Abstracts and Keywords

Y.A. Akalu, D.V. Elenev

Methods for Modeling the Motion of Tether Systems

Keywords: near-Earth orbit; material point; tether system; Lagrange equation; modeling; deployment.

Abstract. The article considers the motion of two bodies in near-Earth orbit, connected by a weightless and inextensible tether. The purpose of this paper is to study methods for modeling the movement of tether systems and to build a mathematical model of motion. The research objectives are the study of the motion of two bodies and formulation of a mathematical model of the motion of bodies using the Lagrange equations. In order to analyze the motion of a tether system, we used the fourth order Runge-Kutta numerical method. As shown in the results of formulating the dynamic equations of motion and analyzing the motion of the tether system in Matlab, the fourth-order Runge-Kutta method has exact solutions.

Y.A. Akalu, D.V. Elenev, A.Y. Germamo

Application and Experiments for the Implementation Of Space Tether Systems

Keywords: spacecraft; space tether system; electrodynamic tether system; space debris; conductive tether; orbit.

Abstract. The article considers an overview of the existing and used methods for deploying space tether systems. The purpose of this paper is to analyze the application and experiments carried out in the implementation of space tether systems. The research objectives are to study a review of theories and methods of using space tether systems.

We used a theoretical method of research and study of existing tether systems. As a result, the prospects of the problem to be solved in the field of the space tether system were revealed.

M.G. Bashirov, N.A. Khisamov, Y.S. Ghurba, O.G. Volkova

The Development of an Intelligence System for Troubleshooting of Machine Assemblies with Electric Motor Drive

Keywords: diagnostics; electric motor; fault; data communication; harmonics; technical position; spectrum of consumption current.

Abstract. Oil and gas entities always have exclusive standards for the reliability of electrical equipment, because its damage or fault can lead to breakdown or the emergency situations, which in turn will entail economic and environmental damage. In this article, based on the use of the electromagnetic spectral method, an intelligent diagnosis system of the technical condition of machine assemblies with an electric drive is proposed with using hardware-software solution and IT in the form of fuzzy sets, artificial intelligence and neural networks. The article describes block diagram of the electric drive and the neural work functionality, the main damages of the electric motor and the advantages of their computer simulation. This paper gives comparative analysis of the diagnostics of vibration monitoring of machine assemblies between health assessment in terms of the parameters of the current and voltage harmonics of the electric drive motor. Based on the available experimental data, the most effective intelligence diagnostic system was identified to detect health assessment of machine assemblies with an electric drive, which is necessary to identify their operating modes and predict the residual lifetime.

M.G. Bashirov, A.M. Khafizov, R.R. Adelguzhin

Digital Twin of a Laboratory Stand with a Controller Based on Fuzzy Logic

Keywords: programmable logic controller; training laboratory stand; CoDeSys V2.3; fuzzy logic; fuzzy control.

Abstract. The aim of the study is to create a digital double of an educational laboratory stand, which is based on an intelligent control system based on software for domestic programmable industrial controllers "Aries". The main tasks of the study are the consideration of the basics of fuzzy control of an object, the characteristics of which are obtained from a real laboratory stand; the development of a digital double, as well as the possibility of introducing it into the process of training specialists. The study clearly demonstrates the stages of implementation of fuzzy control of a mathematical model of a specific object, the interfaces of user interaction with the digital twin environment implemented in the programming environment of domestic microprocessor industrial equipment, and a look at the possible use of the developed digital twin in educational programs of higher educational institutions according to modern training formats.

M.S. Denisenko, V.Yu. Belash

Information System Design for Public Organization

Keywords: architecture; diagram; model; organization; application; design; process.

Abstract. This article discusses information models developed at the design stage of an information system to account for members of a public organization. The purpose of the study is to create a software product for a public organization in order to optimize its functioning. The hypothesis of the study is the popularity of the developed application among users, as well as the ease of use of such software. Research methods are analysis of literature on application development, idealization and formalization of ideas about the implementation of software products, testing and analysis of statistical data. It was found that the created application is prepared for implementation in the activities of a public organization.

