

№	Статья и ссылка	Аннотация
1	<p>Bedrii, D. (2020). Integrated anti-risk management of conflicts of a scientific project in a behavioral economics. <i>Scientific Journal of Astana IT University</i>, 3, 4-14. https://doi.org/10.37943/AITU.2020.15.62.001</p>	<p>The object of the research is the processes of managing uncertainties such as risks, conflicts, and factors of behavioral economics which may have negative consequences for a scientific project. The study has revealed that the success of any project depends on the ability of the project manager to effectively manage his team to meet the values of each stakeholder and the goals of the project itself. To solve this goal it is necessary to complete the following tasks: • analysis of methods of integration of risk management, conflicts and factors of behavioral economics; • justification of the necessity to build integrated anti-risk management of conflicts in behavioral economics; • to carry out conceptual modeling of integrated anti-risk conflict management in behavioral economics. A conceptual model of integrated anti-risk management of conflicts of a scientific project in the context of behavioral economics is proposed, built based on the “Change Management Iceberg” model. The management of scientific projects has been further developed through the integration of methodologies: project management, the theory of stakeholders, risk management, HR management, conflict management, and behavioral economics. A conceptual scheme of integrated anti-risk management of conflicts of a scientific project in behavioral economics has been developed which allows a project manager to manage uncertainties (risks, conflicts, factors of behavioral economics). Research refers to the project management methodology and improves it by integrating the processes of risk, conflict, and behavioral economics management into one process. The main goal of the study is to reduce and eliminate all negative consequences in a scientific project, to complete it within the approved budget, terms and a certain quality.</p>
2	<p>Bielienkova, O., Stetsenko, S., Sorokina, L., Molodid, O., & Bolila, N. (2020). System of preventive action of construction enterprises on the basis of identification of anticrisis potential. <i>Scientific Journal of Astana IT University</i>, 3, 15-27. https://doi.org/10.37943/AITU.2020.53.13.002</p>	<p>Peculiarities of formation of anti-crisis potential of construction enterprises are considered. Construction companies are rapidly adapting to the requirements of the digital economy, transforming the management structure, business processes. To improve the system of preventive protection and protection of enterprises from loss of viability and subsequent self-liquidation or bankruptcy, a system of indicators is proposed, which allows to identify existing risks and threats at an early stage. In order to improve the mechanism of control of the stability of the system of anti-crisis potential of construction enterprises in the medium term, a cluster analysis was performed. The study was based on 53 enterprises of the type of activity «construction». This study allowed us to identify the most important, priority, leading indicators of the loss of economic security and to clarify the threshold values of these indicators and the degree of their «blurring» in the unstable conditions of the external economic environment. Indicators of crisis state of construction enterprises are determined by means of fuzzy sets, among which it is possible to allocate: level of capital consumption by owners, level of operating sales on retained earnings, return on working capital on retained earnings, cost of operating expenses on personnel costs, term of accounts payable. The main direct and indirect signs of deterioration of the anti-crisis potential of the enterprise are revealed. The model of information interaction of divisions of the enterprise is offered. All processes of information exchange with the help of IMS (Information Management System) have the ultimate goal of the maximum possible exclusion from the business practice of paper documents and the transition to direct paperless data exchange (in the practice of construction is an example of creating a BIM-model of objects).</p>
3	<p>Biloshchytska, S., Bondar, A., Bushuyev, S. & Malaksiano, N. (2020). Structure of the project-oriented organization energy entropy. <i>Scientific Journal of Astana IT University</i>, 3, 28-34. https://doi.org/10.37943/AITU.2020.33.24.003</p>	<p>This study presents the universal formalization of energy entropy for various organizations and its expression for project-oriented organizations. The energy entropy of organizations is determined by information entropy, total energy and the ratio of the achieved level of energy efficiency to the «ideal» level. Entropy is viewed as a measure of uncertainty in the information and organizational space. In the information space, it determines the measure of the missing information for making decisions. In the organizational space, entropy determines the level of entrepreneurial energy that is necessary for the successful operation of an organization in the implementation of projects and programs. The relationship between energy entropy and informational (structural) entropy of project-oriented organizations is established. It is determined that when adding a new project to the current totality, the organization must ensure a balance between the growth of uncertainty (information entropy) and energy efficiency. The method of «decomposition» of the total energy entropy of project-oriented organizations in the form of the sum of local energy entropies for projects is presented. The effect of adding a new project to the structure of a project-oriented organization on its integrated energy entropy is investigated. The presented results form a new look at the qualitative</p>

		assessment of both a single project and the entire set of projects of a project-oriented organization.
