

Voitenko Oleksandr

PhD., Associated Professor, Department of project management,

<https://orcid.org/0000-0002-7414-7836>

Kyiv National University of Construction and Architecture, Kyiv

Hudov Valerii

PhD student, Department of project management,

<https://orcid.org/0009-0008-8068-5324>

Kyiv National University of Construction and Architecture, Kyiv

PROJECT PORTFOLIO MANAGEMENT: DEVELOPMENT DIRECTIONS IN THE RELATIONSHIP BETWEEN ARTIFICIAL INTELLIGENCE TOOLS AND TEAM EMOTIONAL INTELLIGENCE

Abstract. The article analyzes research on project and portfolio management, as well as known standards and methodologies, in the context of their possible use for the development of the proposed AEI (Artificial and Emotional Intelligence) portfolio management approach. Modern directions for the development of portfolio management are identified – a systematic approach to multi-project management, a hierarchical set of project activity artifacts, the presence of regulations for portfolio management processes, the use of specialized IT tools for managing project portfolios, the use of elements of artificial intelligence to perform individual tasks of project portfolio management, portfolio management by a separate team of specialists, the use of creative portfolio management technologies and models and methods for developing portfolio management competencies in portfolio team members, and the introduction of stricter requirements for construction project portfolios in Ukraine, which are being implemented during the war caused by Russian aggression against Ukraine. A previously unsolved part of the scientific problem has been identified – the creation of models and methods for managing a portfolio of construction projects based on the use of elements of artificial intelligence in decision support tools and emotional intelligence of the portfolio management team. AEI portfolio management has been proposed – cross-portfolio artificial-emotional intelligence management for use in construction project-oriented organizations. The elements that can be laid down as the basis of such an approach have been characterized: classical methodologies and standards for portfolio management, flexible Agile methodology, elements of artificial intelligence for use in project-oriented IT technologies, emotional intelligence of portfolio management team members, cross-portfolio corporate standard for project activity management. The main features of such elements are highlighted and their suitability for use in the specified context is assessed. Taking into account the specifics of the proposed approach, the portfolio management classification is expanded for the further development of such classifications, new classification features are proposed (using emotional intelligence, using a combination of artificial intelligence portfolio management tools and emotional intelligence of the team, using a dominant approach to integrating the project management system in the organization) and types of portfolios according to such features. A mosaic model of AEI portfolio management is proposed, a description of this model in set form is given. A SWOT analysis of the proposed AEI portfolio management approach is conducted, its strengths and weaknesses are highlighted, as well as opportunities and threats that may arise when using it. A conclusion is made regarding the high potential of its effectiveness. Areas of further research in the chosen direction are formulated. Conclusions from the conducted research are formulated.

Keywords: project and program management, project portfolio management, artificial intelligence, emotional intelligence, AEI (Artificial and Emotional Intelligence) approach to portfolio management

Introduction

The improvement of project activities of project-oriented companies in modern conditions led to the conclusion that the management of individual projects is

insufficient to achieve both large-scale strategies and tactical tasks of targeted development. This led to the emergence of project portfolios and programs consisting of projects in practical activities, which, in turn, led to the emergence and improvement of methodologies and standards of portfolio and program management.

The construction industry in Ukraine faced methodological and other difficulties even before the war. Galloping digitalization, high turbulence in the project environment and insufficient competence of specialists in managing project portfolios led to management errors, delays in the delivery of construction projects, a decline in reputation in the market and a weakening of competitive positions.

During the war, caused by the aggression of the Russian Federation against Ukraine, the challenges became much greater. War risks appeared, the turbulence of the external environment increased, and the requirements for the speed of project implementation increased, taking into account the same or even higher quality.

In such conditions, the direction of project and project portfolio management systems that would satisfy the harsh environment and respond to challenges has practical value. This not only denies innovation, but also requires it. Given the lack of relevant scientific developments, the topic of innovative models and methods of project portfolio management in the construction industry is relevant. This determines the need to develop such models and methods and justifies the relevance of the selected research topic in this direction.