I.V. Zaitseva, M.G. Kaznacheeva, D.V. Shlaev, I.K. Sidenko

Mathematical modeling of the solution of the competitive problem of subtask synchronization

Keywords: modeling; network planning; critical path method; research; project; resources.

Abstract. For the implementation of projects or large sets of works, it is important to have the calendar consistency of a large number of interrelated works performed by various organizations. Geopolitical projects are a complex system of operations that require clear order and synchronization. An important aspect of the project is the synchronization of the phased execution of operations by several actors in a competitive environment. The purpose of the work is to develop a model for synchronizing the execution of subtasks of the project by several actors. To achieve the goal, you need to solve a number of tasks: formalizing the task of synchronizing the implementation of the project; development of a model that describes the task; formulation of the task of finding the optimal time and costs for the implementation of the project plan. Additionally, the ratio between the cost and duration of each operation and restrictions on the minimum and maximum duration of the operation should be set. To solve the problem, methods of game theory are used. An example of the numerical implementation of the problem is given.

I.V. Zaitseva, A.S. Shebukova, O.Kh. Kaznacheeva, A.F. Dolgopolova

Mathematical Modeling of Network Planning of Resource Allocation in Competitive Conditions

Keywords: modeling; network planning; critical path method; research; project; resources.

Abstract. The paper considers the project as a set of operations, the implementation of which is necessary to achieve a certain goal, where the order of sequence is set between operations, and the duration of each operation is considered known. Otherwise, minimum and maximum estimates of the duration of the operation should be introduced, as well as the most likely duration, which are clarified with the specialists responsible for performing the relevant operations. The aim of the work is to develop a mathematical model for the study of the critical path of resource allocation. The task is to identify the critical path, that is, to find the "critical" operations to which the greatest efforts should be directed in the process of project implementation. The network planning method allows you to correctly allocate resources, minimize the time of project implementation and the cost of its implementation, as well as identify subtasks that are "critical" for the overall calendar duration of the project.

P.S. Ivanov

Processing Data from a Three-Factor Experiment and Creating Mathematical Models to Determine the Optimal Parameters of the Cone Vibration Mill

Keywords: vibrating mill; mathematical models; data processing.

Abstract. The subject of the study is the physico-mechanical processes occurring in a cone mill during the grinding of sand. The object of the study is the formation, receipt and processing of the above data, as well as methods of their control and management, in order to achieve optimal operation.

S.V. Palmov, A.V. Timofeev

Research on Data Preprocessing Methods

Keywords: data preprocessing; dimension reduction; machine learning; decision tree; neural network; Python.

Abstract. Preparation is an obligatory stage of data analysis. Independent variables dimension reduction is a important transformation, especially when processing large amounts of information. There is a problem of selecting the most suitable algorithm for certain conditions that implements the processing. The purpose of the paper was to test the hypothesis that the application (module) created by the authors can help the researcher to choose a dimension reduction method. To verify the above statement, the following tasks were solved: a program code was written and a module that performs data preprocessing was tested. This has been done through principal component analysis, singular value decomposition, independent component analysis, factorial and comparative analysis, and high-level programming. The obtained results unequivocally indicate that the created application allows solving the specified problem quite effectively.

I.V. Prakhov, Sh.Sh. Kholmatov, N.A. Khisamov

Using an Intelligent Distribution Substation Management System for Energy Efficiency and Energy Saving Tasks

Keywords: digital substation; energy efficiency; energy distribution; equipment; information; distribution network; data processing.