4	<p>Bushuyev, S., Bushuyeva, N., & Bushuieva, V. (2020). The emotional infection of the virtual innovation project team. <i>Scientific Journal of Astana IT University</i>, 3, 35-50. https://doi.org/10.37943/AITU.2020.17.13.004</p>	<p>Emotional infection is considered as a social and psychological mechanism of transferring the mental mood of the manager to the virtual project team and stakeholders of the projects. Emotional impact in the face of direct contact and the inclusion of the virtual team members in certain mental states have an impact on the effectiveness of project management. The main objective of emotional infection analysis is educated and creates the organization of new behavior in adverse, deadly, and aggressive external conditions the manager or virtual team. In times of global crisis and depression 2.0, the emotional behavior of the innovation project manager and his infection with the project team is exacerbated by external uncertainty. The stakeholder infection model is based on an understanding of the life cycle of the project manager, which is presented as a curve for personal changes of the manager of innovative communication projects and programs. Emotions are considered in content, reflecting the various aspects and meanings that caused them. To apply the psychophysiological formula for assessing the impact of the emotional state of the virtual team of innovative projects, these influences have been transformed into a competent model for managing these projects.</p>
5	<p>Chupryna, Iu., Pokolenko, V., Horbach, M., Bolebrukh, O., & Hrabchak D. (2020). Model of strategic analysis of formation and administration of investment activity of stockholder construction company. <i>Scientific Journal of Astana IT University</i>, 3, 51-62. https://doi.org/10.37943/AITU.2020.19.30.005</p>	<p>The article analyzes the market position of construction companies and builds a justification for updated methodological and analytical tools for evaluating, selecting, and building a productive system of portfolio administration of housing projects, which are implemented in a single operating system of the development company. The problems of investment activity of stakeholder construction companies, which have been constantly carried out in many countries by prominent foreign and domestic scientists, have been studied. Several variants of circumstances that shape the external and internal environment of the developer are analyzed, which must be taken into account when determining the strengths and weaknesses of the enterprise, its capabilities and threats, which provides a general picture of the internal situation and is important for developing optimal strategy for the enterprise. The operating system is determined by the introduction of fundamentally new updated scientific and applied tools designed to provide the development company with a clear formalization and proper analytical support of the processes of formation, analysis, and productive subsequent administration: the leading innovation of the tools introduced commercial housing construction, which are implemented in a complex economic and managerial format – production-technological, resource-logistical and administrative management of the content of business processes of project cycles as part of the portfolio of housing construction projects of the developer.</p>
6	<p>Laptiev, O., Savchenko, V., Kravchenko, Y., & Barabash, O. (2020). Improving the method of searching digital illegal means obtaining information based on cluster analysis. <i>Scientific Journal of Astana IT University</i>, 3, 63-70. https://doi.org/10.37943/AITU.2020.99.72.006</p>	<p>In the article the possibilities of the multipositional technology of searching digital insertion devices are investigated based on clustering. Existing means of detecting radiation of digital illegal means obtaining information reception show that they are ineffective on the background of legal signals of a multiagent medium. The constant improvement of digital illegal means obtaining information, masking their work under the signals of legal transmitters require the search for new approaches to the recognition and localization of these means. Prospects for the development of search technology today are associated with the creation of multi-position permanent detection and localization systems. However, the detection problem requires the recognition of harmful radiation on the set of statistics of signal parameters in the air by solving the problem of clustering. The disadvantages of most classical clustering methods are the need for prior knowledge of the possible number of clusters and a sufficiently high interactiveness, which complicates their practical application, especially in real-time. At the same time, intelligent multi-agent methods are free from these shortcomings, although their application remains quite complicated. The problem of recognizing the harmful signal against the background of similar legal signals is possible by using the method of a bee colony with direct communication between agents. In this case, the agents are individual elements of the multi-machine complex, which scan the ether at different points in space, then exchanging results with other agents, and, finally, come to a common conclusion about the nature of the signal. Full-scale studies have been carried out that confirm the reliability of clusterization by 6 ... 12% compared to the classic k-medium method.</p>
7	<p>Ryzhakova, G., Chupryna, K., Ivakhnenko, I., Derkach, A., & Huliaiev, D. (2020). Expert-analytical model of management quality assessment at a construction enterprise. <i>Scientific Journal of Astana IT University</i>,</p>	<p>This article develops an expert-analytical model for assessing the quality of process-oriented management of construction companies. The model differs in a two-tier approach to object evaluation by pre-evaluating the characteristics of objects and their parameters. Assessments were made in</p>

3,	https://doi.org/10.37943/AITU.2020.69.95.007	71-82. connection with the time and financial costs of resources that allow to forming an expert group, conduct a survey and analyzing its results. These results were conducted by the method of written questionnaires, which are divided into three groups: general information about the expert (age, experience, specialty, etc.), the main questions related to the problems being analyzed or evaluated, additional questions to determine the rationale for answers, competence of experts, etc. The list of possible linguistic estimations of characteristics and parameters and their numerical equivalents is formed that will give the chance to provide quality of process-oriented management on the basis of the analyzed integrated indicators of quality of management of the building enterprise. A generalized assessment of the characteristics of each of the experts of the formed group in the expert-analytical model is also formed. The list of objects, parameters and their components which are intended for an estimation of quality of management at the building enterprise is generalized. The dynamic analysis of the integrated indicator of management quality allows the institutional level of contractors to rationally plan the activities of the construction company and adjust the work in sectors (financial, production, resource, etc.) for which negative evaluations were obtained.
