ANNOTATIONS OF THE ARTICLES

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CONCEPTS OF REALISM AND PROBLEM OF CONSCIOUSNESS

The relevance of this research is defined, on the one hand, by the fundamental character of the developed problems and, on the other hand, their essential aggravation at present. The research objective consists in disclosure of features of the current state of the concept «realism» and the position, which in its framework, is taken by the consciousness problem. Following research methods were used: analysis, synthesis and extrapolation, which creative use has provided achievement of organic integrity of the diverse and various theoretical materials, which has undergone the judgment, and promoted the selection of the empirical material, necessary for effective implementation of philosophical reflection.

The main results of the research consist in comparison of the heuristic value of realism and anti-realism in relation to the consciousness problem. Being a consecutive supporter of realism, the author notes the need of development of the specialized questions connected with specification of ideas about types of reality, its main parameters and evaluation criteria. Treating the consciousness problem as epicenter of all global problems of mankind, it is emphasized the strategic importance of the philosophical researches, defining ways of the exit of civilization to the new level of development.

Keywords: *realism, anti-realism, reality, consciousness, information.*

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ANALYSIS OF QUALITY MANAGEMENT SYSTEMS BY THE METHODS OF GENERAL THEORY OF SYSTEMS

The subject of the article is the analysis of the relationship between processes and quality management systems, taking into account such factors as entropy, homeostasis and others.

The aim of the article is the model formation for a complex study of trends in the context of processes and quality management systems, taking into account regression and fractal phenomena.

Quality management systems are one of the most popular management models in the world. More than one million organizations around the world have been certified their management systems for compliance with the

international standard ISO 9001. However, this model was increasingly criticized for excessive bureaucracy and inadequate cost-effectiveness. One way to overcome this problem is to revise the basic elements and requirements of quality management systems using a model that has won worldwide recognition - the general theory of systems. Quality management systems are subject to entropy - under the influence of the infinite number of external and internal factors that make up the context of the organization and, consequently, the organizations closely associated with them tend to a state of maximum entropy, that is, a complete breakdown into the largest possible number of small and simple elements as possible, so-called molecular chaos.

Methods of the general theory of systems are used, such as investigation of fluctuations, detection of bifurcation points, analysis of the amount of homeostasis, revealing the degree of openness of systems.

The applicability and utility for the study of the context, processes and systems of quality management of such concepts as entropy, homeostasis, bifurcation points, factuality, energy distribution in the system, etc. are proved.

The considered methods of the general theory of systems make it possible to move to a new level of understanding and analysis of the regularities occurring in quality management systems, to increase the effectiveness of their continuous improvement in general and goal-setting and planning in particular.

Keywords: *quality management system, general theory of systems, entropy, QMS evolution, systemic, volatility.*

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THE SYSTEM OF FACTORS DETERMING THE INVESTMENT ATTRACTIVENESS OF THE TERRITORY

The relevance of the research problem due to the fact, that investment is essential condition for socio-economic development of municipalities. In this context, the questions of formation of favorable investment environment, the investment attractiveness, become increasingly important. The purpose of the article is systematization of factors of investment attractiveness of municipalities, taking into account features of development of investment processes.

The methodological basis of the study was the laws of dialectics, principles and laws of logical, evolutionary and subjective-functional approaches to formation of investment attractiveness at the municipal level.

The main results obtained in the course of the study are: the use of the subjective-functional approach allowed to consider the investment attractiveness from the position of system interactions of the business entities; based on the concept of effective management of investment processes in economic and social systems, the specific features of the factors of investment attractiveness formation at the municipal level are identified; the system of factors of investment attractiveness of municipalities, taking into account their functional content, is refined.

The obtained results can be used in the study of processes of formation and development of investment attractiveness at the municipal level, in the development of methodological recommendations on evaluation of

investment attractiveness of the territory and in the making management decisions aimed at creation of favorable investment conditions.

Keywords: *investment attractiveness, investment, municipality, territory development, factors.*

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RESEARCH OF THE PROBLEMS AND DEVELOPMENT PERSPECTIVES OF THE AGRO-INDUSTRIAL COMPLEX IN THE SMOLENSK REGION

The article examines the trends in the development of the current state of the main crop and livestock sectors in recent years. These sectors play an important role in accelerating the economic development of the region, in increasing labor productivity in developed industries, reflecting key problems of the development of the agro-industrial complex in the Smolensk region, including active investment policy realization. Ways of supporting agricultural producers are analyzed. The aim of the work is to show that the increase in production efficiency is

focused on scientific and technological achievements that are being introduced into the practice of development in all sectors of the economy. The relevance of the work is justified by the fact that the achievement of certain results in the developed sectors of the economy is the most important engine of innovation, competitiveness and economic growth in the region. At the current stage of development of agricultural production in the region, the level of state support for agricultural producers is of great importance. When writing the article, the following research methods were used: study and generalization, analysis and synthesis. These methods of research allow us to make a logical study of the collected facts, to develop concepts and judgments, to make inferences and theoretical generalizations.