Abstract. There is a need to improve and modernize the existing power supply system to ensure not only its operability and reliability, but also to increase its ability to withstand internal and external

damages. This task is very relevant. The implementation of an automated control system for a distribution transformer substation will provide the ability to monitor and control the power grid in real time, which will improve its manageability, efficiency, and reliability, as well as respond to possible calculation disruptions in the power grid. This article describes measures to increase the reliability of the power supply system and the development of an automated control system for a transformer distribution substation, the purpose of which is to increase its reliability and energy efficiency. The article draws attention to the advantages of using digital substations, considers the scheme of a dynamic voltage distortion compensator, as well as the possibilities of a multifunctional meter. The role of the control room collecting information about the state of the entire network and its elements was analyzed. Based on the available data, the results of the implementation of all considered technical solutions were described.

A.A. Scriabina, A.S. Khismatullin, D.A. Zabolotny, M.V. Boev

Improvement of the Power Supply System of the Catalytic Reforming Shop

Keywords: reactive power compensation; distribution transformer substation; energy efficiency; computer simulation; power engineering; harmonic analysis.

Abstract. The purpose of the article is to analyze the process of reactive power compensation in a three-phase AC network. The material of modern technical documentation, methods of calculation and analysis of the existing system, modern software are used. As a result of the study, a circuit of a distribution transformer substation (**RDS**) was assembled, a reactive power compensator was developed, loads were connected in the form of asynchronous electric motors with a squirrel-cage rotor (**SCRM**), and an analysis of the operation of the reactive power compensator (**RPC**) was performed. Research and development and technical and economic indicators have been improved through the introduction of more reliable and energy efficient means of modernization. When designing electrical networks of industrial enterprises, a number of technical and economic problems arise related to the rationalization of consumption and transmission of electricity. One of these tasks is the control of reactive power in the system.

B.B. Turutin

Features of the Formation of Information Models Obtained from the Results of Processing Survey Materials

Keywords: information model; BIM-technologies; life cycle; object; classification; requirements.

Abstract. The purpose of the research is to study the features of building information models in the process of managing the life cycle of objects. In the context of changes in the nature of the functioning of production at industrial enterprises, the necessity of improving the modeling technology is analyzed, due to the relevance of the issues of forming requirements for the composition of information models of railway infrastructure facilities. The study solves the problems of improving the requirements for information models, the specific properties of BIM models of subsystems, components and infrastructure facilities. As a hypothesis of the study, it is assumed that the information models of a unique object and the formed requirements based on the current information modeling technology undergo a gradual transformation, first in terms of clarifying the design geometric and attribute parameters, and then in accordance with the processes of construction production and operational events. In this regard, the current requirements for the functionality of information models will allow the customer to provide life cycle management processes for infrastructure facilities.

I.S. Zharov

Analysis of Designs of Maximum Air Flow Sensors with Various Elastic Sensing Elements

Keywords: maximum air flow sensors; elastic sensing elements; springs.

Abstract. This article describes the designs of maximum air flow sensors with elastic sensing elements in the form of a spiral, helical and flat spring for measuring the peak exhalation rate of a person. From the analysis of the equation of motion of elastic sensing elements, it was found that the maximum air flow sensor with a flat spring has the smallest errors, since it has fewer different moments of resistance to the movement of the elastic sensing element. Elastic sensing elements were analyzed by the nonlinearity of the characteristic and hysteresis. The analysis showed the advantages of flat springs, consisting in simplicity of design and low hysteresis, but revealed that they have a sufficiently high value of nonlinearity, leading to the nonlinearity of the scale of values of peak exhalation velocity.

V.V. Krokhmal, O.N. Matsko, A.S. Gabriel, N.A. Mokhova

The Effect of Centrifugal Force on the Pressure in the Working Chamber of the Pneumatic Spring of the Mechatronic Test Bench

Keywords: centrifugal force; vibrations; pneumatics; inertial forces; tests; rotor; mechatronic test bench.

Abstract. In this paper, the processes occurring in the working chamber of a pneumatic spring during the rotation of the rotor of a centrifuge test bench are studied; in particular, the effect of centrifugal force on the pressure in the working chamber of a pneumatic spring is studied.