Analysis of latest research

The issue of managing project portfolios, as well as the appropriate aggregation of projects into such portfolios, has been addressed in many classic project management standards since their inception. The current edition of the PMBOK (Project Management Body of Knowledge) standard, in particular, defines a portfolio as the largest project entity of a project-oriented organization; such a portfolio may include lower-level portfolios, as well as programs, individual projects, and even individual operations (or processes) [1].

The development of portfolio management as a sign of the transition to a new institutional maturity in project management led to the release of the first edition of the relevant standard in 2006 by the American Project Management Institute. The current, fourth edition of the portfolio management standard states that the practice of portfolio management is an integral part of the implementation of the organization's overall strategic plan and determines that portfolio management balances conflicting requirements between portfolio components, allocates resources (for example, human, financial resources, assets and intellectual resources) based on organizational priorities and potential, and integrates management principles and effective practices to achieve business value in accordance with strategic goals [2]. This version of the standard defines six areas of knowledge (domains) of portfolio management - strategic portfolio management, portfolio government,

portfolio capacity and capability management, stakeholder engagement, portfolio cost and value management, portfolio risk management. Thus, portfolio management acquires systemic features of standardization in the context of established institutionalization. Which can also be confirmed in particular by the release of a standard on portfolio management by the International Organization for Standardization [3].

It is also worth noting that modern standards for project management competencies include requirements not only for project managers, but also for program managers and portfolio managers [4]. The P2M standard of the Japanese Project Management Association, although dedicated to program (not portfolio) management, can be used (to a certain extent) for portfolios. In particular, interesting achievements of this standard that are worth emulating include the orientation of the set of projects to the mission of the organization (company) and the training of relevant professionals in project activities focused on achieving the mission [5].

In the world of classical project management in the early 2000s, the Agile IT project management methodology burst into the world, which quickly spread to other types of projects. Later, the value of the Agile methodology in the project world was confirmed by the creation of methodological hybrids – such standards and methodologies, which partly consisted of elements of classical methodologies and standards (PMBOK, PRINCE2, P2M, CMMI, etc.), and partly – of elements of Agile or its individual frameworks (Scrum, Kanban, Lean, XP, etc.) [6]. For portfolio management, it would be useful to apply separate approaches of both individual Agile artifacts or its frameworks, and approaches of hybrid project management methodologies.

In the works of Ukrainian and foreign scientists, the topic of portfolio management and the study of new approaches, models and methods of its implementation has also been actively developing. In particular, the transition of organizations from project-oriented to portfolio-oriented management was studied with the definition of relevant models [7], the industry application of portfolio management using modern information technologies was analyzed [8], and a mathematical formalization of models for the implementation of portfolio management in the context of construction projects was proposed [9].

The creation and maintenance of a portfolio that is systematic, purposeful and creates additional values, within the framework of the “research by design” approach, is considered in the structure of four main components: the strategic focus of the company, the current offer of products (services), the potential for a new portfolio structure, and the purposeful implementation of a promising structure [10]. The development of the industry has led to the emergence of

scientific research related to “total portfolio management” and a proposal to approve it as a standard in project-oriented organizations [11]. It is also worth noting that a number of studies by the scientific school of Prof. Bushuyev S.D. are devoted to the development of models and methods of portfolio management. In particular, in the context of applications of the Agile methodology to portfolio management and methods of the corresponding transition to its use [12], in the context of models of the dynamics of the structure of the portfolio of organizational development projects taking into account the resistance of information entropy [13], models for assessing the effectiveness of the project portfolio [14], and the application of models and methods of the Agile methodology to portfolio management in the context of the transformation of approaches to organizational development [15].

