oldest and most widely used standard in the field of project management. In this edition, there have been radical changes compared to the previous versions — instead of the classic ten areas of knowledge, the standard

includes a separate section dedicated to the system of value delivery through projects, as well as twelve principles of modern project management.

The body of knowledge (included in this edition) contains a description of models and methods in the context of eight areas of project execution (stakeholders, team, development approach and life cycle, planning, project work, delivery, measurement, uncertainty) and a separate section describing approaches to tailoring PMBOK methodological developments to the specifics of projects within which the management methodology is implemented. An important methodological element of the modern world of project management is the Agile methodology, which originates from the IT industry, but is now being actively implemented outside of it. According to [7], the use of flexible Agile methodology, in modern conditions of increasing entropy, minimizes managerial chaos and adds systematization to project management processes. Knowledge management systems should also be considered important elements of modern project management methodology, as in [8] and [9], information technologies, some of which are aimed at supporting project monitoring systems, and some [10] even to choose an appropriate management methodology for a separate project or class of projects. Also, scientific developments regarding data-driven management culture [11] and intellectualization of management systems [12] are gaining popularity. All the indicated vectors of research and the models and methods developed within them can be used and rethought within the scope of the syncretic methodology of project management that is being created, which is studied in particular in this article.

Research on value-oriented management in project management (which began with the release of the P2M standard of the Japanese Project Management Association) concerns both general approaches [13] and specific models and methods of value management [14], in particular operations on the values of the projects introduced by [15], as well as a study of organizational structures of projects, which are managed on the basis of a value approach, conducted by [16]. However, in these studies, the issue of syncretic management of restoration projects is insufficiently covered, and in the context of self-managed organizations, it was not considered at all.

Regarding the mentioned context, it is worth noting that for the first time the concept of self-management, and the concept of "turquoise organizations" in general, was presented in the work of [17]. In the future, the models and methods of management of self-managed organizations are explored, in particular in [18] and [19], where these concepts are developed into a separate field of knowledge identified as holacracy or holacratic management. The authors define democratic decision-making, taking the initiative by team members — both regarding tasks and motivation for task performance, as well as lack of hierarchy in management, as the main postulates of such management.

The tasks of restoring the infrastructure of Ukraine require not only the use of new approaches in the organization of teams (self-management, holacracy, knowledge-oriented approaches, value management, etc.), but also the composition of projects into larger aggregates (programs, portfolios) to increase the efficiency of management, and take into account the specifics of the industry, in which restoration will take place. Regarding the first, it is worth mentioning the work of [20], which presents a study on the basics of modern portfolio management and describes relevant models and methods. [21] develops appropriate approaches specifically for road industry projects as one of the key ones within the infrastructure restoration sphere. [22] considers the organizational part of the methodology of management of restoration projects and programs and offers an appropriate model for organizing the management of the stages of infrastructure project and program implementation. One of the important aspects of restoration projects, which must be taken into account in the management methodology of such projects, is prioritization. In the conditions of limited funding, the question of the priority of providing funds, the selection of restoration projects for providing such funding (in conditions of a huge number of objects requiring rehabilitation) is extremely relevant. Scientific studies by [23, 24] are devoted to these questions. In general, it can be noted that the studies that were analyzed cover only a certain part of the scientific issues that will be investigated in this article. And the extension of the syncretic project management methodology to the context of value-

oriented management in self-managed organizations is insufficiently researched, which determines the relevance and practical value of this study.

Main part

Within the framework of the proposed approach, value-oriented project management should be based on the management triad "identification of values - formalization of value models and methods of value management - value management", which is carried out cyclically throughout the entire life cycle of the project (portfolio of projects). The second and third elements of the triad deserve a separate study. Here we will dwell in more detail on the first element of the management triad "Identification of values", and consider it in the context of the syncretic methodology of managing infrastructure restoration projects in self-managed organizations. The identification of research elements in a scientific paradigm should be considered in relation to a certain taxonomy or classification model of the researched elements. If we take the approach outlined in the P2M standard of the Japanese Association of Project Management and research Puziichuk A. (2019) as the basis of such a model, we will propose the following model of P2M-like classification of values (***Table 1***) in the further development of this approach.