Keywords: *crop production, milk, investment, economy, competitiveness, market efficiency.*

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SOME ASPECTS OF CONSTRUCTION OF BUSINESS PROCESS «ACCOUNTING AND REPORTING»

The aim of the article is to identify the problem areas of the business process «Accounting and reporting», and

to determine its place and role in the business process «Recording». For research methods of content analysis of scientific publications of domestic and foreign scientists, devoted to problems of control systems organization based on business processes and isolation of the business process «Accounting and reporting», were applied. The methodology is based on the application of general scientific and special methods, including comparison, abstraction, concretization and analogy. Improving the effectiveness of management in organizations requires improving approaches based on learning foreign management innovations, in particular the business processes which have a dual nature: on the one hand, they structure the control system, on the other – create a product being of value to the consumer. The question of the classification of accounting to the business process is disputable. On the basis of the systematization of the existing approaches to the definition of business processes of foreign and domestic scientists, the author's definition of business process «Accounting and reporting» is formulated, the algorithm of the business process «Recording» is developed and applied to Russian accounting practice and elements of the business process «Accounting and reporting» are selected.

Keywords: *Business process, accounting, recording, reporting.*

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ESTIMATION OF THE POTENTIAL OF AN ECONOMIC ENTITY IN CONDUCTING SOCIAL RESTRUCTURING

The relevance of the problem under investigation is caused by the fact that in modern conditions for maintaining competitive advantages, industrial enterprises should focus not only on the production of products, but also on social processes. Effective management of the potential of social facilities can provide the company with a number of advantages, such as increasing labor productivity, obtaining additional income from the activities of social infrastructure facilities, and forming a positive image of the enterprise.

Particular attention is paid to the concept of a social object. The author gives generalized description of the potential of social facilities at the industrial enterprise. A set of criteria is given in the article by which the enterprise's readiness for social restructuring can be assessed.

The author's approach to the determination of the potential of social facilities for industrial enterprises from the point of the possibilities of social facilities to meet the interests of stakeholders is disclosed. It is determined that the majority of approaches to assessing the effectiveness of the social infrastructure of enterprises are designed for assessment only on certain indicators, and therefore they are not informative from the positions of decision-making regarding the management of the potential of social facilities in industrial enterprises.

A process approach is proposed to assess the level of social potential of industrial enterprises, based on the calculation of an integrated indicator that takes into account the ability of certain non-production facilities of the enterprise to satisfy the interests of stakeholders in their activities, which allows developing appropriate restructuring tools to improve the efficiency of their operation.

Keywords: *social restructuring, social object, social potential of industrial enterprise, matrix.*

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ASSESSMENT OF ENTERPRISES ATTRACTIVENESS FOR INVESTMENTS ON THE BASIS OF THE METHOD OF PRINCIPAL COMPONENTS

Relevance of this study is determined by the importance of the objective selection of enterprises for investment within the overall issue of effective functioning of innovative economy. Existing methods have both positive and negative aspects, which are associated with both the number of factors, on the basis of which their attractiveness for investment is assessed, and with the selection of these factors and assessment of their adequacy. Simple replication of well-known and proven in the international practice methodological approaches to assessment of investment attractiveness seems to us inappropriate, because of the inherent features of the country, regions, and territories.

The aim of this article is to develop a methodology for assessing the attractiveness of companies for investment based on the method of principal components.

Examples of the developed methodology approbation at 32 agricultural enterprises in the Orenburg region are given.

On the basis of the method of principal components the technique of assessing the attractiveness of agricultural enterprises to the investment is developed.

The developed scientific and methodological tools have been successfully tested in the agricultural organizations in the Orenburg region and can be applied to any region of Russia.