To accomplish this task, the article presents a mathematical model of a rotor with a hollow cylinder that is rigidly fixed to the rotor and pumped with gas. By analyzing the processes occurring with the gas during the rotation of the rotor, the formula for calculating the pressure at each point of the working chamber of the cylinder is derived. With the help of the derived formula, a graph of the redistribution of gas pressure in the working chamber of the cylinder is obtained. The redistribution of gas pressure at different speeds of rotation of the rotor is analyzed; a visual dependence of gas pressure on centrifugal force is obtained.

P.A. Govorukha

Problems of Management and Efficiency of Construction Project Implementation

Keywords: life cycle; organization of construction; project structure; control; efficiency.

Abstract. Management decisions rationally formed and adapted to current external and internal conditions are the key to a successfully implemented construction project. The correctness of the chosen path of development of construction and installation works is determined by a comprehensive review of the results of activities through an assessment of efficiency. Construction is a complex and multifactorial system, where the definition of efficiency is always a relevant and complex problem. The purpose of the study is to systematize and classify the existing principles of the scientific approach in the field of management and organization of a construction project and to determine the existing actual problem.

The hypothesis of the study lies in the possibility of improving the efficiency of managerial and organizational decisions during construction and installation work through the systematic implementation of the principles of a scientific approach. The research methods are analysis and synthesis, system analysis, classification, comparison and generalization were used. The study resulted in the systematization and classification of the existing principles of the scientific approach in the field of management and organization of the construction project and the definition of the existing problem.

M.A. Zyryanov, S.O. Medvedev, I.A. Petrova, I.G. Shvetsova

A Study of the Structural Features of Different Parts of Wood Biomass

Keywords: biomass; wood; wood raw materials; logging residues; trunk; branches; logging waste.

Abstract. At present, the problem of the integrated use of the entire biomass of a tree is acute. As a result, the purpose of this research was to analyze the structural features of various parts of the tree biomass and directions for their use. To achieve this goal, such tasks were solved as: an analysis of individual parts of the biomass of a tree was carried out, their characteristics were given and possible directions for their use were identified. The hypothesis of the study was to substantiate the effectiveness of the process of integrated use of the entire biomass of a tree. In the course of the research, an analytical method was implemented, which made it possible to analyze the process of processing individual parts of wood biomass. As a result, the need to expand the use of wood waste generated at various stages of logging and wood processing was justified.

M.A. Zyryanov, I.G. Shvetsova, S.O. Sergaev, V.S. Nepomnyashchy

Design Calculation of Working Bodies for Shredding Coniferous Wood Greens in the Climatic Conditions of the Far North

Keywords: geometric characteristics; Far North; cutting knife; negative temperature.

Abstract. At present, the question is being raised about the integrated use of the entire biomass of a tree, including the woody greenery of coniferous species. Currently, the crown of coniferous trees is used very little, mainly for the production of coniferous vitamin flour, granulated fuel and medicines. In most cases, tree greens are burned or buried. For the complex use of coniferous tree greenery, a plant design was developed that will allow operations for the separation and grinding of coniferous tree greenery and subsequent packaging of the resulting product. The design features of the installation allow it to be moved around the cutting area and used in the climatic conditions of the Far North. Due to the fact that the needles will be separated from the branches, the resulting product will have a reduced amount of mineral and wood inclusions. The study aims to make design calculations for a knife for chopping coniferous greenery in the Far North.

M.A. Zyryanov, M.M. Gerasimova, I.G. Shvetsova, V.S. Nepomnyashchy

Mathematical Modeling of the Technological Process of Preparation of Logging Waste for Disposal

Keywords: logging equipment; wood waste; productivity; natural production conditions; complex processing; profit; mathematical modeling.

