## 2018 No. 1(1)

**1. Kozyrev A.N. Digital economy and digitalization in historical retrospect**

**Keywords**

additive technologies, digitization, digital format, idempotent addition, sampling theorem, transaction costs

**Abstract**

The article traced (including key dates and events) historical continuity of the idea of digitalization of economy and culture, the gradual replacement of analog devices and their digital substitutes with the development of cheaper digital technologies. It presents the author's concept of the digital economics as a scientific direction that based on the study of the fundamental causes and effects of the digital transformation of the real economy, increasing the share of digital products and services, and new forms of business based on digital technologies. Noted the fundamental properties of information represented in digital format on various media (electronic, optical, mechanical, etc.).

**2. Kitova O.V., Bruskin S.N. Digital Transformation of Business**

**Keywords**

Digital transformation, digital corporation, advanced business analytics, predictive simulation, corporate performance management.

**Abstract**

The article considers digital transformation frameworks, models and tools for corporations, big and middle companies. Requirements for corporate management are formulated considering global technological trends, results of modern research in this field are analyzed. Digital transformation influence on company business model and its business processes is discussed. A conceptual digital model of corporate management system is presented based on advanced business analytics.

**3. Skripkin K.G. Tools of the analysis of technological revolutions in economic science**

**Keywords**

S-shaped curve, general purpose technology, innovation company, complementarities

**Abstract**

In Russian economics, the model of techno-economic paradigm became the most popular instrument to analyse technological revolutions. Though this model has some analytical power on the macro level, on microlevel it cannot answer many questions facing Russians firms and regulators. One should first mention such question as technical policy priorities, building adequate chains of technology development and, what is most important, identifying organizational and staff complementarities, which allow to transform engineering development into a business model that can bring money to its creators. For this purpose, we propose alternative models: S-shaped curve, general purpose technology and, finally so-called Saarbrucken technology transfer model.

**4. Gurdus A.O. Economy of communications and internet of objects (models)**

**Keywords**

economy of communications, Internet of objects (models), digital economy

**Abstract**

The project of creation of uniform digital space of economies has appeared in the USSR even prior to works on ARPANET (the forerunner of the Internet). But the departmental dissociation has interfered with his realization. Today's condition of information technologies, development of the Internet and digital economy allows to tell «economies of communications» which growth is based on a possibility of formation of new communications between economic objects about formation. Minimization of cost of communications is reached at transformation of global service of the Internet of pages in global service of the Internet of objects (models) which can become a basis of uniform space of digital economy.

**5. Gorelov M.A., Ereshko F.I. Models of centralization and decentralization of management in digital society**

**Keywords**

digitalization of society, model, information, management, theory of hierarchical games, blockchain technology, decentralization conditions

**Abstract**

The article describes the key ideas of creating a platform for a new type of Internet. This platform will allow to create a new topology of interacting information objects in the network Internet sites. The proposed approach should provide a qualitatively new system of interaction between participants of the Internet and the integration of information resources. It will be the basis for the implementation of intelligent information systems and the next step to the intellectualization of the Internet.

**6. Chesnokov A.N. Prerequisites of creation of the platform Internet of objects**

**Keywords**

cloud computing, object representation, industrial Internet, data processing center (DPC)

**Abstract**

The article describes the key ideas of creating a platform for a new type of Internet. This platform will al-low to create a new topology of interacting information objects in the network Internet sites. The proposed ap-proach should provide a qualitatively new system of interaction between participants of the Internet and the integration of information resources. It will be the basis for the implementation of intelligent information sys-tems and the next step to the intellectualization of the Internet.

**7. Galkevich A.I. The prospect of development of the global space information systems of real time for the solution of problems of digital economic of Russia**

**Keywords**

space network, space bus, space information node, space cluster, small spacecraft, disaggregated spacecraft

**Abstract**

The article proposes a global space information system based on space information nodes from small spacecrafts (MCAs), united in a single digital information field (space bus). The goal of the system is to ensure the globality, continuity, efficiency and survivability of clusters of space systems. The urgency of creating a system is justified. A modern state of research in this area is described. Technologies are shown that need to be worked out for practical implementation of the system. The efficiency and competitiveness of the system is assessed.

**8. Shilov V.V. PIONEER OF CYBERNETICS ANATOLY IVANOVICH KITOV**

**Keywords**

automation, network of computing centers, ARPANET

**Abstract**

The article is devoted to A. I. Kitov and his idea of creating a unified state network of computing centers (EGVC). This idea was put forward by A. I. Kitov in 1959, that is, about 5 years before the appearance of the American ARPANET network, which is considered to be the prototype of the Internet

**9. Kitov V.A., Chesnokov A.N. About the history of computer telemonitors the third generation**

**Keywords**

ES computers, CICS, PRIMUS, DRIVER, KAMA, OB, BAIKONUR, AH2

**Abstract**

In the late 1960s / early 70s, specialists realized that the purely batch mode of the 3rd generation computers, greatly reduced the efficiency of their use. In this regard, in all developed countries of the world one of the main directions for improving the system software was the hasty creation of multi-terminal telemonitors. The article gives a brief overview of the main telemonitors used in the USSR. The main attention is paid to the domestic telemonitor OB, which received mass use at the enterprises of the country. Describes its main capabilities and the impact that it has had on the creation of subsequent software products in the computer era that followed the ES computers.

**10. Medennikov V.I. Uniform information Internet space of agro-industrial complex on the basis of A.I. Kitov and V.M. Glushkov's ideas about OGAS**

**Keywords**

information system, digital platform OGAS

**Abstract**

The uniform information Internet space of agrarian and industrial complex In modern conditions is the integrator of all systems of exact agriculture, space monitoring of lands and other IUS from uniform positions and to become a basis for formation of digital economy in agrarian and industrial complex. Transition to such platform of information systems will allow to reduce costs of their development in tens-hundreds of times. The article presents the author's vision of the evolution of information systems in the world including the history of the project to create a Nationwide automated system for collecting and processing information for accounting, planning and management of the national economy in the USSR (OGAS). The causes of the relative failure of the project OGAS are named and analyzed. It is shown as at the present level it is possible to implement the ideas put into the OGAS project by prominent Soviet scientists V. M. Glushkov and A. I. Kitov.

**11. Shevchenko V.V. Ontology questions in philosophy, science and informatics**

**Keywords**

neural networks, ontology in philosophy, financial analysis

**Abstract**

Etymologically the term «ontology» means «the doctrine about real» and can be opened as «The philosophical doctrine about the general categories and regularities of life existing in unity with the theory of knowledge and logic» (Wikipedia and not only). In this connection there is a natural question: «What there is real?» In various philosophical traditions the answer to this «children's» question is looked for differently. The article proposes a global space information system based on space information nodes from small spacecrafts (MCAs), united in a single digital information field (space bus). The goal of the system is to ensure the globality, continuity, efficiency and survivability of clusters of space systems. The urgency of creating a system is justified. A modern state of research in this area is described. Technologies are shown that need to be worked out for practical implementation of the system. The efficiency and competitiveness of the system is assessed.

**12. Gorshkov S.V. Use ontologies in the corporate automated systems**

**Keywords**

corporate automated systems, ontology, automation of knowledge, semantic technologies

**Abstract**

Any organization accumulates a huge number of information in the information systems automating her activity. As a rule, data in different systems are structured without uniform concept, poorly connected, badly give in to search and use out of in advance provided routine business processes. As a result the saved-up information becomes inefficiently used asset for which support considerable means, but which brings quite limited benefit are spent. Potential of use of this information is huge, but his disclosure requires the combination of administrative will and motivation, vision of IT architecture and adequate technological means to an opportunity which isn't often found in practice to realize the ambitious project.

**13. Nevolin I.V. Fatal bitcoin**

**Keywords**

bitcoin, cryptocurrency, mining, model

**Abstract**

Cryptocurrency enthusiasts are proud of its decentralized nature and oppose attempts at regulation by national authorities. The latter, incidentally, are not always able to articulate their position. It's interesting to read the documents in which it is possible. The report of the US Federal reserve (Mills et al, 2016) clearly reads the negative attitude to p2p projects on blockchain due to the lack of opportunities in them to meet many requirements including norms against money laundering. According to the authors if the blockchain has a chance of success in the construction of the payment system it should unite exclusively financial organizations each of which is regulated by the relevant industry. Solutions to this ideological contradiction-transactions between organizations not citizens directly is not yet expected.

**14. Keshelava V.B. How to treat a predigital fever**

**Keywords**

digital economy, digital economy management

**Abstract**

The article presents the author's point of view on the events and passions around the digital economy. This point of view is not quite shared by the editors. But it deserves attention as an opinion of clever man.

## 2018 No. 2(2)

**1. Fateev V.F., Galkevich A.I. A new paradigm for space information systems development to facilitate digital economy in Russia.**

**Keywords**

space network, cluster of small space vehicles, bistatic radar, atmospheric satellite, unified distributed information field, space bus, space Internet

**Abstract**

The article proposes the concept of a global space information system based on multifunctional clusters of small spacecraft (MKA), united in a single digital information field. The goal of the system is to ensure the globality, continuity, efficiency and survivability of space monitoring, communication and management systems in the direction of «Information Infrastructure» in the «Digital Economy of Russia» Program. The urgency of creating a system is justified. A modern state of research in this area is described.

**2. Kondyrev V. Decentralized autonomous organizations: a new way to the decision making**

**Keywords**

Blockchain, fractal, game theory, network structure

**Abstract**

The new technology as well as the new way to manage the organization are available due to the development of cryptography – decentralized autonomous organization (DAO). The article describes the architecture and evolution of DAO within the game-theoretic model. The existing organizations bearing the status of DAO are analyzed and the main regulatory mechanisms in terms of contracts are described. As a result, the main problem areas of DAO are identified. A number of approaches are proposed with these approaches partially or completely solving the problems of DAO development in the long run.

