#### TOPICAL ECONOMIC ISSUES

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# The Analysis of the Regional Higher Education: Institutional and Financial Aspect. P. 3.

The integration of the institutional approach and the financial concept is especially important for a high-quality analysis of the development trends of the higher education in the Russian regions. The institutional approach reveals the main points of the educational reforms. Applying the financial concept to higher education institutions of different legal forms allows estimating their financial opportunities of sustainable development.

Ambiguous and negative trends are revealed in the regional higher education development. These trends and weak financial management of higher education institutions can lead to their sharp reduction and polarization. It will negatively affect the quality of the human capital and economic growth of the country and the eastern regions in particular. The authors provide recommendations aimed at enhancing the financial stability and adaptability of regional higher education institutions in the conditions of increased competition.

**Key words:** regional higher education, higher education institution, trend, financial management, risks, control.

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#### The Integrated Assessment of the Economic Security of the Educational Process. P. 12.

The purpose of the article is the development and improvement of the methodological tools for assessing the economic security of an educational institution on the basis of the principles of economic security. The distinctive characteristics of the system of indicators proposed is that it analytically describes the economy and organization of the educational process in comparison with the results of qualimetry, which allows to present the indicators of the quality of the educational process in monetary terms.

**Key words:** economic security, competitive advantages, system of indicators, integrated assessment, potential, innovation, qualimetry.

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# The Emergence of Collective Network Competence in Conditions of Digital Economy Transformation. P. 20.

The transition to the concept of «Industry 4.0» leads to the digitization of the economy, the emergence of digital ecosystems. The authors consider them as a set of computer programs with distributed interaction and mutual usage by agents, the central place in which belongs to the user. In order to use the services of digital ecosystems, be competitive in the Internet space an employee must have new competencies. Nowadays there are heated debates in the communities of scientists and experts about competencies that will become critical. Going beyond geographic boundaries in the interaction with stakeholders, the constant delegation of authority to new members of the staff leads to the need for such a phenomenon as trust. For its successful implementation, the members of the team are required to process highly developed cognitive features, in particular, experience and cognitive intelligence. In our opinion, the most significant network competence of employees in the Internet environment will be cognitive flexibility, adaptability, a high level of communication, the ability to negotiate and coordinate with others. The team, assembled in the network for the implementation of its project, possessing network competencies will be able to form a collective network competence and its human capital.

**Key words:** digital ecosystem, critical competencies, trust, internet space, collective competence, network competence

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# Assessment of Effectiveness and Influence of Nature Protection Activity of the Region on the Possibility of Assimilation of the Environment. P. 25.

The aim of the article is to identify the relation between the ecological damage and the quality of the environment in the urbanized territories of Kazakhstan. The authors provide the assessment of effectiveness of nature protection activities in the cities of Kazakhstan: energy saving, water supply, air pollution from the motor transport. Within these directions the results of projects implemented both by the government of the Republic of Kazakhstan and international organizations are provided and estimated. An assessment is given to the structure of costs of environmental protection by types of nature protection activity. The results of the assessment allow identifying the problem of subsidiarity of environmental protection.

**Keywords:** urbanized territory, nature protection activity, environment, territorial development, sustainable cities.

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## The Mathematization of Accounting Theory by N.U. Popov. P. 35.

The article discusses one of Russia's first attempts of the mathematization of the accounting theory, undertaken by Nikolay U.Popov. The mathematical theory of accounting of N.U. Popov is regarded as a meta-theory of accounting. The basis of this theory is based on double-entry as a special case of the mathematical law of equality (equilibrium). The language of meta-theory is the lan-

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guage of mathematics (algebra). The analysis of the meta-model identifies the laws, regularities, rules, axioms, etc.

**Key words**: accounting theory, history of accounting, double entry, meta-theory, formalization of the accounting theory, N.U. Popov.

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## Audit of the Personnel Remuneration System: Audit Procedures and Documentation. P. 42.

The article considers the main audit procedures that are implemented during the audit of the personnel remuneration system. The purpose of the article is to identify the main areas of personnel audit, to propose a sequence of its procedures and tools. The article highlights the importance of the personnel audit in an organization and also provides statistics on the main problems connected with the compliance with the labor legislation of the Russian Federation. The authors also develop and propose forms of audit documents containing audit evidence obtained during the audit. The article will be useful for students and young researchers studying the current trend of management audit - audit of the personnel remuneration system – and writing their final qualification papers.

