
ANNOTATIONS OF THE ARTICLES

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CRYPTOCURRENCY BACKING

The principal drivers of growth in the era of digital economy are modern information technologies that we often call innovative or breakthrough. Taking into account the modern changes in the technological modes, we can see that such terms as «e-money», «cryptocurrency», «blockchain», «virtual currency», «digital money», «e-purse», «bitcoin», «alternative money», «online money» are just words that describe new developments in the world of finance in the 21st century. However, essentially they are relevant alternatives in transactions and tools in the world of financial markets and exchange. The author of the article aims at looking into the problem of theoretical comprehension of cryptocurrency through the technology of creating a decentralized distributed ledger – Blockchain, basing this research on a bitcoin. The author examines and describes the working method of the bitcoin on the principles of decentralization, consensus, and peer-to-peer networks.

It was the bitcoin that became the first landmark in the development of bitcoin technologies, and many analysts genuinely consider it to be the greatest invention of the latest decades. However, nowadays the fuss about and the excessive admiration of technical decisions, that lie at the core of building a bitcoin network, lead to its possible application in other spheres of digital economy. The article will be useful for the readers and will be another attempt to comprehend the essence of cryptocurrency.

Keywords: cryptocurrency, block-chain, bitcoin, network money, digital currency, digital (cryptocurrency) wallet, mining, money evolution.

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**CONCEPTUAL MODEL OF THE COMPETITIVENESS MANAGEMENT SYSTEM
AT THE ENTERPRISE**

The urgency of the problem under investigation is conditioned by the need to create a model of enterprise competitiveness management, which orientates it on the constant development, which will help to achieve its sustainable position in acute competition.

The purpose of the article is to describe the conceptual model of the enterprise competitiveness management system, which has certain universality from the enterprise activity point.

The leading method to investigate this problem is the modeling method, taking into account the process approach to management.

The model presented in the article focuses the enterprise on purposeful innovation activity, contributing to the continuous development of all aspects of its activities. The model demonstrates that an enterprise must take into account the influence of all elements of the external environment, implement its processes in such a way that the resources of the «entrance» are most effectively transformed into the «exit» demanded by consumers. The paper emphasizes that the internal environment is an appropriately integrated system of material, personnel, non-material and other resources, acting to ensure and develop a competitive state of the enterprise. In the article, special attention is paid to the process of enterprise competitiveness management; the management tools recommended for a certain stage are highlighted.

The materials of the article can be useful for practitioners interested in implementing systemic activities to ensure the competitiveness of the enterprise; for scientists researching the problems of enterprise competitiveness management

Keywords: enterprise competitiveness management system, system model of enterprise competitiveness

management, process approach to management, processes of enterprise competitiveness management, the external environment of the enterprise, the internal environment of the enterprise.

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CLASSIFICATION OF THE FACTORS DETERMINING THE EFFICIENCY OF ECONOMIC ACTIVITIES OF TERRITORIAL ENTITIES

The subject is to study the theoretical and methodological foundations of regional economic growth and development with the aim to identify factors that determine the effectiveness of economic activities of territorial entities.

The aim is to form factors that affect the effective economic development of regions and their territorial entities in Russia.

The thematic analysis of new theories of regional development and comparative analysis of quantitative indicators are used.

The conceptual bases of new theories of regional development are considered and the factors influencing economic growth are singled out in the article. These indicators are characterized by measurability and the absence of subjectivity.

The results of the research can be applied in practice in the construction of a strategic model for the goal setting of the territory development, where the factors affecting economic growth will be indicators for regional and federal authorities that manage and control the management of the region.

Keywords: *theories of regional development, factors of economic growth, regional cluster, monopolistic competition, infrastructure of the region.*

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THE INNOVATION MULTI CRITERIA MODIFICATION OF THE DYNAMIC PROGRAMMING METHOD BASED ON THE BOF METHOD

The subject is the author's modification of classical procedure of dynamic programming method expanding the possibilities of mathematical support for decisions in multistep problems of management.

The aim is to ensure the possibility of information correct compression of set of the indicators values characterizing the multistep management process in the generalized indicator - Bellman scalar function.

The methodology of the innovative multi criteria modification of the dynamic programming method is presented in the article. It is based on the BOF method as set of the principles, provisions and approaches to the solution of problems of discrete optimum control at difficult systems functioning. In this regard in the computing procedure of a classical method of dynamic programming it is offered to use the BOF method [3, 4, 5, 6, 7, 8, 9] which is widely applied now - decision-making method on a set of alternatives on a set of indicators. This computing procedure allows to aggregate almost unlimited volume of information on the different parts of management process in the number representing the Bellman function value. Similar innovation approach gives the chance to use classical method of dynamic programming in multidimensional problem of multistage management optimization.