**3. Samarin A.V. How to build a Digital Country**

**Keywords**

system approach, system architecture, digitization of the country.

**Abstract**

The system approach excludes a number of errors, duplication of works and rational resources management when building a Digital Country. The Digital Country is expected to appear as a result of Russian President’s decree implementation. We discuss an importance of implementation, underlying system approach in this article as well as suggest some necessary steps to build the Digital Country.

**4. Nedorya A.E. A technique for the multiplatform software development based on the explicit software schema.**

**Keywords**

Software development, multiplatform software, assembly programming, software schema, binary components.

**Abstract**

The article underpins the devepolment of multiplatform software. Parts of the software in context operate on different platforms. A conceptual schema of the software is discussed.

**5. G. S. Sologubova. ON THE QUESTION OF THE DIGITALIZATION OF THE ECONOMICS AND THE PROBLEMS OF THE LABOUR MARKET**

**Keywords**

basic technologies of Kondratiev's 6th cycle, digital transformation, IT- talent, segregation of labor markets, training and requalification

**Abstract**

Digital breakthroughs in technology, economics, and organizational spheres in the 21st century have no historical precedent. The exponential temp of development predetermines the transformation of everything. The wide - ranging discussions on this topic at the highest levels of society demonstrate people's serious concern about their employment prospects, about existing inequalities (gender, race, material) and about new inequalities in access to IT. Employment problems in the context of the digital revolution in the economy are acquiring a new meaning. The “hollow out” of the middle of the labor market, the population's apathetic response to the growing gaps, new, very conflict segregation of labor markets contradict the expectations of the digital economy about impending transformations and the expected role of the labor person. Human capital and social capital in the digital economy are seen as key sources of wealth, requiring a conceptual “switching” of people's minds from “maximizing profits” and “the inevitable depletion of natural resources” to “maximizing utility” and “people can find alternatives to any resource shortage”. Thinking, built on values that give every man the opportunity to realize their intellectual and creative potential, it becomes a tactical goal of digitization (no such thinking - digitalization of the economy will be the fate of building communism by 1980-th year). The development of human capital in the context of the accelerating evolution of technology can be focused on personnel strategies: planning, re-profiling, external recruitment and retraining, “fitting” a specialist under specific conditions and the need for their simultaneous use. The problem of hiring and learning in a digital organizational environment will only increase and create real obstacles to the implementation of large-scale digital projects. Increasingly, it comes to the “IT talents” with business / project experience, i.e. employees who are able to work to meet demand and respond quickly to technological updates, constantly improve, but also change professional skills and operational procedures, create their own digital competencies. The request of the “digital economy” for universal knowledge determines the training of universal workers who are able to retrain, reorient, adapt and develop throughout life.

**6. Belyanov A.A. Social credit: a review of the state pilot projects.**

**Keywords**

social credit, assessment of the human capital, China,

**Abstract**

The social credit system is a tool for a comprehensive assessment of citizens with the calculation of one general indicator. This indicator determines whether a person can apply for certain positions, receive preferences or, on the contrary, numerous restrictions could be imposed on him. The project is realized by a number of firms of two main classes: private companies and state structures. Private companies are technological giants with huge data sets capable to build a complete image of their customers. State structures [at the moment] are limited in the amount of information needed to assess the "reputation" of citizens. As shown below, social credit also enables the implementation of reward system.

**7. Kononenko A.A. Data centers of new generation – a view of frontier.**

**Keywords**

datacenter, information resources.

**Abstract**

The world, as is known, develops in a spiral. And logically, we are waiting for the stage of concentration of information resources in the near future. The centers of the expected concentration are large data centers or data centers of a new generation. We analyze the main trends and some aspects of this topic in this essay.

**8. Samarin A.V. A review of «The state as a platform» document**

**Keywords**

complex systems architecture, platforms, digital transformation

**Abstract**

This article is a review of a document «Government as a platform». A systems approach has been used for this review, because any government is a complex system. Different stakeholders “see” a complex system differently and have different expectations. Therefore, a modern government as a complex digital system is described from a few various points of view. This allows us to construct an integral and coherent understanding of a government as the whole via a set of views, while each view is rather limited.

**9. Tahirov Z.I. The law network enforcement activity of the future**

**Keywords**

social management theory, network law enforcement, police, digital police transformation, strategy 2024

**Abstract**

The object of the study is the Russian Development Strategy for 2018-2024, presented by the non-profit organization Center for Strategic Research in April 2018. This document is interesting for its innovative and comprehensive character, covering almost all socio-economic spheres of our country's life. This strategy demonstrates a certain urgency in section 7 «Protection and Justice». It attempted to consider abstractly the development of judicial, prosecutorial, human rights and law enforcement activities from the standpoint of a systematic approach as a set of actions of various state bodies agreed upon by goals, and not only on the achieved (intermediate) result. Meanwhile, certain provisions of this strategy (with respect to the development of law enforcement agencies) in order to improve law enforcement activities should be interpreted critically, given the perspective directions and opportunities for the development of domestic society. In this direction, in the author's opinion, the strategy in question contains a number of defects, the consideration of which is the subject of this study.

**10. Belyanov A.A. Prospective general approaches to the employee assessment system in research organisation.**

**Keywords**

network analysis, current research information systems, personal assessment.

**Abstract**

The paper discusses methods of network analysis as well as data sources for the personal rating calculation in the research organization. Bibliometric indicators and graph of corporate communications are also in focus of our analysis.

**11. Kolodin N.A. Bitcoin, but not a blockchain**

**Keywords**

Blockchain, bitcoin, cryptocurrency, digital economy

**Abstract**

Many people say about prospects of technology of a blockchain and about how she can help to solve many pressing problems. The predicted effects of use of a blockchain are too good to be the truth, and do not contain any reality about the realization. The word "blockchain" at the same time is given no accurate definition because of what the field of its application becomes unlimited, and the attributed properties as much as fantastic. However, even in this situation the bitcoin remains the most successful and reliable embodiment of a blockchain for nine years, and hardly other similar projects are expected by success. More likely, there is no sense in existence of most of them at all.

**12. Kozyrev A.N. Artificial intelligence as civilized man’s deadly sin.**

**Keywords**

artificial intelligence, combinatorial explosion, negative feedback

**Abstract**

Success stories from mass-media accompany the development of artificial intelligence. Messages fuel the expectations about rapid creation of superpowerful artificial intelligence. A detailed analysis reveals these expectations to be overstated, and the associated fears are unlikely to realize in the near future. Rather, it is worthwhile to fear the indirect influence of artificial intelligence on the destruction of negative feedback that supports human society. Konrad Lorenz listed the specific examples of such violations and the title of this article refers to his work.

## 2018 No. 3(3)

**1. Kozyrev A.N. Doctor of economics, Head of the scientific direction "Mathematical and computer models, knowledge economy, tools and methods"**

**Keywords**

Adiabatic computer, quantum computing, quantum annealing, quantum parallelism, tunnel effect

**Abstract**

This publication is a revised version of the plenary report at the 41st meeting of the international scientific school-seminar "System modeling of socio — economic processes" 01.10.2018, Nizhny Novgorod.

**2. Galkevich A.I., Nazarov A.A., Galkevich I.A. INTELLECTUAL INTEGRATED DIGITAL DATA PROCESSING PLATFORM IN MONITORING, FORECASTING AND DECISION-MAKING SYSTEMS FOR THE DIGITAL ECONOMY**

**Keywords**

artificial intelligence, morphological technology, digital platform

**Abstract**

The article proposes the concept of a system that provides the processing of large amounts of data for the systems of economic monitoring, forecasting of industry processes and decision-making in order to more efficient use of public resources of the state and the resources of economic entities, based on the creation of an intelligent integrated digital platform (ICP). The technological goal of the ICP project is the formation of the digital economy of Russia (CE). The economic goal of the IICP is to increase the efficiency of the management of the CE: economic monitoring, forecasting and making informed and most effective decisions in the interests of the welfare of the population of the Russian Federation. Justify the relevance of the systems as well as Central the problem of development of TSE. The current state of research in this area is described. It is shown that the achievement of this goal is possible by using the methodology and method of morphological analysis. The method of morphological analysis implements a system or structural (morphological) principle of research and is a fairly universal means of achieving the above problem. The expected scientific and technical results of the ICP project are described. The project implementation plan has been brought to the level of the terms of reference for the development of the PPI. As shown, IICP based on the existing backlog is implemented as a Data Processing Center (DPC) and the Russian Aggregator Machine Data (RMD) – as a technological platform, IICP. Further development is based on the accumulation and analytical processing of data in the data center with RAMD ICP and training of the main processor unit (PB)-the core of ICP. The organizational plan of the project implementation and the list of executors are defined. The system has a dual purpose and a set of properties, which does not have any of the existing intellectual information systems.

**3. Aivazian S.A., Afanasiev M.U., Kudrov A.V. INDICATORS OF RUSSIAN REGIONS ECONOMIC DEVELOPMENT IN THE BASIS OF THE DIFFERENTIATION CHARACTERISTICS**

**Keywords**

regional economy; econometric modeling; hypothesis testing; indicators.

**Abstract**

The methodological basis is developed and tested for building indicators which shows the main directions of socio-economic development of regions of the Russian Federation. The novelty of the results is determined by the fact that these indicators are built on the basis of a common vector basis. Two groups of indicators that characterize the different directions of the economic development: "production ofproducts and services” and "material welfare” are highlighted .in the structure of the main indicators of social and economic development. Two indicators are constructed based on the vector basis, each of which is maximally correlated with the indicator formed on the basis of corresponding group indicators. It is shown that for the considered direction of regional development the vector basis provides a higher consistency of the indexes and ranks of regions than the first major components. Vector basis, allowing the specification of the component composition, research as an information basis for the analysis of the relationship between various directions of regional development.