8	Tymchenko, D., Korogod, N., & Novorodovska, T. (2020). Technology transfer office model. <i>Scientific Journal of Astana IT University</i> , 3, 83-90. https://doi.org/10.37943/AITU.2020.73.19.008	At present creation of specialized organizational structure, the technology transfer office (TTO) in higher education institutions (HEIs) becomes increasingly important for establishing communication between scientists, business, and the state and for implementation of the results of scientific and technical activities of higher education institutions in the real sector of the economy. Surveys of domestic and foreign scientists show that the issues of creating project offices (which in fact are TTOs) in HEIs remain insufficiently explored. Given this, the authors conducted a study of project management to create a TTO in a HEI. Efficient organizational project management requires the presence of Organizational Breakdown Structure. This article proposes an Organizational Breakdown Structure template, which clearly demonstrates the project team structure targeted at TTO creation in a HEI, the subordination and basic functions of each team member. In addition, the article proposes a model of organizational structure of the newly created TTO, which is also a template for HEI, and which defines the structure of the office staff, their subordination and main functions. To determine the location of the TTO in the structure of HEI, the article proposes a corresponding model that shows the subordination and connection of the office with other functional units of HEI. Using the models presented in the article, any HEI will be able to effectively manage the project of creating a TTO and as a result to create a project product – a TTO.
9	Gogunskii, V., & Kolesnikova, E. (2020). Method for analyzing complex systems on the example of the competence model of ICB4.0 IPMA project managers. <i>Scientific Journal of Astana IT University</i> , 3, 91-110. https://doi.org/10.37943/AITU.2020.39.74.009	Abstract: The article proposes to consider some of the results of the analysis of the internal relations of the structure of the model of individual competencies of project managers, proposed by the International Project Management Association (ICB IPMA). A method is proposed for analyzing such structures, which provides for a series of steps, starting with the formulation of the problem and identification of the system investigated for solving the problem, and ending with updating the idea of the structure of interactions of the elements of the system under consideration and setting a new problem (problem). The authors use an approach such as system engineering based on modeling, which assumes a plurality of representations (models) in the study of one system. In the article, the system under study is presented both in the form of a graph and in the form of an adjacency matrix, which makes it possible to use various methods of analysis and build various models on a common model of primary data. When presented in the form of a graph, an example of application for analysis of such software as yEd and Gephi is considered. When analyzing using matrix analysis, it is first of all proposed to use classical methods of analyzing such representations as Markov systems with discrete states. It is suggested to consider the representation in the form of a second-order adjacency matrix, presenting it in the form of a “system landscape” showing the number of “paths” of transitions from one state to another (connections between elements), including through the adjacent elements of the system. It is proposed to consider such a matrix as an analogue of a “decision matrix”, considering the full set of system elements both as a set of “strategies” and as a set of “reactions” to strategies, which allows applying the methods of analysis of such a matrix used in game theory (decision theory). The closeness between the conclusions obtained on the basis of the analysis of the set of visual representations proposed by the authors and also the analytical approach they use, using elements of Markov analysis and game theory, is shown.

