

ЕКОНОМІКА

І РЕГІОН №6 (49) 2014

ЭКОНОМИКА И РЕГИОН



ECONOMICS AND REGION



Науковий вісник Полтавського національного технічного
університету імені Юрія Кондратюка

Грудень 2014 р.

РЕДАКЦІЙНА КОЛЕГІЯ:

- ОНИЩЕНКО В.О.** – головний редактор, д.е.н., проф., ректор Полтавського національного технічного університету імені Юрія Кондратюка;
- КОМЕЛІНА О.В.** – заступник головного редактора, д.е.н., проф., декан факультету менеджменту і бізнесу Полтавського національного технічного університету імені Юрія Кондратюка;
- ПТАЩЕНКО Л.О.** – відповідальний секретар, д.е.н., проф. кафедри фінансів і банківської справи Полтавського національного технічного університету імені Юрія Кондратюка;
- ВАРНАЛІЙ З.С.** – д.е.н., проф. кафедри фінансів Київського національного університету імені Т.Г. Шевченка;
- ГРИШКО В.В.** – д.е.н., проф. кафедри менеджменту та адміністрування Полтавського національного технічного університету імені Юрія Кондратюка;
- ДУБЦЕВ В.П.** – д.е.н., проф., зав. кафедри економічної теорії та регіональної економіки Полтавського національного технічного університету імені Юрія Кондратюка;
- КОРГАНШВІЛІ Л.Д.** – д.е.н., проф., керівник центру забезпечення якості та наукової діяльності Міжнародної школи туризму Тбіліського державного університету імені І. Джавахішвілі;
- КУЗНЯК Б.Я.** – д.е.н., проф. кафедри економіки підприємства та управління персоналом Полтавського національного технічного університету імені Юрія Кондратюка;
- МАЗАРАКІ А.А.** – д.е.н., проф., ректор Київського національного торговельно-економічного університету;
- МАРТИНЮК В.П.** – д.е.н., доц., зав. кафедри фінансово-економічної безпеки Тернопільського національного економічного університету;
- МОМОТ Т.В.** – д.е.н., проф., зав. кафедри фінансово-економічної безпеки, обліку і аудиту Харківського національного університету міського господарства імені О.М. Бекетова;
- ОБОЛЕНСЬКА Т.Є.** – д.е.н., проф., проректор з науково-педагогічної роботи Київського національного економічного університету імені В. Гетьмана;
- ПИЛА В.І.** – д.е.н., проф., зав. відділом стратегії сталого розвитку та інвестиційно-інноваційної політики Науково-дослідного економічного інституту;
- ПОВАЖНИЙ О.С.** – д.е.н., проф., ректор Донецького державного університету управління, зав. кафедри фінансів;
- ХВЕСИК М.А.** – д.е.н., проф., директор Інституту природокористування та сталого розвитку НАН України, член-кореспондент УААН;
- ШВІЛЬ ЮРГЕН** – доктор наук, проф., Департамент підприємництва та управління / Міжнародний менеджмент та маркетинг. Університет прикладних наук, м. Бранденбург (Німеччина);
- ШИНКАРЕНКО Р.В.** – к.е.н., доц., декан фінансово-економічного факультету Полтавського національного технічного університету імені Юрія Кондратюка;
- ЮРКІВ Н.Я.** – д.е.н., доц., завідувач кафедри управління банківською безпекою Університету банківської справи НБУ.

Журнал "Економіка і регіон" внесений до переліку наукових фахових видань України (наказ МОН України № 1279 від 06.11.2014).

Вид видання – науковий журнал.

Видається з липня 2003 р. Виходить шість разів на рік. Свідчення про державну реєстрацію КВ 7560, видане 15.07.2003 р. Державним комітетом інформаційної політики, телебачення і радіомовлення України.

Засновник і видавець журналу – Полтавський національний технічний університет ім. Ю. Кондратюка.

Назва, концепція, зміст і дизайн журналу "ЕІР" є інтелектуальною власністю редакції журналу "Економіка і регіон" і охороняється законом про авторські і суміжні права. При передрукуванні посилання на журнал "ЕІР" обов'язкове. Матеріали друкуються мовою оригіналу.