Abstract. Coniferous species are predominant in the forests of the Krasnoyarsk Territory. As a rule, the crown of coniferous trees is practically not used, but with its complex processing it is possible to obtain a wide range of products. In this regard, the issue of complex processing of all wood biomass is currently relevant. To resolve this issue, the technological process of its processing was considered. The research method is an analytical method for studying the issue of complex processing of wood biomass using a compiled information and logical model of the technological process of a mobile installation, for a more visual representation. In the course of the research, the equations of the dependence of the performance of a mobile installation under favorable and unfavorable conditions were obtained. The application of the developed models in practice will allow determining the volume of processing of wood greens, which will allow planning the process of its transportation from the cutting area and the direction of further use.

The study aims to analyze the performance of a mobile plant for processing coniferous wood greens for further use.

M.A. Zyryanov, I.G. Shvetsova, V.S. Nepomnyashchy, P.V. Stupak

The Development of the Design of Knives for Chopping Wood Greens of Coniferous Wood Species

Keywords: logging waste; grinding; needles; innovative installation.

Abstract. Currently, only about 700 thousand tons of wood waste are used, which is no more than 4 % of the resulting amount of potential raw materials that could be used at wood processing plants. The analysis of the processes of formation and use of logging waste has shown that to date, coniferous wood greens have found their use as raw materials for the production of coniferous flour, which is produced directly in the cutting area. The study aims to analyze the operation of a mobile machine for grinding wood.

V.S. Nepomnyashchy, S.O. Sergaev, M.A. Zyryanov

Mobile Woodworking Equipment as a Basis for the Efficiency of Logging Operations

Keywords: wood; mobility; waste; mobile device.

Abstract. Today in our country it is difficult for logging trucks with whips to enter public roads. At the moment, without state support, it is not profitable for enterprises that are engaged in timber processing to create special roads, so the removal of the whip has fallen significantly. As a result, it is advisable to process the felling residues at the sites of logging operations. On the basis of the considered mobile devices, the study aims to identify their advantages in comparison with stationary devices. To achieve this goal, it is necessary to consider mobile devices that are capable of processing raw materials in the places where it appears. The main areas of research are the study of scientific literature on the topic of the work. The result of this study is that mobile installations will find their application in places difficult to transport raw materials.

L.G. Chernykh, S.N. Stepanov, I.N. Khrustaleva

Calculation of the Systematic Component of Primary Profile with Regard to Relative Oscillations

Keywords: surface roughness; primary profile; pro-filogram; measurement; fine turning.

Abstract. This paper covers issues related to forming the texture profile of the surface of thin-walled machine building parts. To determine the texture of the surface obtained during fine turning, the article shows a composite mathematical model of the primary profile of the surface current, taking into account relative vibrations. This model is presented as a trace of a periodically moving cutting tool on the treated surface, depending on the profile of the cutting tool and the cutting modes.

A.A. Bobrysheva

Directions for the Development of Cluster Structures in the Saratov Region

Keywords: cluster structure; cluster development centers; pricing; trends.

Abstract. The article reveals the issues of trends in the development of cluster structures in the Saratov region. The purpose of this article is to identify trends in the formation of cluster structures. The study of the main indicators of agricultural activity in the Saratov region is the task of this article. The methods of analysis and synthesis, generalization and structuring were used as research methods. The hypothesis of the study is the assumption that the establishment of trends in the development of the cluster structure can positively affect the formation of an integrated structure in the Saratov region.

According to the research, it is established that the solution of economic issues is the primary element of solving the issue of forming a cluster structure.

K.V. Zhegera, O.A. Panina

The Analysis of Competitiveness through the Example of a Dairy Industry Enterprise

Keywords: competitiveness; dairy industry; sour cream; SWOT analysis; FSA.

Abstract. For a stable position in the market, enterprises need to constantly improve their products. Thanks to various methods of assessing competitiveness, manufacturers can monitor the quality of their products and correlate it with competitors. On the basis of SWOT and elements of the FSA analyses, the points that the company needs to pay attention to have been identified and recommendations have been developed to improve competitiveness among competitors-producers of dairy products of the Penza region.