Table 1

Model of P2M-like classification of values of restoration projects implemented by self-managed organizations using syncretic project management methodology

Ч.ч	Type of Value	Acquirers of value	Varieties of values within a value type
1.	Asset values	State, community, citizens	Restored objects, restored infrastructure, the possibility of further development
2.	Values of innovation	Economy, project participants	Technological innovations, managerial innovations
3.	Ownership values (for stakeholders)	Project stakeholders, project participants	Profit, income, reputation, market share, foundation for further development
4.	Intellectual asset values	Organizations participating in the project (state, non-state ownership, as well as non-residents)	Project management system that was created
5.	Team values	Project team, organizations participating in the project (state, non-state ownership, as well as non-residents)	Efficiency, professional capacity for challenges, a good atmosphere in the team
6.	Values of digitization	State, economy, project participants	Minimization of corruption manifestations, integration with other systems, simplification of management, the foundation of further development
7.	Restoration values	State, economy, community, citizens	Restored infrastructure, the foundation for further development, increasing reputation
8.	Values of syncretism	Project participants, project team	Work in familiar patterns, effective integration, innovative methodology, possibility of improvement

In contrast to previous studies, two types of values were added to the classification features - restoration values (due to the nature of the studied projects) and syncretism values (due to the methodology used). Thanks to this expansion, the classification model acquires more completeness, which allows to take into account more differentiated values and, thus, more accurately implement value-oriented management in the context of the studied projects.

In the development of the mentioned approach, we will offer our own model of four-vector classification of values, based on the specifics of the studied projects (**Figure 1**). According to the proposed approach, the model of the value system of self-managed organization projects in a syncretic context can be represented by four main vectors: stakeholder values, syncretism values, self-management values, and performance values. Four types of values are distinguished within each value vector. In particular, the following types of stakeholder values: product ownership values, project participation values, reputational value, collaboration and connection values. The following types of syncretism values are also identified: values of own methodology, values of synergy, values of increasing competence, values of digitization. The following types of self-management values are also identified: values of democratic decision-making, values of non-hierarchy, values of self-realization, values of self-motivation. And the following types of performance values are also identified: value of obtaining a product, value of effective execution, value of adherence to processes, the value of growth foundation.

This model represents a three-level structure of values "vector-type-value" and provides further development of the value approach due to the combination of known elements, addition of new elements and other structuring.