JEL classification: C12; C51; R15.

**4. Tirelessly, P.V. ARTIFICIAL INTELLIGENCE IN INDUSTRY 4.0**

**Keywords:**

artificial intelligence, Industry 4.0, BigData.

**Abstract**

The article presents the author's point of view on the history of artificial intelligence technologies and prospects of their application in industry 4.0. It is shown how the development of computer technology expands the scope of digital technologies, the relationship between the costs of different types and, ultimately, the model of human behavior, their place in the production process and not only. The article also gives the author's predictions about the prospects of research in the field of artificial intelligence.

JEL classification: C12; C51; R15.

**5. Proydakov E.M. CURRENT STATE OF RESEARCH IN THE FIELD OF ARTIFICIAL INTELLIGENCE**

**Keywords**

artificial intelligence, machine learning, risks of superintelligence appearance, the market of AI systems.

**Abstract**

The article gives a brief history of works in the field of artificial intelligence (AI), characterizes the directions of AI, provides an overview of the current state of research and development of AI systems, lists the main trends of research and development in the field of AI, shows the possibilities of using AI systems in public administration.

***6. Kononenko A.A. Data centers of new generation – a view of frontier.***

**Keywords**

datacenter, information resources.

**Abstract**

The world, as is known, develops in a spiral. And logically, we are waiting for the stage of concentration of information resources in the near future. The centers of the expected concentration are large data centers or data centers of a new generation. We analyze the main trends and some aspects of this topic in this essay.

**7.** **Proydakov E.M. BOOK REVIEW A. Prokhorov, L. Konik DIGITAL TRANSFORMATION. ANALYSIS, TRENDS, WORLD EXPERIENCE**

**Keywords**

artificial intelligence, machine learning, risks of superintelligence appearance, the market of AI systems.

**Abstract**

The article gives a brief history of works in the field of artificial intelligence (AI), characterizes the directions of AI, provides an overview of the current state of research and development of AI systems, lists the main trends of research and development in the field of AI, shows the possibilities of using AI systems in public administration

**8. Babayan B.A. Corresponding member of RAS, Director of architecture Software and Solutions Group (Intel), Intel Fellow.**

**Keywords**

carry save arithmetic, Extended Algol, proof of correctness, type safety

**Abstract**

This article is formed from the statements of Boris Babayan and approved by him and therefore it may be served as its author's text. Most of the statements included in the article are taken from the audio recording of the conversation between Boris Babayan and a group of employees of the journal (A.N. Kozyrev, I. V. Nevolin, N.V. Noakk) 23.09.2018. Replicas of other participants of the conversation are inserted as insets in the text of the article. Also, the insets give information about the people and facts mentioned in this conversation without explanation. In preparation for this conversation, we have made a list of questions that are supposed to ask outstanding developers of domestic computing technology, as well as to study the earlier interviews and statements by Babayan, related to the history of the faculty of Cybernetics and MIPT. Hence the idea-to prepare an article for the journal Digital economy.

**9. Fomina A.V. ON KEY ASPECTS OF DEVELOPMENT OF THE DIGITAL ECONOMY IN RUSSIA**

**Keywords**

digital economy, human capital, import substitution

**Abstract**

To ensure the development of digital technologies in Russia at a rate exceeding the global average, it is necessary to increase the intensity and quality of work with the human capital of our country. Fundamental knowledge, narrow professional skills, coolness, initiative, which also requires knowledge-all this contributes to the basis of the growing digital economy no less than technology transfer, equipment purchase and construction of new factories. In Russia, regardless of the actions of the state, a digital society will be formed, but the effectiveness of state support greatly depends on the productivity of the ongoing changes and their focus on the further development of the country.

**10. Alexander Prokhorov. WHY DO WE EVEN HAVE TO SUBSTITUTE “CONDITIONAL ORACLE”.**

**Keywords**

import substitution, Open Source

**Abstract**

The article deals with the possibilities and feasibility of import substitution of Western DBMS in the Russian market, the role of Open Source in this process. It is known that in the Russian software market the lion's share is occupied by applied SOFTWARE, and sometimes port substitution concerns mainly the so-called "visible part of the iceberg"-applied SOFTWARE, leaving other layers of the technological stage without due attention. It is obvious that serious import substitution is impossible without replacement of system SOFTWARE and, in particular, products of DBMS class. As far as possible and justified? The controversy on this topic is of some interest.

## 2018 No. 4(4)

**1. Kovyrev, A.N. DIGITAL TRANSFORMATION OF MARKET INSTITUTIONS**

**Keywords**

transaction costs, opportunistic behavior, idempotent addition, competition, equilibrium

**Abstract**

The article shows how the increasing penetration of digital technologies in various spheres of life leads to the need to change a number of institutions, especially economic institutions that ensure the functioning of the market economy. Institutions here are understood very specifically, as lawyers understand them, which allows to discuss their changes in detail, appealing to changes in legislation or judicial decisions, and to correlate these changes with technical achievements in the field of technology

JEL classification: E27; K21; O34

**2. Ereshko F. I. REFLECTIONS ON BLOCKCHAIN TECHNOLOGY**

**Keywords**

Blockchain, hash, coalition, fork, bitcoin

**Abstract**

Abstract: blockchain Technology is intended for Projects where there is a community of active agents who create a Coalition to solve a common problem, achieve a common goal and agree on mechanisms for its solution. Therefore, always the development of Projects should be started with descriptive and game-theoretic models, not cryptography. And it is presented in the review of existing Digital platforms, including Ethereum, Mastercar etc. This scheme is given later in the text. An indispensable component of all Digital boards is a model: peer-to-peer, multi-role, etc. A description of the version of the model of information dissemination in the network of the Bitcoin Project, which is accepted as a model for illustrations and applications, is given. It is noted that there is experience in building such models and there is an understanding of how to take into account the blockchain technology in the models. It is proposed to create a mathematical prototype to assess the possible application of blockchain technology for various architectures of organizational systems and decision-making mechanisms.

**3. Medennikov Viktor, Formation principles the uniform digital platform of the country**

**Keywords**

digital platform, information systems, logistics, pharmaceutical branch, construction

**Abstract**

The article considers from the system positions the basics and the ways of forming a single digital platform of the country by the example of integrating digital platforms of the agro-industrial complex, the construction industry, logistics, and the pharmaceutical industry on the ideas of A.I. Kitov and V.M. Glushkov on the nationwide automated system for collecting and processing information for accounting, planning and management of the national economy in the USSR (OGAS).

**4. Teveleva O.V. Digital future for valuation**

**Keywords**

Valuation, appraisers, market prices, value, digitalization, digital transformation, robots, digital format

**Abstract**

The article is about digital transformation of valuation as institute of coordination public legal relationship. Its further stages are shown, advantages and shortcomings, calls and threats which society when the profession of appraisers is digitized and transferred to robots and algorithms will face are specified.

**5. Nevolin Ivan, Factors for the development of the Factories of the Future**

**Keywords**

digital production, automotive industry, recycling, sharing economy.

**Abstract**

Digital transformation of industry makes it possible to update the design of hi-tech products more rapidly. To support this transformation the demand side of the market should be revised. New demand must ensure enough cashflow to cover complex technology in a short time. Automotive industry serves as an example to investigate hindering factors of transformation in context. The article demonstrates how the demand side and resources support the production. But, it is recycling what is still waiting for further development. With a lack in life cycle management the digital transformation of industry faces a strong risk to transform resources in wastes faster while landfilling products for new materials.

**6. Milkova Maria, Extracting key terms from documents of Digital Economy direction: a graph-based approach**

**Keywords**

Digital economy, Russian Digital Economy Program, graph-based approach, TextRank, semantic links, text mining

**Abstract**

The paper presents key terms extraction from the government documents issued in the period of 2013- 2018 and linked to the Digital economy direction. One of the key interests of the analysis of government documents is to study them as primary source of digital economy terminology. The paper provides a brief review of the main approaches to key terms extraction and gives detailed description of one of the graph-based methods – a TextRank algorithm. The TextRank algorithm was tested on 13 government documents. The results of documents analysis are presented as weighted graphs of semantic links between keywords. Based on these words the lists of key terms are created for each document.

**7. Iatskina Daria, Management of the intellectual rights in the organizations without production**

**Keywords**

Patents, transfer of technology, patent trolls, research institutes, intellectual property

**Abstract**

The author presents an overview of intellectual property management approaches at research institutes, universities and other organizations managing IP rights without having any material goods production. The overview focuses on an analysis of patent portfolio management approaches as it clearly shows common traits and differences between IP management practices at organizations of various types

**8. Nedorya Aleksey, Digital economy, training and management the worlds**

**Keywords**

digital future, training of children

**Abstract**

This article, rather philosophical, than technological, was born from thought how to teach the son (and in general children) to programming.

**9. Gurdus Aleksandr, Ecospace of Internet of Objects as an Instrument of Construction of a Unified Digital space of Economic Cooperation**

**Keywords**

economy of communications, Internet of objects (models), digital economy

Abstract

Some widely used conceptions of digital economy are defined In the article. Advantages of a global service of Internet of Objects as an instrument of a unified space of economic cooperation are described. Some new aspects of digital transformation of economy into economy of communication and economy of data are considered.