T.V. Kirillova, M.B. Ianenko, M.E. Ianenko

Product Policy as an Element of the Marketing Mix in the Concept of the Metaverse

Keywords: virtual and augmented reality; innovation; marketing mix; product policy; metaverse; digital marketing; digital transformation.

Abstract. Digital transformation has an increasing impact on the business environment, markets, consumer behavior, forcing companies to use innovative methods to increase competitiveness. Considering the metaverse as an immersive environment that opens up wide opportunities for creating innovative marketing tools, the authors substantiate the need to specify the theoretical and methodological foundations of the marketing complex within the concept of the metaverse. A special place in the marketing mix is occupied by product policy and its digital transformation. In this paper, the authors put forward a hypothesis that changes in consumer behavior, the emergence of digital and virtual worlds, the formation of the concept of the metaverse makes it necessary to specify the theoretical and methodological foundations of the company's product policy as an element of the marketing mix.

The purpose of the article is, based on an analysis of the transformation of marketing, its development and application in the digital environment, to show the features of product policy as an element of the marketing mix of real, digital, virtual goods. To achieve this goal, the following tasks have been completed: based on the systematization of the experience of using digital technologies, the creation of metauniverses, and a description of their influence on the elements of the marketing mix, it is shown that digital marketing should not be considered mainly as a means of promoting goods and services in isolation from the modernization of other elements of the marketing mix ; it is confirmed that the emergence of digital goods and services, virtual worlds, metaverses makes it necessary to modernize the commodity policy; recommendations for improving the commodity strategy in the metaverse are given. The study used general scientific theoretical and empirical research methods.

Yu.V. Kosolapov, E.A. Kostromina, A.A. Sivova

Prospects of Energy Technologies in the Foreign Penitentiary Transport Sector

Keywords: special transport; electric mobility; penitentiary system.

Abstract. The purpose of the article is to identify the possibilities of introducing energy road transport in the process of escorting persons in custody from the point of view of economic efficiency, environmental friendliness and safety. To complete the tasks, the experience of foreign countries is analyzed; the pros and cons of electric mobility are revealed. The results of the study come down to the

fact that the policy of organizations whose competence includes special transportation should focus not only on ensuring safety, but also on the introduction of energy technologies that help reduce costs and increase the level of greening of penitentiary institutions and its partner organizations.

S.A. Kotov, V.I. Talolo

Investing in None-Fungible Tokens (NFT)

Keywords: blockchain; investments; cryptocurrency; non-fungible tokens.

Abstract. The relevance of the topic is determined by the fact that the task of selecting investment instruments is a task for which the demand is constantly growing, and the market for cryptocurrencies is actively developing. This article deals with such an investment tool as NFT. The analysis of how to invest, what ways of investing in NFT are used today and what NFT as an investment tool lacks.

S.A. Kotov, V.I. Talolo

Modern NFT Technology as a Way to Invest Finances

Keywords: blockchain; investments; cryptocurrency; non-fungible tokens.

Abstract. The purpose of this article is to analyze and dissect NFT technology as a financial investment tool. In this article the analysis of modern economic opportunities of NFT as an investment financial tool is carried out. The article draws conclusions about the current state of affairs in the NFT segment. Ideas to improve the use of NFT as an investment tool are suggested.

L.L. Pokrovskaya, N.L. Dolotov, V.G. Fomina

Economic Fraud in the Russian Federation: Analysis and Modern Aspects

Keywords: business fraud; falsification; economic crimes; analysis of statistical data.

Abstract. The purpose of this article is to study statistical data on the investigation and disclosure of fraud in business activities. The objectives of the article include characterizing economic crimes and reflecting the effectiveness of the activities of the internal affairs bodies, identifying the effectiveness of counteracting economic crimes using the corresponding index. Correlation and comparative analysis were chosen as research methods. As a result of the study, a positive trend has been established in the investigation and prevention of fraud in the field of entrepreneurial activity in the Russian Federation in recent years.