This technique is further theoretical development of applied mathematics, in particular, the method of dynamic

programming. Practical application of the modification of dynamic programming method, offered in the article, can be connected, for example, with the solution of many problems of routing in transport logistics, of resource distribution in economics, of technical systems management.

The considered method of multistep management optimization has the following fundamental qualities:

1) with use of the additive and multiplicative function, applied in the BOF method, it is possible to carry out convolution of considerable volumes of diverse information into the Bellman's function with its further application in the classical procedure of the dynamic programming method;

2) this modification of dynamic programming method is invariant to a type of the indicators (numerical, attributive and others) estimating the efficiency of separate steps of management process and to quantity of indicators;

3) the optimizing procedure offered in the article can be used in problems of discrete management of various difficult systems (social and economic, technical, and others) which results of functioning characterize many private indicators.

Keywords: *method of dynamic programming, multi criteria modification, the BOF method, Bellman's function, generalized indicator, criterion.*

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TRANSFORMATION OF THE SOCIAL BASIS OF THE NEW INDUSTRIALIZATION

The article is aimed to the research of transformational processes of productive forces in the 21 century. Relevance of the studied problem is caused by the lack of the multiplier effect in terms of economic growth from the attracted resources into the Russian economy. In the article it is established that the social basis in terms of

scientific and technological progress in the economy becomes the main productive force; and the peculiarities of the human capital transformation into the social basis of the economic growth are considered. The leading approach to the study of this problem is the principle of social determinism. The indicated principle means considering the human in the economy not just as a factor of production but also as the main reproducing social dominant, that sets the vector and forms the basis for economic growth. In the study, the researchers used methods of explication and comparative analysis by means of which the basic concepts of a research are specified and conclusions are drawn. According to the results of the article the main features of the social basis transformation of the new industrialization are formulated and it is concluded that prolificacy of the social basis of the new industrialization is a prerequisite for the formation of self-sufficient and competitive economy of Russia.

Keywords: new industrialization, social basis, prolificacy, human capital, structural transformation.

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EVALUATION OF THE CONDITION OF INFRASTRUCTURE INNOVATIVE DEVELOPMENT OF THE AGRO-PRODUCTION MARKET IN THE REGION

The relevance of the research problem is due to the need to use innovations as a competitive advantage of subjects in agro-production industrial market. The purpose of the scientific work is to study the current condition and evaluate the innovative development of the agro-production market infrastructure in the Saratov region. The objectives of the research are: to study the theoretical foundations of the infrastructure of the agro-production market, the legal acts regulating the conduct of innovation activity in the Russian Federation, to formulate the author's vision of the agro-production market and to account the costs of innovations, to develop a system of indicators for their evaluation. The research methods were used: statistical-economic, monographic, abstract-logical, and calculated-constructive.

The conducted researches revealed that only 26% of agricultural producers in the Saratov region are investing

in innovations. Analytical grouping of agricultural manufacturers by the size of acreage has demonstrated direct dependence between the expenses on innovations and the growth rate of sales proceeds and the level of profitability of grain production. However, it also has revealed a number of problems, facing the farmers. First and foremost, it is the imperfect legislation in the field of innovation expenditures accounting and expensive banking services on the formation and development of agro-production market infrastructure. Setting off of the category «innovation» as an independent object of accounting will open the opportunity for providing targeted state assistance to those enterprises that carry out expenditures on innovation development. The materials of the article can be useful in practical activities of research organizations, higher education institutions and enterprises of the grain products subcomplex.

Keywords: *agro-production market, infrastructure, innovations, grain, competitiveness, efficiency.*

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RISK MANAGEMENT OF INVESTMENT PROJECTS IN CONSTRUCTION IN MODERN CONDITIONS

Investment activity is one of the necessary conditions for constant economic growth and efficient operation

of Russian construction companies. Investing in its numerous forms is accompanied by various risks. In this regard, we can formulate the purpose of this article: to define types of investment risks and ways to manage them. Following research methods were used: collection of information on investment risks, graphical method and modeling of the risk management system. The relevance of this article is caused by the fact that investing in the country's economy plays an important role and all emerging risks in the investment process must be studied and managed, so it is very important to pay attention to problems in this area for ensuring the effective functioning of enterprises. The main results of the study are following: the essence of investment risks is disclosed, methods are considered and a risk management system of investment project is proposed.

Keywords: investment risk, investment projects, classification of investment risks, risk management system, construction companies.

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CLASSIFICATION OF CASH FLOWS OF THE ORGANIZATION IN MODERN ACCOUNTING

This article discusses different approaches to the classification of cash flows of the organization and the possibility of their use by people interested in accounting information.