**10. Kozyrev Anatoly, Reviewing economy**

**Keywords**

digitization, digital format, reviewing

**Abstract**

The attention of target audience became the most scarce resource in information economy for a long time, and the situation is aggravated from year to year. The volume of a resource does not grow, and applicants for it become more and more. At the same time other process develops – placement of the digital version of article or book on the Internet makes it available for reading by almost unlimited circle of people. In this regard it is represented quite appropriate to consider institute of reviewing of scientific publications from the point of view of rational use of limited resources, i.e. from positions of «an economic imperialism». In this sense it is possible to speak about reviewing economy

## 2019 No. 1(5)

**1.Kitova O.V., Kitov V.A. They were the first – a fundamental contribution to the digital economy from A.I. Kitov and V.M. Glushkov**

**Keywords**

A.I. Kitov, V.M. Glushkov, Digital economy, Information society, Red Book, USNCC, OGAS, MIS

**Abstract**

The article is devoted to key proposals and projects for the creation in our country of automated management information systems (MIS), including global projects of the management of the national economy and their im-pact on the development of the digital economy in Russia. These are the projects "Red Book", USNCC (ЕГСВЦ in Russian) and OGAS in the USSR. Particular attention is paid to the fundamental work of two promi-nent Soviet scientists A.I. Kitov and V.M. Glushkov in the field of computerization of solving problems of eco-nomics and management in the Soviet Union.

**2. Kitov V.A., Safronov A.V. PAGES OF THE HISTORY OF THE MAIN COMPUTING CENTER OF THE GOSPLAN OF THE USSR**

**Keywords**

State Planning Committee of the USSR, Main Computing Center, ASPR, EGSVTS, economic and mathematical methods

**Abstract**

In October 2019, 60 years have passed since the creation of the Main Computing Center of the USSR State Planning Committee (MCC of Gosplan of the USSR). The pioneering role of this largest in the USSR civilian computing center in the economic life of the country is difficult to overestimate. Its creation and development took place in the years of large-scale implementation in practice of socialist planning and management of electronic computers and economic and mathematical methods. The article used research materials of A.V. Safronov (RFBR grant №19-010-00680) and V.A. Kitova (RFBR grant № 12-07-00213-a).

**3. Medennikov Viktor, Formation principles the uniform digital platform of the country**

**Keywords**

digital platform, information systems, mathematical model.

**Abstract**

in work problems of formation of digital platforms for management of national economy are considered, various options of their development are considered, criteria of creation of these platforms on the basis of mathematical model of their formation are offered. Essentially new approach to development of the system of country government on the basis of uniform information Internet space of digital interaction is offered. Original definition of the digital platform is given. On the basis of a clustering of digital platforms evidence-based calculation of need for necessary experts for digital economy is given.

**4. Bondarenko Valentina, Digital economy: a vision from future**

**Keywords**

Glushkov VM, OGAS, scientific and technical progress, Industry 4.0, digital economy, crisis, new methodological tools, goal, complexity, integrity, consistency, interdisciplinarity, a single indicator, a single criterion of efficiency, forecasting the future from the future.

**Abstract**

The article shows that a new paradigm for forecasting the future from the future can become the foundation for the formation of the digital economy, i.e. from the future in which the development goal has already been achieved. This allows you to minimize all costs and completely avoid incorrect system solutions of the existing approach “by trial and error”. With the help of the technological revolution Industry 4.0, an effective digital economy can be formed only when it is viewed as an economy of coordinated interests between the state, business, society and the interests of each individual in real time and at each local level. Thus, it will become real to solve the problem of ensuring the high quality of life of not all citizens at all, but of each particular person.

JEL classification: C12; C51; R15.

**5. Aivazyan S., Afanasiev, M. Kudrov, A. , INTEGRAL INDICATOR OF QUALITY OF LIVING CONDITIONS**

**Keywords**

digital production, automotive industry, recycling, sharing economy.

**Abstract**

Digital transformation of industry makes it possible to update the design of hi-tech products more rapidly. To support this transformation the demand side of the market should be revised. New demand must ensure enough cashflow to cover complex technology in a short time. Automotive industry serves as an example to investigate hindering factors of transformation in context. The article demonstrates how the demand side and resources support the production. But, it is recycling what is still waiting for further development. With a lack in life cycle management the digital transformation of industry faces a strong risk to transform resources in wastes faster while landfilling products for new materials.

**6. Milkova Maria, Topic models as a tool for “long distance reading”**

**Keywords**

Digital economy, Russian Digital Economy Program, graph-based approach, TextRank, semantic links, text mining

**Abstract**

The paper presents key terms extraction from the government documents issued in the period of 2013-2018 and linked to the Digital economy direction. One of the key interests of the analysis of government documents is to study them as primary source of digital economy terminology. The paper provides a brief review of the main approaches to key terms extraction and gives detailed description of one of the graph-based methods – a TextRank algorithm. The TextRank algorithm was tested on 13 government documents. The results of documents analysis are presented as weighted graphs of semantic links between keywords. Based on these words the lists of key terms are created for each document.

**7. Solozhentsev Evgeny. DIGITAL EVENT-RELATED MANAGEMENT IN ECONOMICS**

**Keywords**

event-related management in economics, structurally complex systems, safety and quality criteria, new knowledge, new tasks, special software, digital management, analysis, modeling

**Abstract**

The work forms the basis of a breakthrough scientific direction in the management of safety and quality of structurally complex systems in economics: new objects and management criteria are proposed, new knowledge is introduced, new tasks in management is proposed, special Software is described, the essence of digital management and the course of additional education of economists and teachers are outlined.

**7. Kozyrev Anatoly,** **Utopia and dystopia of the attention economy**

**Keywords**

attention economy, attention economic, economy of attention, mental capitalism

**Abstract**

This brief review critically analyzes two main trends in publications on the Economics of attention. The slogan for one of them could be the thesis "attention is the currency of the future", and with a positive connotation. In an extreme form, this idea is brought to utopia, when attention will replace money. The second trend, known as dystopia, does not have the same clear slogan, but has a pronounced protective character. The main idea is the need for measures to limit the "theft" of attention from citizens with subsequent resale to advertisers or other use not in the interests of the citizens themselves.

**8.** **Kozyrev Anatoly, Digital economy and tropical mathematics**

**Keywords**

Idempotent addition, digitalization, digital format,

**Abstract**

Idempotent addition is sufficient reason to consider tropical mathematics as a suitable mathematical apparatus for modeling the Economics of digital products and services. But there are other reasons for choosing tropical mathematics. They become clear when analyzing the financial statements of companies that play key roles in the digital economy. The cost of such companies is not consistent with the theorem-MM..

## 2019 No. 2(6)

**1. Alexey Korablev, Key functionality and benefits of using digital counterparts in industry**

**Keywords**

digital economy, digital twins, digital industry, digital manufacturing, digital factory, rational production, industrial robotization, offline programming, lean manufacturing, productivity increase, digital transformations, simulation modeling, process optimization.

**Abstract**

The article systematizes and considers the main functional purpose and the effect that digital twins bring. In particular, definitions and directions for use are given for such digital twins as visual components, prototypes, demonstrators / informers, simulators / optimizers, programmers, digital shadows, as well as managers / advisers.

**2. Mikhail I. Lugachev, Russia on the way to the digital economy: the aspect of time and space**

**Keywords**

digital economy, OGAS, ACS, ACS, artificial intelligence

**Abstract**

The article is devoted to the comparative analysis of the processes of economic transformation that took place in the USSR in 1960-70-years in the framework of the project under the leadership of academician V. M. Glushkov, and modern digitalization of the Russian economy. It is noted that a thorough analysis of the failures of the OGAS project, primarily in assessing the impact of technology on economic changes, would accelerate the current transformation processes. Similar procedures of movement to the digital economy in China and Russia since 2017 are analyzed from the standpoint of participation of the state and private companies.

**3. Gurdus Alexander, Digital Transformation of Insurance - from Loss Control to Risk Control**

**Keywords**

Digital transformation, digital ecosystem, insurance, risk control, economy of communications

**Abstract**

Digital transformation of insurance is not only application of new digital technologies to all insurance business processes. It’s also a possibility to increase insurance market by means of shift from loss control of insured to risk control. It’s also addition of new insurance products to value chains creation in big business projects. Insurance may become an important part of a new digital economy of communications - unified digital ecosystem of business cooperation.

**4. Alex Nedorya, All-platform programs development or if I was a billionaire**

**Keywords**

software development technology, crossplatform programming, multiplatform programing, distributed programs, programming languages.

**Abstract**

In the IT market there is a hidden business war between ecosystem manufacturers (iOS, Android, Windows) and application developers. For first, to increase profits, it is important to bound (make unique) their ecosystems, for second, to increase the market and to reduce costs, it is important to make applications running on many (all) platforms. Curiously, Google acts on both sides (see Google Flutter). We, as technology and production people, are not concerned about business, but about the creation of a common technological environment, without which the development of humankind is difficult (or impossible). The article, in a very brief form, proposes an experiment on the transition to the production of all-platform programs, that is, programs that are created in a certain "ideal" (logical environment), and then are deployed to any real environment that contains resources in sufficient quality and quantity.

**5. Lutsenko Sergej, Artificial intelligence – a field of a global competition**

**Keywords**

artificial intelligence, tenor of technology, Industry 4.0, smart city, technologies.

**Abstract**

Features of artificial intelligence are considered in modern realities. The key role to artificial intelligence is taken away in technological development and in struggle for the markets. In sepa-rate Russian regions there are examples of successful realization of projects of technological de-velopment in the field of artificial intelligence. The author addresses to German experience of construction of technology «Industry 4.0» in an artificial intelligence context.

**6. Dushkin Roman et al., Human settlements as intelligent agents: from smart to cognitive cities**

**Keywords**

intellectual agent, smart city, cognitive city, personification, personalization, intellectualization, municipal service, settlement management, urban management, artificial intelligence.