Other studies on portfolio management consider the relationship between portfolio and strategic management in the context of relevant models and methods [16], models of the application of information technologies for portfolio management [17], and the creation of an approach to establishing portfolio management as a corporate standard in the context of organizations that are responsible for the implementation of a set of restoration projects [18, 19]. At the same time, the scientific aspect of the application of emotional intelligence, the models and methods of which are described in particular in [20], to portfolio management, as well as its connection with the use of artificial intelligence in information systems that support project, portfolio and program management, is insufficiently researched. This determines the relevance of the mentioned study, taking into account also its applied nature to the construction industry, in the context of which the described models and methods have not been sufficiently applied, which additionally substantiates the potential practical value of the results of this study.

Purpose of the article

The purpose of the article is, based on an analysis of modern research on project portfolio management, to identify modern directions in the development of portfolio management, develop a cross-portfolio artificial-emotional intelligence management approach for use in construction project-oriented organizations (AEI portfolio management), and identify future research directions in this context.

The main material of the article

Portfolio management, as the highest stage of modern development of project management in project-oriented organizations, brings its own culture and management methodologies. Such culture and methodologies are constantly enriched with new models, methods and approaches in the context of the

development of the project management industry. In order to clarify the positioning of the topic of our research, we identify modern directions of portfolio management development, among which we highlight the following main ones:

- Systematic approach to multi-project management, its fixation in the corporate culture and methodology of project management and project portfolios of a project-oriented organization;
- Hierarchy of the set of project activity artifacts (processes, projects, programs, lower-level portfolios);
- Availability of regulations for portfolio management processes, in particular the processes of adding a project to the portfolio, excluding a project from the portfolio, reviewing the portfolio structure, assessing portfolio effectiveness, monitoring project portfolio performance, etc.;
- Use of specialized IT tools for project portfolio management (Oracle Primavera, Portfolio Analysis app, Project Online, MS Power BI, etc.);
- Application of artificial intelligence elements to perform individual project portfolio management tasks, in particular monitoring and analysis of portfolio performance, forecasting its development;
- Portfolio management by a separate team of specialists, which is hierarchically higher than the management teams of individual portfolio projects, and does not consist of top management representatives
- Application of creative portfolio management technologies, models and methods for developing portfolio management competencies in portfolio team members;
- Introducing stricter requirements for construction project portfolios in Ukraine that are being implemented during the war caused by Russian aggression against Ukraine.

Based on the above-defined modern directions of portfolio management development, we identify a previously unresolved part of the scientific problem - the creation of models and methods for managing a portfolio of construction projects based on:

- the use of artificial intelligence elements for a decision-making support system in a project portfolio;
- the use of emotional intelligence for better interaction in the project portfolio management team;
- the use of artificial-emotional intelligence for the interaction of the project portfolio management team with IT portfolio management tools built on the basis of AI.

Therefore, we identify the proposed approach as cross-portfolio artificial emotional intelligent management for use in construction project-oriented organizations.

We characterize the elements that can be laid down in the basis of such an approach, highlighting their main features and suitability for use in the specified context (Table 1).

Table 1 – Characteristics of appropriate portfolio management components for the AEI approach

№	Component	Content of the component for integration into the proposed approach	Suitability	Utility
1	Classical portfolio management methodologies and standards	Structure of management processes, classic roles of portfolio management participants, portfolio management performance indicators, value models	++	+
2	Agile methodology	Incrementality of the product, iterativeness of the development process, communication artifacts, flexible requirements	+	++
3	Elements of artificial intelligence for use in project-oriented IT technologies	Elements of machine learning, neural networks with training, Goal-driven systems, linguistic models, predictive analytics using AI	++	+++
4	Emotional intelligence of portfolio management team members	Identification of emotional intelligence level, selection of portfolio management team based on emotional intelligence, interaction with AI based on emotional intelligence, resolution of portfolio conflicts based on the use of emotional intelligence	+	+++
5	Cross-portfolio corporate project management standard	Systematization of portfolio management, standardization of management processes, common language for portfolio management participants, basis for evaluating portfolio performance indicators	++	++

Taking into account the specifics of the proposed approach, it is worth expanding the portfolio management classification into the further development of such classifications.