ISSN 2218-1199
ПЕРЕДПЛАТНИЙ ІНДЕКС 98763
Передплату приймають усі відділення зв'язку України

Рекомендовано до друку Вченою радою Полтавського національного технічного університету імені Юрія Кондратюка.
(прот. № 6 від 26.11.2014)
Веретка Ю.М. Верхола
Коректор Я.В. Новічкова.
Здано до набору 20.11.2014.
Підписано до друку 26.11.2014.
Формат 60x80 1/8. Обл.-видавн. арк. 13.38.
Тираж 300 прим. Замовлення № 133.

Надруковано поліграфцентром Полтавського національного технічного університету ім. Ю. Кондратюка. Свідчення про внесення суб'єкта видавничої справи до Державного реєстру видавців, виготівників і розповсюджувачів видавничої продукції ДК № 3130 від 06.03.2008.

Адреса: 36011, Полтава, Першотравневий просп., 24. Тел.: (05322) 2-98-75;
e-mail: v171@pntu.edu.ua;
сайт журналу: <http://eir.pntu.edu.ua>

**ECONOMICS AND NATIONAL
ECONOMY MANAGEMENT**

- 3 Tetiana V. Stroiko. Export logistics of fat-and-oil industry of Ukraine and the need for its government support
- 9 Sergiy M. Kravchenko. Formation of a methodological approach to the public investment policy of high-tech industries development
- 15 Skyba S.A. Role of human potential in the creative economy

**ECONOMICS AND BUSINESS
ADMINISTRATION
(according to the economic activity types)**

- 21 Natalia V. Kuzmynchuk, Sergiy Yu. Alioshyn. Forecasting the innovative development of industrial enterprises in the controlling context
- 28 Tatyana Y. Chajka. The possibility of using the balance sheet liability method in the working time management at the company
- 36 Natalia V. Sablina. Management of engineering enterprises in the context of the controlling implementation prospects
- 41 Mykhaylo Arych. Features of the concept of SIX SIGMA in the management of financial and economic results of the company
- 47 Oksana V. Syromyatnykova. Defining the essence of an enterprise's anti-crisis strategies and features of their formation.
- 54 Yaroslav A. Susharnyk. Using the analysis methods for planning the enterprise's costs
- 60 Evgeny O. Grigorenko. Modeling of information and innovative crisis management mechanism of machine-building enterprises based on the theory of fuzzy logic

MONEY, FINANCE AND CREDIT

- 67 L.O. Ptashchenko, V.V. Sasko. Problems of financial support of innovations in Ukraine
- 75 Oksana I. Krasnova. Multichannel financing of public health services of Ukraine in the context of the branch reforming

**PRODUCTIVE FORCES
DEVELOPMENT AND REGIONAL
ECONOMY**

- 81 Peter V. Hutz, Tatyana E. Kungurtseva. Spheres of medical and health tourism development

- 87 Daria L. Basyuk. State and prospects of "wine tourism" market development in Ukraine

**ACCOUNTING, ANALYSIS AND
AUDITING**

- 93 Yu.Yu. Mironova, A.M. Popova. Charges account and the fixed assets improvement at an enterprise
- 99 Dmitrenko Alla, Slepova Anna. Ways of improving accounting of inventory

**STATISTICS,
STATISTICAL METHODS**

- 106 Antonets Olga, Sahaydachniy Dmitro. Estimation and prognostication financial safety of enterprise on the basis of methods of multidimensional statistical analysis
- 112 Victoria A. Alexandrova. Formalization of the key business processes selection for their outsourcing based on the use of statistical analysis

**MATHEMATICAL
METHODS, MODELS AND
INFORMATION TECHNOLOGIES
IN ECONOMICS**

- 119 Natalia L. Panasenko. Modeling of grain production parameters in Ukraine
- 125 Oksana P. Antonyuk. Analysis of approaches to modeling of economic growth, accounting, environmental and social factors