		<p>Keywords: system engineering, Markov models, adjacency matrix, directed graph, graph theory, evaluation, decision making under uncertainty, game theory, project management, competency model</p> <p>В статье предлагается рассмотреть некоторые результаты проведения анализа внутренних связей структуры модели индивидуальных компетенций руководителей проектов, предлагаемой Международной ассоциацией управления проектами (ICB IPMA). Предлагается методика проведения анализа подобных структур, предусматривающая прохождение серии шагов, начиная с постановки проблемы и идентификации исследуемой для решений поставленной проблемы системы и заканчивая обновлением представления о структуре взаимодействий элементов рассматриваемой системы и постановки новой задачи (проблемы). Авторы используют такой подход, как системный инжиниринг на основе моделирования, предполагающий множественность представлений (моделей) при исследовании одной системы. В статье исследуемая система представлена как в виде графа, так и в виде матрицы смежности, что предоставляет возможность использования различных методик анализа и построение различных моделей на общей модели первичных данных. При представлении в виде графа рассматривается пример применения для анализа такого программного обеспечения как yEd и Gephi. При анализе с использованием матричного анализа прежде всего предлагается использовать классические методы анализа таких представлений как марковских систем с дискретными состояниями. Предлагается рассматривать представление в виде матрицы смежности второго порядка, представляя ее в виде «системного ландшафта», демонстрирующей количество «путей» переходов от одного состояния к другому (связей между элементами), в т.ч. через смежные элементы системы. Предлагается рассмотреть такую матрицу как аналог «матрицы решений», рассматривая полное множество элементов системы и как набор «стратегий», и как набор «реакций» на стратегии, что позволяет применить методы анализа такой матрицы, применяемые в теории игр (теории принятия решений). Показана близость между выводами, полученными на основании анализа предлагаемого авторами набора визуальных представлений и также используемого ими аналитического подхода, использующего элементы марковского анализа и теории игр.</p>
1	<p>Zachko, I., Ivanusa, A., & Zachko, O. (2020). Models and mechanisms management of program projects of socio-economic development the territories. <i>Scientific Journal of Astana IT University</i>, 3, 111-118. https://doi.org/10.37943/AITU.2020.53.64.010</p>	<p>Abstract: The scientific article considers an important scientific and applied problem of developing models and mechanisms for projects and programs management for the socioeconomic development of territories by means of financial regulation instruments. The priority of reorienting the paradigm of project management using mechanisms of financial regulation and project management is justified. The genesis of the problem of projects and programs management for the development of territorial socio-economic systems was researched on the example of leading scientific schools. An informational and literary analysis of modern trends in the implementation of large-scale programs and projects for the socio-economic development of territories was carried out on the example of Ukraine, Kazakhstan and Japan. Based on the informational and literary analysis of modern trends in the implementation of programs and projects for the socio-economic development of territories, specific categories of development projects were formulated taking into account the cross functional culture of the multi-project environment. A life cycle model has been developed for the development projects of the regional socio-economic territorial system. A definition of a regional socio-economic territorial system is given using project management definitions, in particular the concept of a project environment. The synergistic effect of the socio-economic development projects and programs is achieved precisely by integrating the best project management practices using the P2M methodology, financial regulation tools using subsidies and subventions for targeted program projects as sources of financing projects and public-private partnership mechanisms. The scientific results obtained in the article complement the existing methodology for managing programs and portfolios of regional development projects and change the vision of the value characteristics of the project by reloading the existing management paradigms using financial regulation mechanisms.</p> <p>Keywords: development program; socio-economic systems; territories; models and methods of financial regulation.</p> <p>В научной статье рассмотрена важная научно-прикладная проблема разработки моделей и механизмов управления проектами и</p>

		<p>программами социально-экономического развития территорий средствами инструментов финансового регулирования. Обоснована приоритетность переориентации парадигмы управления проектами с использованием механизмов финансового регулирования и проектного менеджмента. Исследован генезис проблемы управления проектами и программами развития территориальных социально-экономических систем на примере ведущих научных школ. Проведен информационный и литературный анализ современных трендов реализации масштабных программ и проектов социально-экономического развития территорий на примере Украины, Казахстана и Японии. На основе проведенного информационного и литературного анализа современных трендов при реализации программ и проектов социально-экономического развития территорий сформулированы специфические категории проектов развития учитывая кросс функциональной культуры мульти проектного окружения. Разработана модель жизненного цикла программы проектов развития региональной социально-экономической территориальной системы. Дано определение региональной социально-экономической территориальной системы с использованием дефиниций управления проектами, в частности понятия – проектной среды. Синергетический эффект от реализации программы проектов социально-экономического развития достигается именно интеграцией лучших практик управления проектами с использованием методологии P2M, инструментария финансового регулирования с использованием дотаций и субвенций на целевые проекты программ в качестве источников финансирования проектов и механизмов государственно-частного партнерства. Научные результаты, полученные в статье, дополняют существующую методологию управления программами и портфелями проектов развития регионов и меняют видение ценностных характеристик проекта, путем перезагрузки существующих парадигм управления с использованием механизмов финансового регулирования.</p>
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