Keywords: *investments, region, management, technical outfit, main component, risk, classification.*

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PROBLEMS OF LOW CONSTRUCTION DEVELOPMENT IN THE CONDITIONS OF MODERN DEMAND AT THE REAL ESTATE MARKET

Construction of available, environmentally friendly and at the same time comfortable housing is one of the main conditions of economic development of our country. The solution of the problem of the balanced development of suburban territories by means of the innovative low industrial housing estate will allow providing the growing requirements of society on improvement of living conditions that will also promote the increase of the standard of living of citizens. The purpose of this article is detection of need for low construction in the real estate market in the conditions of modern demand. The major limiting factors of development of the specified market in our country are defined. The research underlines problems of low construction in Russia, and also the reasons of their emergence. Within the research the analysis of advantages of low building over multi-storied is made and the dynamics of construction branch in the Russian Federation is shown. Proceeding from the market condition of low construction

today, a number of recommendations on improvement of priorities regulation of this market segment development is developed. A number of practical recommendations offered by authors proves expediency of its use by all regions and municipalities in the Russian Federation. The purposeful policy of the state within development of low housing construction taking into account the submitted recommendations will promote formation of positive effect in the construction branch, and also in other adjacent branches of national economy.

Keywords: *low construction, apartment houses, real estate, environmental friendliness, energy efficiency.*

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EVOLUTION AND INNOVATIVE APPROACHES IN THE DEVELOPMENT OF THE DISTRIBUTION SYSTEM

The relevance of the study of the distribution system is caused, on the one hand, by the high role of a quality marketing strategy of production distribution for the company, on the other hand, by the importance of the trade sector for the population as a center for obtaining the necessary goods in a convenient and accessible way. The purpose of this article is to study trends and tools that affect the development of the sales system, as well as to forecast the development of sales channels, for which the analytical method of research was chosen. In the course of the work, the chronology of the distribution system development was demonstrated, which allows to make a conclusion about the gradual increase of the role of marketing tools when using the marketing strategy and communication with the potential consumer. It's connected with increasing competitive environment, changes in consumer behavior, the development of Internet infrastructure, as well as the emergence of related digital technologies, electronic services. As a result, we can talk about the sales system as of a multifaceted, complex process, which at the present stage of its development requires an integrated approach with the use of marketing tools aimed at maximizing of customer satisfaction.

Keywords: *distribution system, distribution channels, marketing system, marketing, marketing strategy.*

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PUBLIC SPHERE AS A TRANSFORMING PHENOMENON OF THE MODERN WORLD

The article gives an analysis of processes, defining the state of contemporary public sphere, considers philosophical and sociological approaches to the phenomenon understanding. Further public sphere research actualization is justified by reconstruction of all the forms of spatial and temporal social connections and relations organization in conditions of society informatization, by complication of publicity sphere and also by changing nature of private and public demarcation. System analysis of public sphere allows to identify the factors which influence all its' elements and levels and to draw a conclusion about system transformation, which results in rise of new qualitative condition, that makes the prolonged development process more complicated and strained.

Keywords: *public sphere, publicity, political publicity, privacy, publicity commodification, «new» publicity.*

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METHOD OF THE RANK ASSESSMENT OF INNOVATIVE ACTIVITY IN THE MONITORING SYSTEM OF ACTIVITIES OF YOUNG PROFESSIONALS AND UNIVERSITY STUDENTS

The aim of the article is to increase the accuracy of decision-making within the compilation of the ranked number of innovative activity subjects. In the study the analytic hierarchy process was used. The presented method, based on a hierarchical model of decision-making, reflecting all the possible options for constructing the ranked lists based on the entered parameters, the software and the performance of computational experiment allow to obtain the generalized characteristics of innovative activity of Universities considering their innovative capacity, type, amount and significance of the innovative results.

The automating of the data processing increases the speed, completeness and quality of analysis. It must contribute to improving the effectiveness of strategy choice of innovative activity management of young specialists and students. The presented method is designed for implementing the monitoring systems of innovative activity of young professionals and students based on the analysis of information resources in the global Internet, which is available at the information portal of the organization conducting monitoring of IA as a subsystem. The method can be used in the framework of the innovation management in the analysis of innovation activities of whether separate Universities and their employees or the region as a whole.