So, we will propose new features of the portfolio management system classification and types of portfolios according to such features.

1. By the use of emotional intelligence:

- project portfolios whose teams do not use emotional intelligence;
- project portfolios whose teams partially use emotional intelligence;
- project portfolios whose teams actively use emotional intelligence and develop portfolio management based on it.

2. Using a combination of AI portfolio management tools and emotional intelligence, the team:

- project portfolios whose teams do not use a combination of AI and emotional intelligence;
- project portfolios whose teams partially use a combination of AI and emotional intelligence;
- project portfolios whose teams actively use a combination of AI and emotional intelligence and develop portfolio management based on it.

3. Using a dominant approach to integrating the project management system in the organization:

- management of individual projects;
- management of the organization's project program (project programs) as a higher level of project management;
- management of the organization's project portfolio as a higher level of project management;
- cross-portfolio management, in which the project portfolio is the highest project entity in the

organization, at the same time any projects of the organization are necessarily encapsulated in some portfolio (upper, middle, lower or other level). Thus, the organization's project activity is portfolio-based throughout, and there is no project outside some portfolio.

Within the framework of the proposed approach, we will propose a mosaic model of AEI portfolio management (Figure), where AEI is an acronym for Artificial and Emotional Intelligence.

In the proposed model, which can be represented in plural form as $F^{AEI} = \langle I, M, O \rangle$, where I are the inputs of the model, and $I = \{i_1, i_2, i_3, i_4\}$, where i_1 – set of stakeholders and other external environment elements, i_2 – set of organizational process assets, i_3 – set of projects (organization's project portfolio), i_4 – connections between input elements, in particular those that can cause a change in the aggregate impact both in the direction of obtaining synergy and in the direction of increasing the negative impact on the portfolio of a construction project-oriented organization. M – elements of the AEI portfolio management model, and $M = \{m_1, m_2, m_3, m_4, m_5, m_6, m_7\}$, where m_1 – set of classic project management models and methods, m_2 – set of Agile methodology models and methods, m_3 – set of team emotional intelligence models and methods, m_4 – set of artificial intelligence elements, m_5 – set of methodologies hybridization approach models and methods, m_6 – set of cross-portfolio corporate standard models and methods, m_7 – connections between model elements, in particular those that may cause a change in the cumulative impact both in the direction of obtaining synergy and in the direction of increasing the negative impact on the portfolio of a construction project-oriented organization.