**ECONOMIC SECURITY OF
UKRAINE**

- 130 Tatyana V. Oleksiuk. Financial safety of engineering enterprises as a trend of strategic management

**DEMOGRAPHY, LABOR
ECONOMICS, SOCIAL ECONOMICS
AND POLICIES**

- 137 Karina R. Nemashkalo. Decision support system for selecting the investment fields to develop social capital

UDC 338.439.02:631.57

**EXPORT LOGISTICS OF FAT-AND-OIL INDUSTRY OF UKRAINE
AND THE NEED FOR ITS GOVERNMENT SUPPORT**

**Tetiana V. Stroiko, PhD, Head of the International Economics Department,
V.O. Sukhomlynsky National University of Mykolaiv.**

The article deals with the current state and development trends in the export infrastructure of oil-and-fat-industry and its components: - transport infrastructure, storage and shipment of oil for export to the trans-shipment port terminals. The basic problems of export infrastructure development in oil-and-fat industry are identified, and the necessity of the government support has been substantiated.

Key words: oil-and-fat industry, vegetable oil, export, export logistics, transport infrastructure, trans-shipment port terminals, government support.

UDC 330.322

**FORMATION OF A METHODOLOGICAL APPROACH
TO THE PUBLIC INVESTMENT POLICY OF
HIGH-TECH INDUSTRIES DEVELOPMENT**

**Sergiy M. Kravchenko – PhD applicant, Research Center for Industrial
Problems of Development, National Academy of Sciences of Ukraine.**

On the basis of generalizing the existing approaches to the formation of the state investment policy of high-tech industries development, key components of the methodological approach to its construction have been determined. Its development stages provide taking decisions using a system of indexes, obtained in the result of the correlation - regression analysis. Assessment of the impact on them is based on the formation of the investment instruments-stimulators set, it will improve its efficiency, and, consequently, the level of the investment activity in the sector of high-tech industries. Thus, the use of forecasting methods will raise the efficiency of the state's investment policy in promoting the development of high-tech production sector.

Key words: investment policy, high-tech production, forecast, adaptive forecasting.

UDC 330.342

ROLE OF HUMAN POTENTIAL IN THE CREATIVE ECONOMY

**Skyba S.A., PhD applicant, Department of Theoretical and Applied Economics,
Chernihiv National University of Technology.**

The essence of human potential and creative economy is exposed in the article. The correlation processes of the creativity development and the national economy competitiveness has been studied. The basic problems of forming the national human potential on the way to modernization transformations to the country have been outlined, and the index of human development in Ukraine and in the world has been analyzed. The basic prospects of development and improvement of the human potential use are determined, taking into account the today's realities of globalization processes and their influence on the human development indexes and possibilities. The role of human potential influence on the creative economy development has been proved.

Key words: human potential, human capital, creative economy, modernization transformations, human development index.

UDC 005.584:005.591.6

**FORECASTING THE INNOVATIVE DEVELOPMENT
OF INDUSTRIAL ENTERPRISES IN THE CONTROLLING CONTEXT**

**Natalia V.Kuzmynchuk, PhD, acting Head of the Economic Cybernetics and Marketing
Management Department. Sergiy Yu. Alioshyn, teacher, the Economic Analysis and
Accounting Department. National Technical University «Kharkiv Polytechnic Institute».**

Abstract. The article says, that nowadays innovations are a necessary part of the process to ensure long-term and sustainable operation of enterprises, an important tool for competitive advantage. However, the efficiency of innovations depends on a flexible and adaptive management of the process. There is a need in the formation of an appropriate system of governance, one of the most important components of which is a subsystem of information and analytical support management, decision making. Under these conditions, the author believes, one should pay attention to the concept of controlling, the prediction being its important element.