Keywords: *innovative activity, improvement, analysis, ranking, analytic hierarchy process.*

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RESEARCH OF INFLUENCE OF THE TRANSPORT PARKING ZONES ON THE CAPACITY OF CITY HIGHWAYS

Relevance of the studied problem is caused by the existence of a number of factors (transport parking, route vehicles stops, crosswalks, etc.), their quantitative influence on the capacity of city highways isn't established. The aim of the article is to study the influence of the transport parking zones on capacity (on the example of Orenburg) and to establish coefficients of capacity reduction of these sites in city highways. The main method to study this problem is natural determination of capacity on stages of a highway and in transport parking zones and calculation of the capacity reduction coefficient on the basis of these data. The coefficient of capacity reduction of transport parking zones changes from 0,82 to 0,66 depending on geometrical parameters and number of the maneuvers connected with the parking. Materials of the article can be useful at identification of «bottlenecks» of a street road network and at development of actions for the traffic organization.

Keywords: *capacity, street road network, transport parking zones.*

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MODELS FOR FORMING RESERVES AND CALCULATION OF EXPENDITURE ON THEIR STORAGE IN LOGISTICS CENTERS

The aim of the article is to develop models of stocks volumes formation in the logistics centers and models of the costs calculation on stocks storage considering the ratio of the intensity of goods import and export.

In models of stocks formation the storage duration depending on a ratio of intervals of deliveries and shipments for the entire period of a logistic cycle is considered: from the moment of the beginning of deliveries to the shipment of the last consignment of goods from a warehouse; in models of calculation of costs of stocks storage the discrete nature of process of their replenishment and expenditure is considered.

Three types of models of stocks formation are offered: balanced deliveries, surplus deliveries, deliveries with preliminary accumulation. For each model of stock formation the methods for calculation the costs of goods storage in the stock are proposed.

The developed models are recommended for planning parameters of freight supply to logistic centers, at which the minimum total transport and storage costs of goods in all sections of the supply chain are provided.

Keywords: *supply chain, logistics centers, terminals, inventory management, models of cost of goods storage.*

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HEAT TREATMENT OF WEAR-RESISTANT CAST IRON

Currently materials, working in harsh conditions and experiencing significant wear in abrasive environment for a long time, are widely used in industry. In this regard, we can formulate the goal of this article; it is the increase in operational properties of the alloyed chromic cast iron by identification of the optimum modes of their heat treatment.

Samples of chromium cast irons ИЧХ28Н2, ИЧХ12М were selected as objects of the research. The chemical composition, hardness, microstructure of material before and after the heat treatment were determined, and experiments on abrasive wear of chromium cast iron, subjected to heat treatment, were carried out.

The analysis of the influence of modes of heat treatment on the microstructure and properties of wear resistant cast irons showed that cooling environment could significantly influence the hardness of the finished product, in particular, when quenching in oil there is an essential increase in hardness, connected with disintegration of residual austenite and increase in the sizes of carbide particles, while cooling on air is followed by minor change of hardness and crushing of carbide particles.

The tests for abrasive wear of chromium cast irons ИЧХ28Н2, ИЧХ12М showed that with temperature increase of heating for hardening, the mass loss is reduced approximately by 20 %.

Keywords: *wear-resistant alloy cast iron, heat treatment, microstructure and properties.*

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APPLICATION OF MATHEMATICAL MODELING AND CONTROL SYSTEM OF THE EXTRUSION PROCESS WITH THE PURPOSE OF ENERGY AND RESOURCE SAVING AND ENSURING PRODUCTION OF HIGH-QUALITY EXTRUDED FOOD AND FOODSTUFFS

The aim of the article is to develop a mathematical model and control system for the extrusion process in order to reduce the energy intensity and improve the quality of the finished product. The analysis of theories of the extrusion process shows that the process of converting bulk material into elastic-viscous-plastic one has not been sufficiently studied. Mathematical models do not take into account the structural-mechanical transformations occurring in the extruded material. In this regard, the authors developed a mathematical model, taking into account changes in the rheological properties of the processed material in the process of its transformation from bulk to elastically viscous. In the process of developing a mathematical model, it becomes necessary to identify its external parameters, depending on the structural-mechanical and physic-chemical properties of the material being processed. With this aim, the design of the extruder has been supplemented by measuring systems that allow monitoring and recording of the process data. Scientific novelty: for the first time the authors have developed a mathematical model of the process of extrusion, allowing to take into account changes in the rheological properties of the processed material during its transformation from bulk to elastically viscous. A measurement system has also been developed that allows capturing and monitoring the data of a flowing process. Practical significance: the measuring system and the mathematical model allow to optimize the modes and control system of the extrusion process, which, in its turn, ensures energy and resource saving and production of high-quality extruded food and feed products.

Keywords: *extrusion, food and feed products, energy consumption, mathematical model, quality, process control, measurement system.*

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