**Abstract**

The article presents the authors’ vision of solving some of the acute problems of municipal government and smart cities, which still remain, despite the widespread implementation of automation technologies in the field of organization of urban economy. The basic definitions of the basic terms and concepts necessary for understanding the proposed approach to automation and intellectualization of municipal government are given. The general architecture of an adaptive intelligent agent for personification of a settlement and municipal services is given, the process of interaction of various actors with an intelligent agent is described, and some examples of the use of intelligent agents in the construction of a cognitive city are given. The novelty of the considered methodology of automation of urban and municipal management based on intelligent agents is based on the fact that previously this approach was not considered or was considered to a small extent due to the lack of significant computational power for solving cognitive tasks, as well as due to the imperfection of natural language processing methods, which were available to researchers even a decade ago. In addition, the merging of several technologies to solve such a large task as omnichannel and multimodal interaction between actors with arbitrary roles and an integrated information system of city management is absolutely new. The relevance of the proposed solution follows from the current challenges to an urbanized society in organizing for people an environment with sustainable development and the possibility of improving the quality of life in various aspects. Modern city dwellers have excessive demands on the quality of municipal and state services provided, and the examples of intellectual systems in the commercial sector surrounding them set the overall level of service. This, in turn, means that the end-to-end automation of integrated management processes is not needed by the actors themselves, they need high-quality service of their requests based on accurate information about any aspects of the urban economy, personal data of actors and all available departmental information that can be used for meet requests. The article will be of interest to scientists and engineers conducting research and working in the field of optimization of urban management.

**7. Varlam B. Keshelava, Roman V. Dushkin, Timur V. Keshelava, Self-Learning Expert System. Part 1. Problem statement**

**Keywords**

AI, cognitive computing, expert system, semantic network, data base, knowledge base, thesaurus, arti-ficial neural network, hybrid approach, text processing, recursive text processing, automatic learning, joint use of neural and semantic networks

**Abstract**

The article discusses opportunity of constructing an expert system capable of text processing and building up evergowing thesaurus. The ultimate goal is obtaining comprehesive thesaurus which is beyond scope of human abilities. The autors argue the need of hybrid solutions: the task of entities determination (for example, parts of speech) in input information stream (texts) is advisable to be resolved by artificial neural networks, whereas for performance checks and subsequent data accumulation semantic approach is recommended. Authors introduce the notion of new information concordance procedure that is used for data reconciliation with current thesaurus. Also the recursive text processing idea is introduced. Automatic learning is defined as process of text processing and corresponding thesaurus growth with decrease of number of appeals to experts. A number of properties of such a system is discussed

**8. Lutsenko Sergej, The international experience of development of «smart cities»: the review**

**Keywords**

Patents, transfer of technology, patent trolls, research institutes, intellectual property

**Abstract**

The author considers features of development of «smart city». Concept merits and demerits of «smart city» with use of the international experience. The concept essence of «smart city» is connected with quality of life at the expense of application of innovative technologies

**9. Alexander Galkevich, “DOES RUSSIA HAVE A SPACE INDUSTRY A CHANCE? AND WILL IT HELP IT IMPLEMENTED DIGITALIZATION?”**

**Keywords**

space services, public private partnership, intelligent integrated digital platform,

**Abstract**

The article gives a critical assessment of the state of the space industry and proposes specific measures for its revival, including organizational solutions and the use of new technologies.

**10. Valfrid Treyer, What "electronic trading platform" is not enough for the Russian economy**

**Keywords**

e-commerce, industrial products, a formalized description of products, communication environment, structuring of the manufacturing sector of the economy, information HUB, niche Internet.

**Abstract**

E-commerce that has emerged in practice is the most underdeveloped in the manufacturing sector of the economy. This is due to the following reasons: the presence of a huge array of nomenclature positions of industrial products (hundreds of millions or more); low level of unification of the formalized product description; the need to use a sufficiently capacious set of consumer, operational and structural-technological parameters and indicators to describe the products on the market. The achieved level of information and communication technologies allows to solve the indicated problem to a considerable degree. As a direction for its solution, the development of the structure of a formalized description of the economy, fixed in the international standard System of National Accounts, is proposed, in terms of the types of economic activity to typical tasks to be solved, and in terms of products, to its types. On the basis created in this way, it is proposed to create a communication environment for all participants in economic activity on the principle of “each with each”

**11. Alex Nedorya, About the program’s manufacturing and hedgehogs in the fog**

**Keywords**

software development technology, multiplatform programs, distributed programs, product lifecycle management for software development.

**Abstract**

On the example of comparison of projects, current and 30 - year-old, the system problem of manufacturing programs is described. The problem associates with the planning and the possibility of consistent, controlled and systematic movement from the formulation of the problem to the completion of the product. A clear indication that we are not able to plan the development of software products is the use of Agile methods. In the current state the modern developer works almost "blindly", collecting the software system from the "gray boxes", for the workability of which no one is responsible. The article briefly describes the direction in which the production of programs should evolve if we want to make reliable programs within a consistent and controlled process. In fact, we are talking about the need to develop PLM (Product Lifecycle Management) system for the manufacture of programs.

**12. Skripkin K.G. Potential and challenges of the information society development strategy**

**Keywords**

strategy, information technologies, information society, general purpose technology

**Abstract**

In 2016 – 2017 Russia has adopted two policy documents on the development of the information society and digital economy. These documents cover development of both information society and digital economy. This paper by means of strategic analysis, innovation theory and information systems economics demonstrates that information society and digital economy are two fundamentally different entities, which require different strategies and different approaches. The information society in Russia is developing successfully for at least recent 10 years, so that evolutionary approach, reflected consistently in the newly adopted strategy suits its development quite well. On the contrary, the digital economy in its modern sense can arise only due to the technological revolution, which requires fundamentally different approach to strategy. Creating a separate digital economy development strategy, designed to support entrepreneurs who are building businesses on the application of new technologies, looks like a feasible solution for this situation.

**13. Amiran Keshelava, Ilya Khaet, The subject of the digital economy and the role of digital tools**

**Keywords**

Digitalization, digital economy, e-commerce,

**Abstract**

In this article, the authors give their own opinion on the issues of digitalization, digital economy and the role of digital tools.

## 2019 No. 3(7)

**1. Kirill Torzhevsky, Application of a modified M. Faber model for cryptocurrency market forecasting**

**Keywords**

emerging stock markets, cryptocurrency, M. Faber model, BTC rate dynamics, phases of cyclical fluctuations of stock indicators

**Abstract**

The article presents the model of M. Faber, designed to analyze emerging stock markets and analyzes the possibilities of its application for the cryptocurrency market (using the example of the bitcoin market). The analysis of the exchange rate of bitcoin (BTC) during the periods of its greatest volatility is carried out and the correspondence of the dynamics of its exchange rate (in dollar terms) to the six phases of the M. Faber model is shown. The possibilities of modifying the model of M. Faber on the basis of an aggregated approach, which represents the oscillation cycle of the cryptocurrency in question in the form of three phases: rise, fall, “side”, are considered. Quantitative parameters of this cycle for a weekly cycle of modeling are given. An approximate forecast of the dynamics of the BTC rate was made on the basis of a modified model of M. Faber until 2022.

JEL classification: E 47 - Money and Interest Rates: Forecasting and Simulation

**2. Vladimir Frolov, Alexey Romanchuk. Global Payment Systems based on API and BLOCKCHAIN Tecnologies**

**Keywords**

Blockchain, payment system, API

**Abstract**

Shortcomings and problems of modern banks and payment systems are considered, current trends and future solutions are formulated. The blockchain-based payment system Copernicus Gold, which has a built-in gold-backed electronic currency, as well as its associated banking infrastructure, was presented as a tool for designing an effective global payment system. Various applications of Copernicus Gold are also considered: the organization of a global payment system, the provision of a banking API for the FINTECH industry and, as a consequence, the promotion of its explosive development. Separately, the option of a payment system using USSD technology, in partnership with a single mobile operator, and for the state as a whole, is considered.

JEL classification: E 47 - Money and Interest Rates: Forecasting and Simulation

**3. Sergej Lutsenko, Features of circulation of digital currency in territory of the Russian Federation: legal risks**

**Keywords**

digital currency, tokens, Initial Coin Offering, the legislation of the Russian Federation, blockchain

**Abstract**

The author considers features of circulation “virtual money resources”, their legal nature. It is necessary to eliminate blanks and contradictions in the current legislation of the Russian Federation For realization of possibility of circulation of “virtual money”. The author addresses to the international experience of legal regulation digital currency.

JEL classification: E 42 – Monetary Standards and Regimes; Government and the Monetary System

**4. Mokhov A. I.. Dushkin R. V., Andronov M. G., Maltsev V. P., Methods of assessing the degree of intelligence of technical and sociotechnical systems**

**Keywords**

intelligence, intellectualization, assessment methodology, technical system, sociotechnical system, scale, artificial intelligence, intelligent transport system, intelligent energy system, smart city.

**Abstract**

The article describes the methodology proposed by the authors for assessing the degree of intelligence of technical and sociotechnical systems of various classes, which implies a comprehensive review of the functioning of such systems at a sufficiently abstract level so as not to take into account the specific nature of the systems being assessed. The described technique is based on the principles of intellectualization of technical and sociotechnical systems developed by the authors, which allows using the intelligence scale to compare systems of the same class. The article introduces criteria, scales and an algorithm for assessing the degree of intelligence, as well as some examples. The methodology is also based on individual achievements of artificial intelligence regarding the use of meta-functions within the functionality of technical and sociotechnical systems, which form the basis of cognitive calculations within the framework of the symbolic approach of the downward paradigm of artificial intelligence. The novelty of the methodology under consideration is based on the application of the understanding developed by the authors of the intelligence and intellectualization of technical and sociotechnical systems. The relevance of the work follows from the importance of finding common methods for assessing intelligence for comparing of new-type systems — such universally implemented intelligent systems as intelligent transport systems, smart energy systems, smart cities, etc.