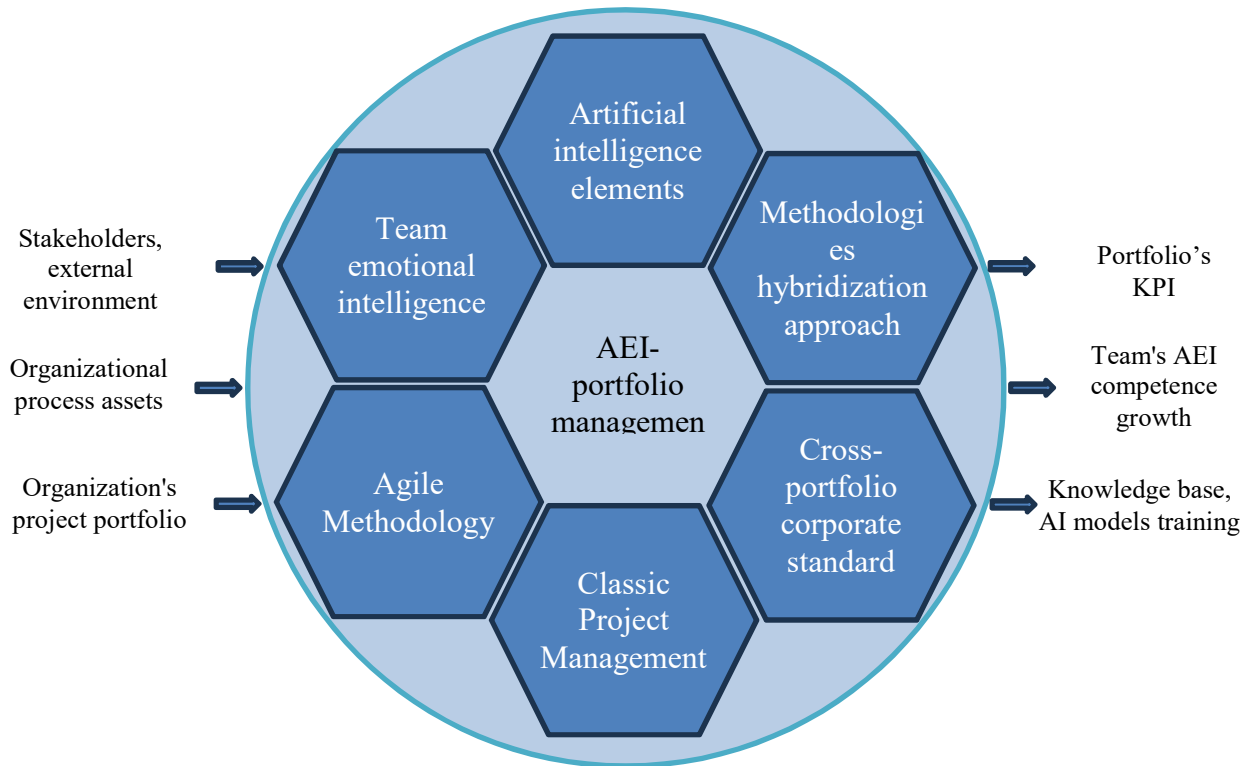


Figure – AEI Mosaic Portfolio Management Model

$O = \{o_1, o_2, o_3\}$, where o_1 – set of Portfolio's KPIs, o_2 – set of team's AEI competences, o_3 – set of knowledge base elements, AI elements and links between them.

We will conduct a study of the obtained results in the form of a SWOT analysis with the identification of the strengths of the proposed approach, its weaknesses, as well as the threats that are inherent in its implementation and the opportunities that may open up due to its implementation.

Strengths.

- taking into account emotional intelligence when managing a portfolio of construction projects;
- application of elements of artificial intelligence, in particular for the integration of emotional intelligence;
- a systematic approach based on the hybridization of appropriate elements of portfolio management.

Weaknesses.

- insufficient research of the proposed approach;
- sensitivity of the emotional component of portfolio management to many parameters;
- complexity of models, methods and algorithms of AEI portfolio management.

Opportunities.

- obtaining synergy from a combination of different approaches can lead to improved interaction with stakeholders during the implementation of current projects;
- increasing the number of new projects (orders) due to an increase in the reputation of a construction

project-oriented organization;

- ensuring the scaling of the company and its projects and portfolios due to the systematic nature of the proposed approach, improving customer loyalty.

Threats.

- war and war risks may reduce the relevance of new approaches in project management, in particular the AEI portfolio management approach;
- insufficient consideration of the emotional intelligence of stakeholders in the proposed approach may worsen relations with them and, as a result, reduce the number of portfolio projects from customers;
- unsuccessful implementation of the approach by a project-oriented organization may cause caution among the environment regarding the organization's ability to develop, which will cause a loss of reputation and, accordingly, may reduce profitability.

Based on the results of the SWOT analysis, we conclude that the potential strengths of the proposed AEI portfolio management will be able to overcome its weaknesses, and the use of opportunities can overcome threats.

We formulate the prospects for further research in the chosen direction based on the results of the research:

6. Development of models of emotional intelligence of the portfolio management team and methods for developing such intelligence.

7. Development of models of emotional intelligence of the portfolio management team and methods for developing such intelligence.