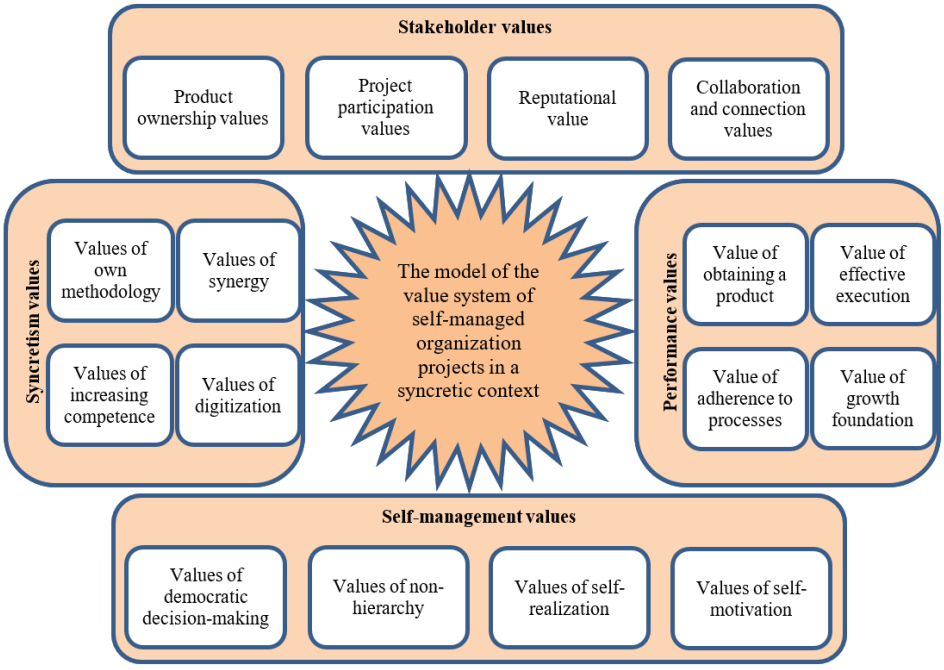

Figure 1 — Model of the four-vector classification of project values of a self-managed organization that uses syncretic project management methodology

Given the specifics of the researched projects, it is also worth classifying the relevant stakeholders in order to more accurately position the value-oriented management that should be distributed and directed to them. Therefore, we identify the following stakeholders of infrastructure restoration projects implemented by self-managed organizations using syncretic project management methodology:

— Customers (state, communal organizations and enterprises, as well as communities);

— Sponsors (state, international financial organizations, governmental organizations of other countries, private investors);

— Project management team (internal or external, which is invited on the terms of outsourcing to perform management functions);

— Project management consultants (from sponsors or from authorized organizations);

— General contractors;

— Consultants in the subject area (for example, consulting engineers, FIDIC contract consultants, etc.);

— Contractors for the design of restoration facilities;

— Contractors for the construction of restoration facilities;

— Territorial communities (authorized representatives of consumers of project products);

— Citizens of Ukraine (end consumers of project products);

— Other stakeholders or their association.

Clarification of the list of identified stakeholders makes it possible to more accurately position value-oriented management of the creation of aggregate value and simplify approaches to determining shared value by all participants or groups of such participants (or interested parties of the restoration project).

Based on the above models, we will propose a multiple model of the total value of the restoration project implemented by a self-managed organization using the syncretic project management methodology:

$$V = \beta_1 \cdot (\mu_1 \cdot v_1 + \cdots + \mu_n \cdot v_n) + \beta_2 \cdot (\mu_{n+1} \cdot v_{n+1} + \cdots + \mu_{n+m} \cdot v_{n+m}) + \\ + \beta_3 \cdot (\mu_{n+m+1} \cdot v_{n+m+1} + \cdots + \mu_{n+m+l} \cdot v_{n+m+l}) + \\ + \beta_4 \cdot (\mu_{n+m+l+1} \cdot v_{n+m+l+1} + \cdots + \mu_{n+m+l+k} \cdot v_{n+m+l+k}), \quad (1)$$

where V is the total value of the restoration project implemented by a self-managed organization using syncretic methodology;

v — expert assessment of the value of a separate value (within the proposed classification model);

μ — the weight of a separate value determined by an expert, moreover $\sum_i \mu_i = 1$;

β — the weight of each of the four types of values, moreover, to ensure normalization $\sum_j \beta_j = 1$;

n, m, l, k — the number of values of each of the four types (according to the proposed value classification model), respectively.

Since the main task of value-oriented management is the maximization of aggregate value, it is possible to propose the appropriate following formalization of it:

$$V = \left(\beta_1 \cdot \sum_{i=1}^{n} \mu_i + v_i + \beta_2 \cdot \sum_{i=1}^{m} \mu_i + v_i + \beta_3 \cdot \sum_{i=1}^{l} \mu_i + v_i + \beta_4 \cdot \sum_{i=1}^{k} \mu_i + v_i\right) \rightarrow max. \quad (2)$$

The optimization problem obviously does not have a solution in general (although this hypothesis requires further research), however, it can be assumed that in specific cases it can be solved by linear optimization methods.