The aim is to analyze the content of the concept «cash flow», to systematize generally accepted approaches to the classification of this object of accounting and to justify the characteristic choice of the cash flows grouping, which is the most informative for making effective decisions in the management of cash flows and in assessing the solvency of the economic subject.

The methodological basis of the work were the general scientific principles and research methods: analysis and synthesis, induction and deduction, systematization of the theoretical foundations and grouping techniques of reporting information about cash flows of commercial organizations. Methods of observation, grouping and comparison were also used as part of the integrated approach.

In the article the author substantiates his approach to the concept of «cash flow», which indicates that this

concept characterizes, on the one hand, the time distribution of cash inflow and cash outflow, and cash equivalents, on the other hand, the cash flow is a result of the implementation of various types of business activities (operating, financial, investment).

In the article we investigated the different approaches to the classification of cash flows, which were provided by modern Russian scientists. The authors' position, elaborating and adding a number of classifications features, was justified.

Results of the study have both theoretical and practical application and can be used in the accounting practices of economic entities, as well as for further research in the field of accounting.

Research of the current approaches to the content of the «cash flow» concept in the modern scientific literature and in the regulations, governing accounting in Russia, showed that for the full understanding of this concept it is necessary to group cash flows on different classification criteria.

The authors approach to clarification consists in regrouping the existing features in four directions: the form of organization, to characterize the functioning efficiency, participation in the financial and economic activity, to predict organizational performance. The priority of the cash flow classification in the two groups of features in accounting is grounded: to characterize the internal structure of the cash flows and to assess the effectiveness and efficiency of the cash flow.

We distinguish following additional features: the conditions of economic entities, funding sources and quality of sources.

Keywords: cash flow, cash inflow, cash outflow, grouping, classification feature, economic entity.

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**ETHIC NORMS OF HUMANISTIC APPROACH
TO THE SOCIAL INNOVATION DEVELOPMENT**

Modern social context is analyzed from the position of humanistic approach and is characterized as economic self-compulsion. Primary importance of common wealth, a priority of human life, health and development in harmony with nature were defined as ethic norms of innovation development in humane society. On this ethic base the prior scientific problems in sphere of innovation development were formulated in humanitarian and natural sciences, which allow to concentrate on strategic goals of innovation development in humane society. The role of ethic norms, forming researcher's world-view and defining formulation of scientific problem, was underlined. In inter-civilization period it is a matter of paramount importance to review ethic norms, because transition to the new more humane civilization should be based on humane values and ethic norms consolidating society.

Keywords: *ethic norms, humanistic approach, innovation development, humane society.*

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LONELINESS AS THE DESTRUCTION OF THE SPIRITUAL AND PERSONAL INTEGRITY OF THE HUMAN

The article analyzes the loneliness in the context of the philosophical-anthropological dimension of human being. On the basis of anthropological, axiological and synergetic approaches, the author puts forward his model of the loneliness as a form of a person's experience of his spiritual and personal integrity destruction, and the related suspension of individual development and the subjectivity degradation in the person. It is substantiated that man is the subject and object of the value world, which represents the key dimension-the basis for his self-construction and, of course, without which it is impossible to fold the spiritual and personal integrity of man, and his transitions to higher spiritual-personal levels of self-development. It is established that loneliness is caused by destructive processes that encompass the inner world of a person, the disintegration of which leads to multifaceted manifestations of loneliness and decreases the person's spiritual-personal status in being.

Keywords: loneliness, spiritual and personal integrity, value world, identification.

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«CULTURE», «CONSCIOUSNESS», «CREATIVE ACTIVITY» AND «CREATIVITY»: COMPARATIVE APPROACH

Based on the study of the world philosophical concepts of culture, the main groups of the concept «culture» are considered. The difference between «cultural industry» and mass culture is shown; this difference consists in the false impression that the capitalist organization of culture serves the needs of the masses, while in reality it serves only the needs of capital. Cultural industry puts the art in the sphere of consumption. The basic conditions of «industry of consciousness» existence are defined; they are education, proclamation, capital accumulation, technical development. The concept «creative activity» often is associated with the creation of cultural works, such as works of art, and the term «creativity» is also creative activity, but having at its core a rational, pragmatic

component. It is proposed to divide the creative abilities of the people into two classes: reflecting in their works the world around us and not just reflecting, but transforming it. It is stated that only joint uniform and identical cultural, social and material activity, with consideration of differences and similarities, can ensure the success of the development of culture, creative activity, art in particular, and society in general.