8. Development of a conceptual model of combining artificial intelligence of portfolio management tools and emotional intelligence of the project portfolio management team within the AEI portfolio management approach.

9. Development of models and methods for hybridizing appropriate elements within the AEI portfolio management approach.

10. Creation of business process models for implementing AEI portfolio management in project-oriented construction organizations.

11. Testing models and methods of AEI portfolio management, correcting them based on the results of testing, developing algorithms and recommendations for the effective implementation of the approach.

Conclusion

The problems of portfolio management not only do not lose their relevance in times of war caused by the aggression of the Russian Federation, but are also becoming more acute. Restoration projects, in which project-oriented construction companies, organizations and enterprises are involved, require new, innovative, modern approaches to management. The guiding principle of aggregating such projects into a portfolio to ensure more effective management of them is relevant and practically valuable, requiring relevant scientific developments.

In this context, this article analyzes research on project and portfolio management, as well as known standards and methodologies in the context of their possible use for the development of the proposed AEI portfolio management approach. Modern directions for the development of portfolio management are identified, a previously unsolved part of the scientific problem is the creation of models and methods for managing a portfolio

of construction projects based on the use of elements of artificial intelligence in decision support tools and emotional intelligence of the portfolio management team. AEI portfolio management is proposed – cross-portfolio artificial-emotional intelligence management for use in construction project-oriented organizations. The elements that can be laid down in the basis of such an approach are characterized, their main features are highlighted and their suitability for use in the specified context is assessed.

Taking into account the specifics of the proposed approach, the portfolio management classification has been expanded for the further development of similar classifications, new classification features and types of portfolios have been proposed according to such features. A mosaic model of AEI (Artificial and Emotional Intelligence) of portfolio management has been proposed, a description of this model in the plural form has been given.

A SWOT analysis of the proposed AEI portfolio management approach has been conducted, its strengths and weaknesses have been highlighted, as well as opportunities and threats that may arise when using it. A conclusion has been made regarding the high potential of its effectiveness. Areas of further research in the chosen direction have been formulated.

In general, it is worth noting that the proposed approach of cross-portfolio artificial emotional intelligence management (AEI portfolio management) for use in construction project-oriented organizations is relevant, and its implementation can potentially bring practical value for the further development of portfolio management models and methods, project portfolio management teams, and the scientific direction of project management and management.

References

1. Project Management Institute (2021). *The Standard for Project Management and a Guide to the Project Management Body of Knowledge (PMBOK® Guide)* – Seventh Edition. USA: Project Management Institute (PMI).
2. Project Management Institute (2017). *The Standard for Portfolio Management*. Fourth Edition. USA: Project Management Institute (PMI).
3. ISO (2023). *UNE ISO 21504:2023. Project, programme and portfolio management. Guidance on portfolio management*. ISO.
4. IPMA (2014). *Individual Competence Baseline (ICB) Version 4.0 for Project, Programme & Portfolio Management*. IPMA. Retrieved from <https://ipma.world/ipma-standards-development-programme/icb4/>.
5. Project Management Association of Japan (2016). *A Guidebook of Program & Project Management for Enterprise Innovation (Third Edition P2M)*. Retrieved from [https://www.pmaj.or.jp/ENG/p2m/p2m_guide/P2M_Bibelot\(All\)_R3.pdf](https://www.pmaj.or.jp/ENG/p2m/p2m_guide/P2M_Bibelot(All)_R3.pdf).
6. Spundak, M. (2014). Mixed agile/traditional project management methodology – reality or illusion?. *Procedia – Social and Behavioral Sciences*, 119, 939-948.
7. Vorkut, T. A., Bilonog, O. E., Dmytrichenko, A. M., Petunin, A. V., Sribna, N. V., & Tretynychenko, Y. O. (2021). *Portfolio-oriented management in organizational networks: Monograph*. Millennium.
8. Zachko, O. B. (2015). *Models, mechanisms and information technologies of portfolio management of the development of complex regional life safety systems*. Lviv: Publishing house of LDU BZhD.