JEL classification: O 32 – Management of Technological Innovation and R&T

**5. Victor Mironov, Features of Patenting in the Digital Economy**

**Keywords**

intellectual property, patent law, patentability, software, business methods, computer programs, artificial intelligence, blockchain.

**Abstract**

The importance of intangible assets and intellectual property in the modern economy is difficult to overestimate. Computer technologies have become the driver of the development of most sectors of the economy, and a significant part of inventions in different areas is implemented through the creation of software. The practice and subtleties of patenting computer programs and business methods are of particular interest to an innovative company. The article deals with these and many other problems of modern patent law.

JEL classification: K 29 - O 34 – Intellectual Property Rights: National and International Issues (patents, copyrights)

**6. Natalia Khristolyubova, Composition and structure of the consumer basket as a condition for effective transition to the digital economy**

**Keywords**

consumer basket, living wage, interests, needs, people, digital economy, scientific and technological progress, quality of life, security

**Abstract**

The article presents the results of the study of the composition and structure of the modern consumer basket. In the conditions of widespread scientific and technological progress in the world economy, the influence of the modern consumer basket on the current and future processes of socio-economic modernization is investigated. The relevance of the consumer basket is determined by the opportunities that each person receives to accumulate and realize their potential, which determines the overall level of social capital of the country, and, as a result, affects the quality and pace of social development, which has become a necessity for the development of the economy on the basis of digitalization of all sectors and spheres of human activity. The consumer basket and the level of the subsistence minimum, the minimum wage (minimum wage), interconnected with it, are instruments of ensuring and regulating the level of human quality of life, and if they do not meet the necessary (minimum) requirements of scientific and technological progress, they can act as a deterrent to development.

JEL classification: J 24 – Human Capital Formation – in school, formal training programs, onthe-job; Occupational choice; Labor Productivity

**6. Shevchenko Basil, THE RELATIONSHIP BETWEEN FORMALIZATION OF THE DESCRIPTIVE SCIENCES, COGNITIVE ANALYSIS, "ARTIFICIAL INTELLIGENCE", GAME THEORY AND THE THEORY OF KLS**

**Keywords**

cognitive analysis, artificial intelligence, game theory, operations research, finite automata, constructive logic systems

**Abstract**

The paper compares the basic concepts and provides a generalized assessment of the possibilities of modern approaches to the formalization of descriptive Sciences, the construction of an accurate language of description and analysis of mental and socio-economic processes, to the development of a new generation of decision support systems. The paradigm of studying the designated range of issues, based on the use of the original mathematical apparatus of constructive logical systems and generalizing class of game models, in which the dynamic ensembles of static games are considered, is proposed.

JEL classification: C 70 – Game Theory and Bargaining Theory: General

**7. David Orrell, A quantum model of supply and demand**

**Keywords**

quantum economics, quantum finance, quantum cognition, entropic forces, harmonic oscillator, quantum agent-based model

**Abstract**

One of the most iconic and influential graphics in economics is the figure showing supply and demand as two lines sloping in opposite directions, with the point at which they intersect representing the equilibrium price which perfectly balances supply and demand. The figure, which dates back to the nineteenth century, can be seen as a graphical representation of Adam Smith’s invisible hand, which is said to guide prices to their optimal level, and features in nearly every introductory textbook. However this figure suffers from a number of basic drawbacks. One is that it does not express a dynamical view of market forces, so it is not clear how prices converge on an equilibrium. Another is that it views supply and demand as deterministic, when in fact they are intrinsically uncertain in nature. This paper addresses these issues by using a quantum framework to model supply and demand as, not a cross, but a probabilistic wave, with an associated entropic force. The approach is used to derive from first principles a technique for modeling asset price changes using a quantum harmonic oscillator, that has been previously used and empirically tested in quantum finance. The method is demonstrated for a simple system, and applications in other areas of economics are discussed.

JEL Classification: D00, D80, G10

**8. Anatoly Kozyrev, Ivan Nevolin, Social credit in China: overview**

**Keywords**

Big data, national data platform, social credit

**Abstract**

The article presents the most significant results of the study entitled "Analysis of the Chinese experience in the use of big data technologies, in particular, implementation of the draft universal credit (trust) in the management of social processes in society" is made in the framework of the program of Presidium of RAS for the year 2019..

**9. Nikolai Ostarkov, Emission Formation. Local Money instead of Global Monopoly on the Issue**

**Keywords**

Seigniorage, rent, issue, issue rent

**Abstract**

A fundamentally new source of "profit" – however, this is a well-forgotten old one - is the rent arising from the issue of money. It is the rediscovery of the seigniorage that will change all the preconditions and make them work in a new way, and ultimately re-subordinate, re-encode in its own way the capitalist value chain. (A. Otyrba drew my attention to this incredible ability of the issue to produce rent (seigniorage) and to the colossal importance of this rent in modern conditions.) A new formation in a new way and equips its original source. The market is no longer the primary source of economic formation, you can relax and stop stimulating its construction. The history of capitalism (=history of the economy) is re-formed into the history of the development of the emission machine programs. To begin deciphering the language of its programming will have with the concept of seigniorage.

JEL classification: E 47 - Money and Interest Rates: Forecasting and Simulation

**10. Alexander Samarin, Next only Digital Transformation**

**Keywords**

digital replicable system, global Bank for digital transformation, regional center for digital transformation, commercial, industrial and financial Internet, economy of communications, Internet of objects”, economic interaction in a single digital space, digital tools for digital transformation

**Abstract**

This article is written to explain the basics of digital transformation in an accessible and systematic way: the main concepts, the relationships between them, the ideal mission of digital transformation, the possible architecture of the replicated solution, and much more. The article is intended for a wide range of readers – from the Minister of "digitalization" to the programmer of "digitalization", and all critics of "digitalization".

JEL classification: O 32 – Management of Technological Innovation and R&T

**11. Kirill Alekseev, The Role of a Big Data in the Digital Economy**

**Keywords**

Digital transformation, digital ecosystem, insurance, risk control, economy of communications.

**Abstract**

Big data is not a new concept for the economies of different countries, including Russia. In this article, the author gives his own opinion on the role of big data in the digital economy.

JEL classification: C 80 – Data Collection and Data Estimation Methodology; Computer Programs: General

## 2019 No. 4(8)

**1. Anatoly Kozyrev, Digitalization, Mathematical Methods and the Systemic Crisis of Economic Science**

**Keywords**

Tropical mathematics, quantum Economics, transaction costs, market capitalization

**Abstract**

Digitalization and the rapid development of new information technologies, including network technologies, have led to the emergence of new forms of business, an abundance of information and new analytical tools that economists of the past could only dream of. The consequences of these changes for economic science were, at best, ambiguous. The crisis of economic theory, which many well-known economists have previously written about, has only worsened, but it is this fact that prompts us to seek a way out of the crisis, looking at the causes of old and new failures. This article is about this.

JEL classification: A12 Связь экономической теории с другими дисциплинами, C02 Математические методы, L14 Трансакционные отношения • Контракты и репутация • Сети

**2. Maria Milkova, NUDGE THEORY AND ITS DISTORTIONS IN THE INFORMATION ENVIRONMENT**

**Keywords**

Nudge theory, search engine, information environment, knowledge graph, knowledge panel

**Abstract**

The article considers the currently relevant approach to shaping citizen behavior - the Nudge theory, proposed by Nobel laureate Richard Thaler. The theory propose to use a predefined default option as the “right” choice of an individual when making decisions. The positive experience of applying this theory in the sector of the real economy is shown. However, the dissemination of this approach to the information environment leads to the opposite results. Using the Google Search system as an example, it is shown how the principle of working with information has changed over the past 10-15 years. The default answers provided by search engines by default lead to a degradation of the ability to perform an iterative search and analyze the results. In addition, the displayed snapshot of information is presented “based on Google’s understanding of the available content on the Internet” and is not an understanding of the information by the user. A suggestion is made about the need to use an alternative approach to searching for information, which allows one to take into account the clip nature of thinking, and, on the other hand, to offer a roadmap for the question being studied instead of providing a ready-made answer.

JEL classification: D83 Поиск • Обучение • Информация и знания • Взаимодействие • Мнение • Неосведомленность

**3. Zimina A.S., Nevolin I.V., Game theory approach to the scheduling**

**Keywords**

scheduling theory, planning, education in school

**Abstract**

We treat the task of scheduling as the stable marriage problem. In the context of school education, we build a model that has the potential for wider application. The algorithm to solve the problem has long been known, what opens up opportunities for software development and automation of one of the resource-intensive operations at educational organizations.

JEL Classification: I20 – Education and Research Institution, General; C78 – Bargaining Theory, Matching Theory

**4. Sergej Lutsenko, Foresight: Being in Demand in a Digital Era**

**Keywords**

Foresight, biotechnologies, technology foresight, the tool, industries, forecasting

**Abstract**

The author considers the mechanism of practical application foresight in digital economy. The foresight will allow to consider variations of scenarios of development of economy during a digital epoch, to specify competitive advantages of separate industries and scientifically- technological directions, with attraction of representatives of a science and business.

JEL classification Z19

**5. Victor Medennikov. A mathematical model for evaluating universities in the digital transformation of the economy**

**Keywords**

Methodology, efficiency of use, informational scientific and educational resources, information technology, evaluation criterion.