Let's conduct a SWOT analysis of the proposed set of models for use in infrastructure restoration projects by self-managed organizations implementing syncretic management. Let's highlight their strengths, weaknesses, opportunities arising from their application, and threats that may arise.

Strengths

S1. Provision of rapid response and forecasting (reactive and proactive principle) in restoration projects guided by different methodologies through value management.

S2. Ensuring diversity of models and methods used in value management of restoration projects, for many levels of complexity of the management system (hierarchical, self-managed) and many participants and stakeholders of such projects.

S3. Innovativeness, simplicity, but, at the same time, high relevance of the proposed models and syncretic methodology as a whole.

Weakness.

W1. Insufficient development and formalization of relevant scientific developments.

W2. Insufficient level of practical approval of the proposed models within the syncretic methodology.

W3. Relative complexity (perhaps excessive) for implementation by small self-managed teams and organizations.

Opportunities

O1. The possibility of self-adjustment (adaptation) of syncretic methodology models thanks to the use of elements of artificial intelligence.

O2. The possibility of increasing the accuracy and efficiency of the restoration project management system in a self-managed organization, which can be realized by choosing one or another model (one or another depth of value decomposition) under different conditions of the external and internal environment.

O3. The possibility of increasing the skills and general competence of project management participants in a self-managed organization. What will provide the foundation for increasing the efficiency of the management system for each subsequent project (portfolio).

Threats

T1. The threat of methodological confusion in case of choosing an inadequate model of values (inadequate elements of the model) due to an incorrect assessment of the external and internal environment and of corresponding changes in the projects of the self-managed organization.

T2. The threat of incorrect settings of syncretic model parameters, as a result of which methodologies may be mixed, or the influence of the core of the syncretic management system on individual projects will not be effective enough.

T3. The threat of inaccuracy of expert assessments of values or their weight, as a result of which the effectiveness of value management models in the syncretic methodology will be reduced, which may lead to the refusal of its use and/or the going of restoration projects beyond the limits defined by customers.

Based on the results of the SWOT analysis, it can be concluded that when using the capabilities of the proposed family of value management models in recovery projects (which are implemented by self-managed organizations using syncretic methodology), its threats can be overcome, and its advantages outweigh the corresponding disadvantages.

Conclusions

Infrastructure restoration projects in Ukraine are implemented in unique conditions due to the war in Ukraine, which is still ongoing, and the high unpredictability of the implementation environment as a result. Also, many participants which take part in such projects, representing a different culture of project management, which is determined by the countries of origin of the participants and the methodologies used by them. Addition uniqueness of the conditions is trends of accelerated digitalization and the use of the concept of self-management by organizations which participate in restoration projects. In such conditions, the development of a new project management methodology is an urgent scientific task. And if research on certain aspects of emerging problems was researched, then in general, the problem of methodological solutions to the creation of an effective project management system for such conditions has not been developed. The syncretic methodology developed by the authors is proposed as such methodology. This article explores the value aspect of the syncretic methodology of managing restoration projects implemented by self-managed organizations using a syncretic approach. Three models of values are proposed — P2M-like, four-level and multiple. These models are designed to increase the accuracy of the positioning of the values of the participants of restoration projects, improve the quality of management and create a solid foundation for effective, productive and efficient implementation and successful completion of restoration projects. Which, in turn, will bring the victory of Ukraine closer.

Let's formulate the prospects for further research in the chosen direction based on the results of the conducted research: development of models for the selection of effective expert groups to obtain adequate estimates of values or increase the probability of such adequacy; finding methods for solving the problem of optimizing (maximizing) the total value of restoration projects implemented by self-managed

organizations using syncretic methodology; practical testing of the proposed models and analysis of the results of such implementation with the formulation of proposals for adjusting the models or their elements (if necessary).