9. Pokolenko, V. O., Prykhodko, D. O., & Gorbach, M. V. (2017). Mathematical formalization of the model of implementation of the portfolio of investment construction projects and its adaptation to the needs of the investor. *Collection of scientific works "Ways of increasing the efficiency of construction in the conditions of forming market relations"*, (35), 80–90.
10. Nieuwmeijer, L., & Lutters, E. (2022). Where variants and familiarity meet: portfolio management in companies that design and produce. *Procedia CIRP*, 109, 502–507. <https://doi.org/10.1016/j.procir.2022.05.285>.
11. Elkamhi, R., & Lee, J. S. H. (2025). Total Portfolio Approach. *The Journal of Portfolio Management*, 51 (7), 8. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5259355.
12. Bushuyev, S., Bushuieva, V., & Tanaka, H. (2021). Modelling agile-transformation organizational development project portfolio. *Scientific Journal of Astana IT University*, 7 (7), 32–41.
13. Bushuyev, S., Onyshchenko, S., Bushuyeva, N., & Bondar, A. (2021). Modelling projects portfolio structure dynamics of the organization development with a resistance of information entropy. In *Proceedings of the 2021 IEEE 16th International Conference on Computer Sciences and Information Technologies (CSIT)* (pp. 293–298).
14. Bushuyev, S., Gaydukova, N., Bushuyeva, N., & Achkasov, I. (2021). Evaluation of the investment projects portfolio efficiency. In *Proceedings of the 2021 IEEE 16th International Conference on Computer Sciences and Information Technologies (CSIT)* (pp. 351–354).
15. Bushuyev, S., Bushuieva, V., Onyshchenko, S., & Pavlova, N. (2021). Agile Transformation Organizational Development Based on Portfolio Management. In *Proceedings of the 2021 11th IEEE International Conference on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications (IDAACS)* (pp. 444–451).
16. Vorkut, T., Petunin, A., Sribna, N., Kharuta, V., & Khrutba, Y. (2022). Portfolio management for public participation projects. In I. Linde (Ed.), *Innovative integrated computer systems in strategic project management: Collective monograph* (pp. 178–199). European University Press. <https://doi.org/10.30837/MMP.2022.178>.
17. Rak, Y. P., Kovalyshyn, V. V., Zachko, O. B., Barabash, I. G., & Ivanusa, A. I. (2011). Information technologies in strategic management of vital activity safety project portfolios. *Eastern-European Journal of Enterprise Technologies*, 1 (5), 42–44.
18. Khlevna, I. et al. (2023). Development of the concept of building a corporate standard of portfolio management in the course of territory restoration planning in the context of Making-City project. *Eastern-European Journal of Enterprise Technologies*, 4 (3), 6–18.
19. Khlevna, I. et al. (2023). Devising a multiproject approach to the formation of portfolios for restoration and development of territories within the concept of strategic investments and development packages of the stinbalef project. *Eastern-European Journal of Enterprise Technologies*, 6 (3), 36–46.
20. Rusan, N., & Voitenko, O. (2021). Emotional-intellectual and cognitive factors of success in project management. *CEUR Workshop Proceedings*, 2851, 85–94. Retrieved from <https://ceur-ws.org/Vol-2851/paper8.pdf>.