**Abstract**

the paper discusses the methodology for assessing the effectiveness of the use of informational scientific and educational resources represented in the Internet space. The methodology takes into account both the requirements for information content on the websites of educational institutions of the Ministry of Education and Science, Rosobrnadzor, and the demand for these resources in the economy, their impact on the quality of training of qualification specialists and scientists in educational institutions. To improve the transfer of scientific knowledge into the economy, it is proposed to include in the methodology an indicator reflecting the relationship of the received university ratings and a number of regional ratings characterizing the socio-economic situation in the regions. It is shown that the standardization of the presentation of informational scientific and educational resources in the digital economy allows us to create a single information Internet space for scientific and educational resources, giving access to them for a wide range of users: students, scientists, managers, business, the public.

JEL classification C02 Математические методы

**6. David Orrell, A quantum model of supply and demand**

**Keywords**

quantum economics, quantum finance, quantum cognition, entropic forces, harmonic oscillator, quantum agent-based model

**Abstract**

This document gives a technical introduction to some of the mathematics used in quantum economics and is intended as a supplement for the book Quantum Economics: The New Science of Money. quantum economics, such as the quantum theory of money and value, do not rely on equations. However, the quantum formalism is mathematical, so to fully exploit its ideas some mathematics is useful. The aim here is to sketch out the way in which the economy can be represented mathematically using the quantum formalism, show the advantages over the classical approach, and clarify what it means to say that the economy can be treated as a quantum system in its own right.

JEL Classification: D00, D80, G10

**7. Victor Mironov, To the problem of the value in the modern economics**

**Keywords**

theory of value, valuation, knowledge economy, market price, intellectual property.

**Abstract**

The article provides a brief overview of the theories of value and the possibility of their application in the digital economy on the basis of literary sources. The analysis shows that of all the approaches known to date, only the functional approach Dating back to V. Pareto and behavioral approaches can be sufficiently adequate to the new requirements.

JEL classification: D46 Theory of value

**8. Nikolai Ostarkov, Emission Formation. Local Money instead of Global Monopoly on the Issue**

**Keywords**

Inflation, deflation, value, transactions, issue

**Abstract**

A fundamentally new source of "profit" – however, this is a well-forgotten old one – is the rent arising from the issue of money. It is the rediscovery of the seigniorage that will change all the preconditions and make them work in a new way, and ultimately re-subordinate, re-encode in its own way the capitalist value chain. (A. Otyrba drew my attention to this incredible ability of the issue to produce rent (seigniorage) and to the colossal importance of this rent in modern conditions.) A new formation in a new way and equips its original source. The market is no longer the primary source of economic formation, you can relax and stop stimulating its construction. The history of capitalism (=history of the economy) is re-formed into the history of the development of the emission machine programs. To begin deciphering the language of its programming will have with the concept of seigniorage.

JEL classification: E 47 – Money and Interest Rates: Forecasting and Simulation

**9. Vladimir Frolov, Alexey Romanchuk. Currencies backed by precious metals**

**Keywords**

Blockchain, payment system, API

**Abstract**

The article presents the authors ' point of view on the process of tokenization of assets, shows the advantages of currencies backed by precious metals. Tokenization of various assets, ranging from precious metals and money, ending with electric energy, is a kind of sign of our time. First of all, this is due to the emergence of a technological base for creating cryptographically secure registries, for example, using blockchain technology. The race of blockchain projects continues until now, however, after several years, we see that from an applied point of view, the problem of transferring assets to digital form, "on the blockchain", is not solved in many places – there are a huge number of statements and intentions, but almost no results.

JEL classification: E 47 – Money and Interest Rates: Forecasting and Simulation

**10. Alexey Korablev, Digitalization as the Boredom of the Russian Economy**

**Keywords**

Digital doubles, smart technologies,

**Abstract**

The article discusses the economic prerequisites for digitalization, based on the analysis of trends set by the SPIEF 2019. The article is published in the author's edition with the addition of metadata.

JEL classification: E 47 - Money and Interest Rates: Forecasting and Simulation

## 2020 No. 1(9)

**1. Anatoly Kozyrev, Incentive Compatibility, Digitalization and Knowledge Trade**

**Keywords**

Incentive compatibility, transaction costs

**Abstract**

The article shows how the latest achievements in the field of algorithmic game theory can be adapted to formalize legal structures and automate procedures that are traditionally used in the trade of know-how, as well as other knowledge of limited access. It also presents a view from the perspective of modern game theory on the development of key moments in the history of the use of computer technology and mathematical methods for managing the economy of the USSR.

JEL classification: A 12 – Relation of Economics to Other Disciplines, C02 Mathematical Methods, C 79 – Game Theory and Bargaining Theory; Other, D 42 - Market Structure and Pricing: Monopoly, D 82 – Asymmetric and Private Information

**2. Sergey Parinov, The impact of development communication on the properties of the economy**

**Keywords**

mental model, or collective mental model, the mechanism of the coordination of the activities of digital and post-digital economy

**Abstract**

The communications revolution that has taken place in the world over the past 30 years has led to a level of connectivity that has never been seen before. However, the resulting significant increase in direct contacts between people and their awareness of each other's actions has not yet led to noticeable improvements in the coordination of the activities of socio-economic agents. One of the reasons is that extracting economic benefits from new opportunities for communication requires the creation of both software-technical and institutional systems that ensure the operability of the coordination mechanism based on direct communications between people. In direct communications, coordination is provided by the collective mental model of participants in joint activities. The article discusses approaches to creating such a mechanism of cooperation, in particular, the prospects for creating a single universal coordination mechanism, which is expected to lead to a significant increase in the effectiveness of socio-economic activities and accelerate economic development.

JEL classification: D83 Поиск • Обучение • Информация и знания • Взаимодействие • Мнение • Неосведомленность

**3. Alexandra Mashkova, Maria Milkova, and Ivan Nevolin. A System to Monitor Disease Dissemination among Territories**

**Keywords**

agent-based modelling, information systems, anemia,

**Abstract**

We describe a concept of an information system to analyze scenarios in decision-making. The article covers a general logic of the system, a structure of the database in use, an analysis of available information to fill the model. Systems of this kind are urgent due to the dimension of planning tasks and the interaction of many factors. Anemia at regional level and the regulation of the food industry were chosen as the context for the system development.

JEL Classification: C63 – Computational Techniques, Simulation Modeling, C88 – Other Computer Software

**4. Dmitry Pigorev, Economic consequences of conflicts of interest in marketing, their modeling and measurement.**

**Keywords**

conflict of interest, marketing management, digital marketing, marketing strategy, digital measurements, performance marketing, end-to-end analytics

**Abstract**

The issue of modeling a conflict of interest in marketing management and measuring the economic consequences of manifestations of a conflict of interest is a relevant and insufficiently investigated topic. The purpose of the article is to clearly demonstrate a particular case of a conflict of interest and evaluate the economic consequences in numbers, when its manifestation is expressed in insufficient quality of marketing measurements. The article considers an example from the field of digital marketing and advertising, however in reality this phenomenon extends far beyond the scope of marketing dimensions. The article provides a calculation of economic consequences and an assessment of the effect of introducing a system of end-to-end marketing analytics.

JEL classification M 31 – Marketing

**5. Victor Medennikov. The mathematical model for evaluating research institutes in the digital transformation of the economy on the ideas of A.I. Kitov and V.M. Glushkov about OGAS**

**Keywords**

methodology, efficiency of use, information scientific resources, information technology, assessment criteria.

**Abstract**

the paper discusses a methodology for assessing the effectiveness of the use of informational scientific resources presented in the Internet space, which allows to evaluate the results of scientific activities of research institutes. It is shown that the standardization of the presentation of scientific information resources in the digital economy based on the ideas of prominent Soviet scientists A.I. Kitov and V.M. Glushkov about the National Automated System for collecting and processing information for accounting, planning and managing the national economy, allows you to create a single information Internet space of scientific and educational resources that gives access to a wide range of users: students, scientists, managers, business, and the public. The general principles of digital transformation of all sectors of the economy are formulated, the analysis of the necessary conditions for the effectiveness of the implementation of the Digital Economy Program, as well as the problems of forming a unified digital platform of information scientific resources are given. The state and assessments of the effectiveness of the use of scientific information resources by agricultural research institutions on the basis of the developed methodology are considered. Their ratings are given.

JEL classification C02 Mathematical Methods,

**6. Georg Franck, The Wage of Fame**

**Keywords**

knowledge, attention, fame, vanity

**Abstract**

The paper ventures an economic view of modern science. It points out how science works as a closed economy of attention where researchers invest their own attention in order to get the attention of fellow researchers. Attention thus enters economy in two properties: 1. as a scarce resource energising scientific production and 2. as a means of gratification rewarding the effort of the working scientist. Economising on attention as a scarce resource is another expression of thought economy. The income of expert attention is what gives rise to reputation, renown, prominence and eventually fame. By its being conceived as a closed economy of attention, science shows to be capable of self-organising a tendency towards overall efficiency and thus towards collective rationality.

JEL classification O 30 – Technological Change: General

**7. Anatoly Kozyrev, Current State of Research in the Field of Information Trade**

**Keywords**

attributes, demand transformation, information design, intermediaries, linear disclosure, mechanism design, multidimensional screening, persuasion

**Abstract**

The article provides a brief overview of scientific research in the field of information trade based on literature sources. The review focuses on works at the intersection of information technology and game theory, focused on real-world problems, such as those related to the sale of information in automated mode.

JEL classification: C 79 – Game Theory and Bargaining Theory; Other, D42 Market Structure and Pricing: Monopoly, D82 Asymmetric and Private Information, D83 Search, Learning, and Information

**8. Maria Milkova, OpenTalks.AI: Conference 20-21 February 2020**

**Keywords**

artificial intelligence, computer vision, natural language processing, predictive analytics, artificial intelligence security.