Yu.Ya. Rakhmatullin, L.N. Bayanova, J.R. Lutfullin, O.A. Mustafina

The Regional Tourism Cluster of the Republic of Bashkortostan: Analysis and Development Prospects

Keywords: tourism; tourism sector; investment attractiveness; tourist flow; Republic of Bashkortostan.

Abstract. The purpose of the study is to study the tourism industry of the Republic of Bashkortostan and determine the prospects for its development. The objectives of the study were to analyze the activities of the tourism sector within the framework of investment attractiveness and identify key areas of strategic development of tourism in the region. The hypothesis of the study is presented by the thesis that the impact of tourism on the regional economy is conditionally divided into indirect and direct. In the course of the study, experimental-analytical and computational-constructive methods were applied. The results of the conducted research are the priority directions of social and economic policy in the

field of tourism, in particular, the development of industrial tourism and the creation of tourist and recreational clusters.

T.A. Saadulaeva, V.D. Lukina

Development of Investment Policy While Ensuring the Economic Security of the State

Keywords: investments; investment policy; investment security; fixed capital; economic security of the state; financial and economic security of the state.

Abstract. Investments are defined as capital, the distribution of which occurs under the influence of economic processes. The purpose of the study of this subject area is to consider the structure and types of investment policy, which will determine the scale of the impact of investment policy measures on the state economy. The structure of the state's investment policy is determined. Based on the presented structure, the key goal of implementing the investment policy is determined. The objectives of the investment policy dictated by its purpose and the economic situation in the country are defined. Based on the results of the analysis, the key indicators identified in accordance with the chosen methodology for assessing the financial and economic security of the state using investment security indicators are considered. Some indicators are presented that contribute to deepening the analysis and expanding the understanding of the main indicators of investment activity. The analysis of the main indicators of investment activity and indirect indicators reflecting the implementation of the investment policy of the Russian Federation is presented. To achieve the purpose of the study, the impact of investment policy and, in particular, the results of its implementation on the state of financial and economic security of the state was assessed. The key problem identified in the study is insufficient investment activity, its causes are determined. The directions of investment policy development while ensuring the economic security of the state are proposed.

J.A. Salavatova, V.A. Gerba

On the Issue of Estimating the Costs of the Information Infrastructure of an Enterprise

Keywords: personnel; enterprise; digital economy; information infrastructure.

Abstract. This article is a continuation of a scientific study on the topic of staffing the digital economy. The purpose of the study: a comprehensive assessment of the costs of the information infrastructure of an enterprise, taking into account the costs in the field of training personnel in the digital economy. The hypothesis is the assumption that advanced training of personnel in the digital economy is a mandatory attribute for calculating the cost of an enterprise's information infrastructure. The results obtained are as follows: the concept of information infrastructure, an indicator of the cost of an enterprise's information infrastructure, ways to reduce the cost of an enterprise's information infrastructure. The study uses general scientific methods, such as analysis, synthesis, and dialectics.

Yu.G. Sled, A.A. Shakirova, U.K. Akramov

Measures to Reduce Minor Crime

Keywords: youth policy; minors; education.

Abstract. The purpose of the article is to study the issue of conducting a regional youth policy in order to reduce the level of youth crime. The research objectives are to highlight the main measures to reduce juvenile delinquency. The research methods include analysis of scientific literature, generalization and systematization of scientific approaches, theories and concepts. It is concluded that the level of juvenile delinquency, education, morality and politics will in the future depend on the influence of institutions such as the state, family and society.

R.G. Khairullina, I.A. Akhmadullina, E.S. Shchigortsova

Features of Objective Signs of Smuggling of Strategically Important Goods and Resources

Keywords: norms of criminal legislation; crimes in the field of customs; criminal liability; strategically important goods; strategically important resources; smuggling.