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Державне агентство відновлення та розвитку інфраструктури України, м. Київ, Україна

ІДЕНТИФІКАЦІЯ МОДЕЛЕЙ ЦІННОСТЕЙ СИНКРЕТИЧНОЇ МЕТОДОЛОГІЇ В КОНТЕКСТІ ЗАСТОСУВАННЯ В САМОКЕРОВАНИХ ОРГАНІЗАЦІЯХ

Анотація

Вступ. Відновлення України від наслідків повномасштабної агресії російської федерації вимагає розробки нових наукових підходів до реалізації проєктів, програм і портфелів проєктів відновлення. Сучасні дослідження з управління проєктами та програмами включають напрямок ціннісно-орієнтованого управління, впровадження якого збільшує точність та гнучкість системи

управління, збільшує ймовірність успіху проєкту в досягненні його цілей та дотримання визначених обмежень. В той же час синкретична методологія, яка створюється для управління проєктами відновлення інфраструктури, недостатньо розвинута у напрямку використання ціннісних підходів. А отже наукова задача щодо застосування ціннісно-орієнтованого управління в межах синкретичної методології управління проєктами відновлення інфраструктури є актуальною.

Проблематика. Проблематика реалізації проєктів відновлення самокерованими з використанням синкретичної методології управління проєктами описана. Необхідність розробки синкретичної методології для таких проєктів підкреслена. Важливість застосування ціннісно-орієнтованого управління в межах синкретичної методології управління проєктами обґрунтована. Наукова задача розробки моделей управління цінностями проєкту відновлення, що реалізує самокерована організація з використанням синкретичної методології управління проєктами, сформульована.

Мета. Розробка моделей цінностей для використання самокерованими організаціями в проєктах відновлення, що будуть використовувати синкретичну методологію як таку, що найбільш відповідає сучасним викликам галузі відновлення інфраструктури України.

Матеріали та методи. Для досягнення поставленої мети були використані наступні моделі та методи: дослідження літературних джерел, методи аналізу і синтезу, моделі та методи класифікації і структуризації, моделі теорії множин, методи оптимізації. Матеріалами для аналізу служили проєкти і портфелі відновлення, реалізацією яких опікується Державне агентство відновлення інфраструктури України.

Результати. Запропоновано модель P2M-подібної класифікації цінностей проєктів відновлення, що реалізуються самокерованими організаціями з використанням синкретичної методології управління проєктами. До відомих ознак класифікації додано два типи цінностей — цінності відновлення та цінності синкретизму. Завдяки цьому розширенню, модель класифікації набуває більшої повноти, що дозволяє враховувати більш диференційовані цінності і точніше реалізовувати ціннісно-орієнтоване управління в контексті досліджуваних проєктів. Також запропонована модель чотиривекторної класифікації цінностей, базуючись на специфіці досліджуваних проєктів. В моделі визначено чотири вектори цінностей — цінності зацікавлених сторін, цінності синкретизму, цінності самокерованості, цінності результативності. Така модель являє собою трирівневу структуру цінностей «вектор-тип-цінність» та забезпечує подальший розвиток ціннісного підходу. Проведена ідентифікація основних стейкхолдерів досліджуваного типу проєктів. На основі наведених моделей запропоновано множинну модель сукупної цінності проєкту відновлення, що реалізує самокерована організація з використанням синкретичної методології управління проєктами.

Висновки. Відбудова інфраструктури України є складним, комплексним і унікальним практичним завданням, яке потребує розробки нових наукових підходів з метою її ефективної реалізації. В межах такого, що пропонується, синкретичного підходу, в цій статті розроблено моделі ціннісно-орієнтованого управління для використання самокерованими організаціями в проєктах відновлення інфраструктури України. Використання зазначених моделей покликано впорядкувати і систематизувати систему управління проєктами відновлення і підвищити її прозорість, гнучкість та ефективність. Проведено SWOT-аналіз запропонованих моделей, який довів перспективність досліджуваних підходів. Окреслено перспективи подальших досліджень у обраному напрямку.

Ключові слова: множинна модель, проєкти відновлення інфраструктури, самокерована організація, синкретична методологія, управління проєктами та програмами, ціннісно-орієнтоване управління.