**Abstract**

A brief overview of the conference on artificial intelligence OpenTalks.AI, held in Moscow on February 20-21, 2020. The conference was devoted to the latest achievements in the field of computer vision, natural language processing, predictive analytics, reinforced learning and general artificial intelligence, and also included various discussions on the security of artificial intelligence and the prospects for the development of society as a whole.

JEL classification: D83 Search, Learning, and Information

**9. Valentina Dorodnitsyna, Vladimir Kitov, Vasily Shevchenko, Formation of the first military and civil computing centers in the USSR**

**Keywords**

computer system, arithmetic device, superscalar

**Abstract**

This article continues a series of publications about events and people who have made an invaluable contribution to the development of computer technology and programming in our country. The article reflects the caring and very personal point of view of the authors involved in those events and who knew the main participants of those events intimately.

JEL classification: C60 — Mathematical Methods and Programming: General

**10. Sergej Lutsenko, Foresight: Unified digital platform as a strategic resource of public administration**

**Keywords**

digital platform, digital transformation, infrastructure, information system, public services

**Abstract**

The author considers the mechanism of implementation of a unified digital platform as a system of means of modern economy. A fundamental element of the digital platform is the openness of its architecture. The creation of a single digital platform will enable the involvement of society in the management of the state. A special feature of the digital platform is the implementation of freedom of movement of goods, services, capital and labor, as well as the implementation of a unified state policy in the economy.

JEL classification: E 47 – Money and Interest Rates: Forecasting and Simulation

**11. Natalya Khristolyubova, A new stage in the development of the economy is new competencies**

**Keywords**

scientific and technological progress, quality of life, human capital, competencies, security.,

**Abstract**

The author presents the results of scientific research on the problems of changing the role and quality of human capital in the conditions of scientific and technological progress and changing the requirements for a person to the quality of his human capital and the competencies that accompany him in the process of life and ensure safety.

JEL classification: : J24 Human Capital Formation – in school, formal training programs, on the-job; Occupational choice; Labor Productivity, O15 Economic Development: Human Resources; Income Distribution; Migration (nutrition, health, education, fertility, household structure and formation, labor markets)

## 2020 No. 2(10)

**1. Sergei Abramov, Sergei Travin, Modeling and Forecast of the Coronavirus Epidemic Statistics in Russia**

**Keywords**

coronavirus, epidemic modeling, epidemic forecasting.

**Abstract**

It became obvious in March 2020, that the coronavirus epidemic in Russia would be quite significant in scope and duration. To draw up personal plans, or plans of small institutions, it was necessary to answer somehow next simple questions at every moment of time: What awaits us in the near future? What stage of the epidemic we are at? When will this be over? In fact, it became necessary to make judgments about the dynamics of the epidemic, considering the incoming official statistics about the epidemic, modeling and predicting the behavior of these statistics. This paper is devoted to some methods and results of such analysis, modeling and forecasting.

JEL classification C53 Forecasting and Prediction Methods • Simulation Methods, C15 Statistical Simulation Methods: General

**2. Roman Dushkin, Database for a decentralized network of smart building equipment**

**Keywords**

intellectual building, intellectualization, database, distributed database, smart building, smart city, management, automation

**Abstract**

The article presents a description of a distributed database designed to describe the various modes of operation of information and automated systems in the composition of intelligent buildings, as well as their components — mainly various types of peripheral equipment (sensors, actuators). It briefly describes the structure of the database, its purpose, and the purpose of its creation. The authors' vision of use cases of a distributed database is given. The novelty of the work is based on the use of distributed information storage technologies in the automation of intelligent buildings. The relevance of the work follows from the contemporary challenges of an urbanized society in organizing for people an environment with sustainable development and the possibility of improving the quality of life in various aspects. The article will be of interest to scientists, engineers, and specialists working in the field of building and structure automation and, more generally, automation of city and municipal government.

JEL classification: O33 Technological Change: Choices and Consequences • Diffusion Processes •

**3. Nikolai Nepeyvoda. Introduction to chaotic control (network version)**

**Keywords**

Keywords: activity, initiative, informalizability, robustness.

**Abstract**

This work presents an approach to planning and moderating activity when our agents are untrustworthy and creative in the same time. In this case we try to organize a system of partially ordered priorities and not make plans deeper than three steps forward. Thus, we can use this model for agents that could accidentally be initiative.

JEL Classification: C63 – Computational Techniques, Simulation Modeling, C88 – Other Computer Software.

**4. Georg Franck, Beyond money and information: On the economy of attention**

Keywords

attention, attention economy, information economy, media, scientific information

**Abstract**

This article by Georg Franck discusses the transition from an industrial to an information society describes the difficulties that an economic theory encounters when addressing an intangible economy. The key tendency that characterizes the orientation of modern society is not physical well-being, but the attraction of people's attention. On the other hand, attention is a scarce resource, a bottleneck in processing a huge flow of information. The economization of these two forms of attention, as a desired income and as a scarce resource, determines a leap in the economic rationalization of the spheres of life.

JEL classificationO 30 –Technological Change: General

**5. David Orrell, A quantum walk model of financial options**

**Keywords**

financial options, quantum walk, quantum finance, quantum cognition, quantum computing

**Abstract**

Financial markets are often modeled using a random walk, for example in the binomial option pricing model which is a discrete version of the Black-Scholes formula. This paper presents an alternative approach to option pricing based on a quantum walk model. The quantum walk, which incorporates superposition states and allows for effects such as interference, was originally developed in physics, but has also seen application in areas such as cognitive psychology, where it is used to model dynamic decision-making processes. It is shown here that the quantum walk model captures key aspects of investor behavior, while the collapsed state captures the observed behavior of markets. The resulting option price model agrees quite closely with the classical random walk model but helps to explain features such as the observed dependence of price on time to maturity. The method also has the advantage that it can be run directly on a quantum computer.

JEL classification: D82 Asymmetric and Private Information, D83 Search, Learning, and Information

**6. Anton Kolonin, Can cryptocurrencies and "artificial intelligence on the blockchain” be decentralized?**

**Keywords**

artificial intelligence, blockchain, cryptocurrency, decentralization, distributed ledger, peer-to-peer

**Abstract**

Financial markets are often modeled using a random walk, for example in the binomial option pricing model which is a discrete version of the Black-Scholes formula. This paper presents an alternative approach to option pricing based on a quantum walk model. The quantum walk, which incorporates superposition states and allows for effects such as interference, was originally developed in physics, but has also seen application in areas such as cognitive psychology, where it is used to model dynamic decision-making processes. It is shown here that the quantum walk model captures key aspects of investor behavior, while the collapsed state captures the observed behavior of markets. The resulting option price model agrees quite closely with the classical random walk model but helps to explain features such as the observed dependence of price on time to maturity. The method also has the advantage that it can be run directly on a quantum computer.

JEL classification: G14 Information and Market Efficiency • Event Studies • Insider Trading

**7. Alexander Kononenko, Internet of things communication networks. Start of strategic projects**

**Keywords**

artificial intelligence, computer vision, natural language processing, predictive analytics, artificial intelligence security.

**Abstract**

A brief overview of the conference on artificial intelligence OpenTalks.AI, held in Moscow on February 20- a whole.

JEL classification: D83 Search, Learning, and Information, D85 Network Formation and Analysis

**8. Vladislav Kozyr, Evaluation of crypto assets in Russian conditions on the example of the market value of BTC and ETH**

**Keywords**

cryptoasset, blockchain, token, coin

**Abstract**

The paper considers a practical way to evaluate crypto assets using a market approach.

JEL classification: E 47 – Money and Interest Rates: Forecasting and Simulation,

**6. Sergej Lutsenko, Biometric data collection: a tool for total surveillance or a means to achieve a legitimate goal?**

**Keywords**

digital platform, digital transformation, infrastructure, information system, public services

**Abstract**

The author considers the mechanism of implementation of a unified digital platform as a system of means and labor, as well as the implementation of a unified state policy in the economy.

JEL classification: D83 Search • Learning • Information and Knowledge • Communication • Belief • Unawareness

**7. Sergey Ganza, Theory and practice of common property development or what technical task should economists prepare for programmers?**

**Keywords**

common property, socialization of production, capital turnover, loans, financial aggregator, planning.

**Abstract**

The article presents a non-standard approach to understanding the economic essence of shared property. It is argued that the processes of concentration and centralization of capital, carried out as a result of corporatization, M&A, and nationalization, do not generate relations of common ownership. They merely modify forms of private ownership, resulting in global vertically integrated economic systems. This naturally leads to the polarization of society, the formation of an economic and spatial periphery, represented mainly by small businesses. For the latter to survive and revive small urban and rural settlements, it is necessary to develop processes of economic pooling of resources. The hypothesis put forward in the article is that the elementary, simplest relations of common property arise between economic entities when they provide each other with temporarily released resources from economic turnover, primarily financial. In the modern economy, the function of consolidation and redistribution of such "free" resources is performed by financial intermediaries – banks. In order to compete with small businesses for access to financial resources, it is necessary to create production and financial associations that could use the consolidation of their financial plans to manage free resources without the mediation of financial structures. As a technical means of implementing this task, a financial platform- integrator can act, in which it is necessary to lay an algorithm for moving free resources, which is a system of insurance of risks of non-return, approved by users. Its scaling up in the form of a horizontally integrated network will gradually reduce the demand for Bank lending and ensure the development of the peripheral economy based on its own internal resources.

JEL classification: P14 Property Rights, P26 Political Economy • Property Rights.