Abstract. The purpose of this article is to describe the characteristics of the objective signs of smuggling of certain types of goods, the characteristics of the elements of the specified crime. The research methods are analysis of scientific and legal literature, accompanying documentation. In the course of the analysis of the specified corpus delicti, the relevant conclusions are drawn: in the case of smuggling of weapons and weapons of mass destruction, there is no differentiation of criminal liability, since the legislator does not define civil firearms, their parts and ammunition as the subject of smuggling.

K.A. Smelkov

Business Valuation: Modern Approaches and Technologies

Keywords: business; machine learning; valuation; cost.

Abstract. The aim of the study is to consider the features of modern technologies and approaches to the assessment of business value. The objectives are formalization of the subject of evaluation in the process of business value analysis; the study of traditional approaches to valuation, their capabilities and areas of application; the study of progressive evaluation techniques based on machine learning algorithms. The research methods are grouping, comparative analysis, synthesis, generalization, systematization, induction, and deduction. In the course of the research the modern approaches to the choice of the object of evaluation in the process of analysis of the cost of business have been indicated. Various techniques and estimations which can be used for new, operating enterprises or those which are planned to leave the market have been considered in details. It is concluded that the use of a particular methodological technique to assess the value of the business depends on its characteristics, objectives and market situation.

T.A. Izutina

The Impact of Sanction Restrictions on the Expansion of Russia's Trade in Non-Commodity Non-Energy Goods with the Countries of Latin America and the Caribbean

Keywords: Russian Federation; non-commodity exports; goods; Latin America and the Caribbean; export expansion.

Abstract. The purpose of the study is to consider the impact of sanctions restrictions on the part of Western countries and the approval of the lists of "unfriendly" countries on the Russian Federation's trade in non-commodity non-energy goods with the countries of Latin America and the Caribbean. The main tasks are to analyze imports of domestic goods by LAC countries for the period 2020-2022, including non-commodity ones, as well as to consider changes in individual product groups. The hypothesis of the study is the assumption that the volume of trade in non-commodity non-energy goods in 2022 increased compared to previous periods. The analysis and comparison were used as key research methods. Based on the results of the study, potential opportunities for increasing the volume of non-commodity non-energy exports to the region were identified, including recommendations for stimulating trade with Latin American partners.

T.A. Kasyanova, K.P. Polyakova, V.V. Reshetova, D.A. Frolova

Project Management: Basic Concepts and Methods

Keywords: project environment; project; project management.

Abstract. The study aims to address the problem of defining a project and project management in general. The task is to study the concepts of the project and its environment in the modern world by reviewing scientific literature. As a result, it was found out that the project is understood as an idea and actions for its implementation, as well as what is the management of the project and its environment.

S.M. Maltseva, M.N. Nekrasov, E.V. Ryzhakova, D.A. Stroganov

The Impact of Advertising on Students' Consumer Choice

Keywords: advertising; consumer choice; consumer behavior.

Abstract. Students are the most economically and intellectually developed groups in society, on whose value system the future largely depends. The purpose of the work is to analyze the impact of advertising messages on university students. The tasks are identification on the basis of an anonymous survey of changes in students' behavior as a result of paying attention to advertising; analysis of students' attitude to advertising. The research methods include description, generalization, comparison, and analysis of survey data. The results are as follows: the most popular categories of goods that students pay attention to are the entertainment industry, any discounted goods and food.

S.M. Maltseva, Y.S. Shibaeva, A.N. Komarova, M.B. Rotanova

Nizhny Novgorod Students' Choice of Clothing Brands before and After the Introduction of Sanctions

Keywords: sanctions; brands; clothing; students; self-expression.

Abstract. The study aims to describe the attitude of Nizhny Novgorod's students to domestic and foreign brands of youth clothing. The hypothesis of the study is as follows: students prefer foreign clothing brands to domestic ones even under sanctions. The research methods are description, generalization, comparative analysis, and analysis of student survey data. It has been found that the majority of students have not yet changed their opinion about the domestic manufacturer; when returning foreign brands, they would give preference to them again.