**Key words:** personnel audit, audit documentation, audit of personnel records management, personnel capacity audit, personnel remuneration system, salary, labor relations, international audit standards, payroll staff calculations.

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# The Geoanalytical Tools in the Development of Cross-Industry Approaches to Planning Commercial Activities of Enterprises. P. 58.

The article considers modern approaches to the use of geoanalytical tools in order to increase the competitiveness of trading companies. The purpose of the article is to analyze the possibilities of using geomarketing research to plan the development of retail chains, as well as an overview of the basic concepts of the formation and location of sales markets.

The relevance of this article is due to the growing need for the development of cross- industry approaches to planning commercial activities. It is important for modern companies to use visualization of the objects of their chain, as well as the display of their partners and competitors in the local markets.

**Key words:** geoanalyst, cross-industry approach, trading organization, geomarketing information, software, competitiveness, consumer, sales markets.

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#### Investment in Human Capital and Its Evaluation. P. 64.

The paper considers approaches to the evaluation of investment in human capital. The author identifies the place of human capital in the social development, provides the main classification of human capital, the principal distinction of human capital from physical capital and its features. The paper discusses the concept and characteristics of investment in human capital. It is pro-

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posed to evaluate the efficiency of investment in human capital only in relation to a certain person. It is noted that not all expenditures on a person can be seen as investment in human capital.

**Key words:** human capital, investment, evaluation criteria, economic efficiency, sources of financing.

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#### Analysis of the Modern Market for Mergers and Acquisitions. P. 70.

The article analyzes the current state of the market for mergers and acquisitions. Since the practice has shown the instability of the financial system and the inability of global institutions to withstand major shocks, companies are beginning to look for more effective instruments for managing long-term strategies, which makes the topic of this article relevant.

Key words: mergers and acquisitions, TNC, world market, cross-border transactions.

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#### Competence of the Manager in the Sphere of Telecommunications. P. 77.

The article considers the competence approach in personnel management. The core competencies of the sales manager are investigated which will contribute to the growth of labor productivity and the efficiency of the company as a whole. The authors identify professional competences of a manager in the telecommunications field and describe them on the example of the competencies of the sales manager of RTComm Siberia JSC.

**Key words:** competence, telecommunications, competence approach, tele-communication language, tele-technologies.

#### **EDUCATION ISSUES**

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#### Client-Oriented Model of Distance Education. P. 81.

The article discusses the current trends and future prospects of organizing distance learning. Distance learning is definitely a relevant issue as it fully meets modern education requirements, it is regulated by law, however, it raises a number of pedagogical and psychological problems that teachers of distance learning should understand and be willing to address.

**Key words:** model, technology, learning, education.

#### TECHNOLOGY, QUALITY AND SAFETY OF CONSUMER GOODS

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The Influence of the Negative Temperatures on the Resistance of Materials on the basis of EVA to Multiple Loads. P. 94.

The article considers the issue of resistance of materials samples on the basis of EVA to the effects of high-cycle loads at room temperatures. The authors carry out research and identify the dependence of the indicators of the material persistence properties on the number of loading cycles.

**Key words**: tensile strength, multi-cycle test, repeated bending, coefficient of persistence, tension, fatigue endurance.

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## Assessment of the Quality of Shower Gels. P. 98.

The papers studies consumer preferences, basic organoleptic physical and chemical properties of popular shower gels. It is determined that 4 of the 8 types of show gels under analysis do not meet regulatory requirements, particularly on the foam amount, foam stability and hydrogen indicator. As a result of the analysis the authors develop the rating of shower gels.

**Key words:** shower gels, surveys, organoleptic properties, physical and-chemical properties, rating.

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### The Study of Consumer Properties of Hosiery for Kids. P. 103.

The article is devoted to the evaluation of the safety and quality of some brands of hosiery available on the market of Novosibirsk. The authors analyze hygroscopicity, permeability, content of free formaldehyde in products, as well as the composition, size, and resistance to washing of samples. As result conclusions are made about the safety and quality of children's hosiery.

Key words: hosiery, safety, hygroscopicity, permeability, quality, product composition.

#### MATHEMATICAL METHODS IN ECONOMICS

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### Optimum Control Non-Stationary Random Process. P. 108.

The authors provide and describe two methods of optimal control of a non-stationary random process. The methods are based on identifying the structure of control parameters that ensure the construction of an optimal trajectory for the development of a social- economic object in the future.

**Key words:** optimal control, non-stationary random process, control parameters, integral estimation, desirability scale, scale of relative importance.

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