Keywords: *philosophy of culture, creative activity, creativity, consciousness industry, culture industry.*

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TO THE GENESIS ORIGINS OF THE ARAB-ISLAMIC PHILOSOPHY (ON THE EXAMPLES OF AR-RAZI'S LITERARY WORKS)

One of the peculiarities of today's socio-cultural reality is the dynamism, in which unique transformations are occurring. For example, the specific nature of one of the monotheistic religions in the world – Islam, deep sources of its genesis were of interest only for scientists-orientalists. Currently, the Islamic theme has become an object of interest for common people, who seized the idea that «all Muslims are terrorists». Therefore, the analysis of the genesis origins and development of the theoretical foundations of the Muslims spiritual culture has significance in Philosophy. The use of the dialectical method generated a reasonable conclusion that the Islamic

philosophy is the integration of two opposite phenomena: the teachings of Prophet Muhammad as the basis of Islam and Greek philosophy. The dialectical nature of Islam allowed Arab-Islamic thinkers to realize the highest achievements of Plato and Aristotle, and creatively develop their ideas. Constructive and progressive nature of Muslims' philosophical thought has been proved on the example of the scientific creativity.

Keywords: *philosophy, Islam, dialectics, Plato, Aristotle, creative development, ethics, education.*

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INFORMATION COLLECTING AND SUMMARIZING FROM NETWORK DEVICES AND VIRTUAL NETWORK MODULES WITHIN THE NFV NETWORK SEGMENT

The subject is the collection and analysis of information about network devices.

The aim is the formation of the approach when building a distributed virtualized data collection modules.

For many years network infrastructure was quite static from the technology point of view. New standards and protocols are implemented very slowly. Therefore, the task of forming the approach at creating a network of distributed virtualized data collection modules is relevant.

The approach is to create a network of distributed virtualized data collection modules that supply all of the information into a single center of network operations based on OpenFlow controller and related modules.

As a result of the approach researching on the removal of the first line of monitoring in the virtual environment, a study of the applicability and feasibility was conducted; the results on system scalability and load in different modes of operation were obtained.

The received results testify the bandwidth to a few tens of devices on a single virtual monitoring module. There is no defragmentation traffic and no violations in the work queue.

Keywords: *virtual networks, software-configurable networks, nf-v-networks, network monitoring.*

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APPLICATION OF A MULTI-AGENT APPROACH TO THE SYSTEMS CONSTRUCTION OF OBJECTS PHYSICAL PROTECTION

It is necessary to create modern integrated physical protection systems for objects that allow solving complex problems and providing a higher level of security.

The physical protection system is presented in the form of a multilevel modular system. As a result, it is possible to apply the agent-based approach to its construction.

Gaia methodology was used in the design of the system. In accordance with this methodology, all agents interact to achieve a common global goal and all elements of the system and the relationship between them are defined prior to the design phase and do not change at runtime. This methodology is not used for systems in which the possibility of conflicts between elements of the system is allowed.

As a method for solving conflicts arising in a multi-agent system, the agent behavior model based on the use of fuzzy logic is proposed.

Based on the developed models, a software tool has been developed that simulates the behavior of a multi-agent physical protection system that can be used to develop rules of behavior for both individual elements of the physical protection system and all systems in general.

Keywords: physical protection system, agent-oriented approach, Gaia-methodology, multi-agent systems, agent behavior model.

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**INSTRUMENTAL CONTROL AND DIAGNOSIS OF THE TECHNICAL CONDITION
OF HEAT EXCHANGERS OF VEHICLES**

The urgency of the investigated problem is caused by low informational content and the reliability level of measurement results of control means and methods, monitoring and diagnosing the heat transfer surfaces of heat exchangers in vehicles.

The article is aimed at analyzing the imperfection of existing methods and means of evaluating of the heat exchangers performance, as well as at identifying more efficient technical systems and devices that, along with their primary functions, perform measurement functions.

The main theoretical methods for investigating this problem were analysis and synthesis, the dialectical interconnection of which allowed us to identify possible ways to improve the method of instrumental monitoring and diagnosing heat exchangers in vehicles in operation. At the stage of experimental studies, physical modeling and statistical methods were used to obtain the regularities of the change in the technical condition of the heat exchangers from the operating time.

The main result of the work is the implementation of new technical solutions in the design and software for creating a specialized stand that will allow monitoring and diagnosing the technical condition of heat exchangers with the ability to quantify the main operating characteristics. The use of the stand's capabilities, in its turn, will allow to predict the residual resource of heat exchangers, as well as to determine the scope and content of works to restore their efficiency.

The materials of the article can be useful for service centers and enterprises specializing in maintenance and repair of heat exchange equipment.

Keywords: vehicles, heat exchangers, cooling system, diagnostics, control, heat transfer.

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