The article has been sent to the editorial board 30.07.2025

Войтенко Олександр Степанович

Кандидат технічних наук, доцент, доцент кафедри управління проєктами,

<https://orcid.org/0000-0002-7414-7836>

Київський національний університет будівництва і архітектури, Київ

Гудов Валерій Васильович

Аспірант кафедри управління проєктами,

<https://orcid.org/0009-0008-8068-5324>

Київський національний університет будівництва і архітектури, Київ

УПРАВЛІННЯ ПОРТФЕЛЕМ ПРОЄКТІВ: НАПРЯМКИ РОЗВИТКУ У ВЗАЄМОЗВ'ЯЗКУ ШТУЧНОГО ІНТЕЛЕКТУ ІНСТРУМЕНТІВ І ЕМОЦІЙНОГО ІНТЕЛЕКТУ КОМАНДИ

Анотація. Проведено аналіз досліджень з проєктного і портфельного менеджменту, а також відомих стандартів і методологій, у контексті їх можливого використання для розвитку запропонованого підходу AEI (Artificial and Emotional Intelligence) портфельного управління. Ідентифіковано сучасні напрямки розвитку портфельного управління – системність підходу до багатопроєктного управління, ієрархічність сукупності артефактів проєктної діяльності, наявність регламентів процесів управління портфелем, використання спеціалізованих ІТ інструментів для управління портфелем проєктів, застосування елементів штучного інтелекту для виконання окремих задач управління портфелем проєктів, управління портфелем окремою командою фахівців, застосування креативних технологій управління портфелем та моделей і методів розвитку компетенцій портфельного управління в учасників портфельної команди, висунення жорсткіших вимог щодо портфелів будівельних проєктів в Україні, що реалізуються під час війни, що спричинена російською агресією проти України. Визначено невирішену раніше частину наукової проблеми – створення моделей і методів управління портфелем будівельних проєктів на основі використання елементів штучного в інструментах підтримки рішень та емоційного інтелекту команди управління портфелем. Запропоновано AEI портфельне управління – крос-портфельне штучно-емоційне інтелектуальне управління для використання в будівельних

проектно-орієнтованих організаціях. Охарактеризовано елементи, що можуть бути закладені у підґрунтя такого підходу: класичні методології і стандарти управління портфелями, гнучка методологія Agile, елементи штучного інтелекту для використання в проектно-орієнтованих ІТ технологіях, емоційний інтелект учасників команди управління портфелем, крос-портфельний корпоративний стандарт управління проектною діяльністю. Виокремлені основні риси таких елементів і оцінена їх придатність до використання у зазначеному контексті. З урахуванням специфіки запропонованого підходу, розширено класифікацію портфельного управління у подальший розвиток подібних класифікацій, запропоновано нові ознаки класифікації (за використанням емоційного інтелекту, за використанням комбінації штучного інтелекту інструментів портфельного управління та емоційного інтелекту команди, за використанням панівного підходу до інтеграції системи управління проектами в організації) і різновиди портфелів відповідно до таких ознак. Запропоновано мозаїчну модель AEI (Artificial and Emotional Intelligence) портфельного управління, наведений опис цієї моделі у множинній формі. Проведено SWOT аналіз запропонованого підходу AEI портфельного управління, виділено його сильні і слабкі сторони, а також можливості і загрози, що можуть виникнути при його використанні. Зроблено висновок щодо високого потенціалу його ефективності. Сформульовані галузі подальших досліджень у обраному напрямі. Сформульовано висновки з проведених досліджень.

Ключові слова: управління проектами та програмами, управління портфелями проектів, штучний інтелект, емоційний інтелект, підхід AEI (Artificial and Emotional Intelligence) портфельного управління

Link to publication

- APA Voitenko, O. & Hudov, V. (2025). Project portfolio management: development directions in the relationship between artificial intelligence tools and team emotional intelligence. *Management of Development of Complex Systems*, 63, 35–42, [dx.doi.org/10.32347/2412-9933.2025.63.35-42](https://doi.org/10.32347/2412-9933.2025.63.35-42).
- ДСТУ Войтенко О. С., Гудов В. В. Управління портфелем проектів: напрямки розвитку у взаємозв'язку штучного інтелекту інструментів і емоційного інтелекту команди. *Управління розвитком складних систем*. Київ, 2025. № 63. С. 35 – 42, [dx.doi.org/10.32347/2412-9933.2025.63.35-42](https://doi.org/10.32347/2412-9933.2025.63.35-42).