It is noted, that the development of innovative forecasting is one of the controlling functions. Its realization is suggested, using the tools of economic and mathematical modeling. In particular, analysis reporting top ten industrial enterprises of the Kharkov region, allowed to suggest that innovative development directly influences the dynamics of the enterprises competitiveness. Further research has shown, that there is a clear correlation between the index of competitiveness and the innovation potential indicator. In addition, the presence of autocorrelation in the general trend and indicator of competitiveness were revealed. As a result, the base model was built, predicting the competitiveness of industrial enterprises, depending on the dynamics of

innovation potential, a class of autoregressive equations models with distributed lags - autoregressive distributed lags (ADL) – was chosen, which, in addition to the factor variable, contains one or more previous values of the resulting variable, i.e. takes the time lag into account.

UDC 338.984

THE POSSIBILITY OF USING THE BALANCE SHEET LIABILITY METHOD IN THE WORKING TIME MANAGEMENT AT THE COMPANY

**Tatyana Y. Chajka, PhD, senior teacher, Department of Economic Analysis
and Accounting, National Technical University «Kharkiv Polytechnic Institute».**

The article is devoted to updating the approaches; studying the possibilities and peculiarities of the balance method application in the working time management at the company. The possibility is analyzed of using the working time balance in the accounting activity at the company, as well as an auxiliary tool for creating the additive factor models and further factorial analysis of working time costs for separate components. The balance constructions are based on the principle of proportionality, which is the basis of achieving a balance between the normal hours of work and the optimal labor intensity. Individual balances of the employees' working time can be used as the information basis for the analysis of the working time efficiency as a component of an employee's labor potential.

Key words: balance method; working time balance; working time fund; calendar time fund; personnel time fund; the maximum possible time fund; lost time; factor additive model.

UDC 658.5

MANAGEMENT OF ENGINEERING ENTERPRISES IN THE CONTEXT OF THE CONTROLLING IMPLEMENTATION PROSPECTS.

**Natalia V. Sablina, PhD, Associate Professor, Department of Finance,
Semen Kuznets National Economic University of Kharkiv.**

The article is devoted to substantiating the necessity for implementing controlling into the management process at machine-building enterprises of Ukraine as one of the efficient management elements. The assessment of the machine-building industry of Ukraine is carried out and the scheme of organization and functioning of the controlling system at an industrial plant is developed.

Keywords: controlling, management, engineering.

UDC 336

FEATURES OF THE CONCEPT OF SIX SIGMA IN THE MANAGEMENT OF FINANCIAL AND ECONOMIC RESULTS OF THE COMPANY

**Mykhaylo Arych, post-graduate, Department of Finance,
National University of Food Technologies.**

The concept of improving business processes Six Sigma as a model of management of financial and economic results is presented. Features of Six Sigma implementation in performance management are analyzed. The basic stages of management of financial and economic results accordance with Six Sigma are defined.

The article examines the development and improvement of the management system of financial and economic results of the company in accordance with the corporate management Six Sigma, and presents the stage management of financial and economic outcomes methodology DMAIC (define, measure, analyze, improve, control), which will meet the following requirements: development, performance management, system of optimization and management, as well as complementary and integral processes of corporate management. Stage 1 (Measure and Analyze): measurement of the current process and performance management, collecting information for further comparisons. Analysis of both the financial and economic results, and reason elements effecting mechanism of their formation, distribution and use, is provided. Stage 2 (Define): setting goals to improve the system of management that meets the needs of consumers and business strategy. Stage 3 (Improve): improving the existing management, involving deficiencies identified in the stages of formation, distribution and use of financial and economic performance, and optimizing the entire process of management prospects. Stage 4 (Control): monitoring the implementation of new decisions in order to optimize the management of financial and economic results. In addition, this phase involves testing of advanced control systems.

Determining the level of defect management of financial and economic results of the company in accordance with the concept of Six Sigma is a fundamentally new method for assessing the efficiency of financial and economic results, which in this context is first applied and aimed at improving the process, increasing its objectivity, and increasing the information framework for management. The specified level of defects can be defined as a general summary measure for assessing the efficiency of management and their

components, indicators within their structure make it possible to determine the level of each individual defect management indicator.

The concept of Six Sigma is an important element of the management of financial and economic results of enterprises, aimed at improvement of the business process, viewed as a statistical indicator of the goal quality in the field of optimization, as well as a system, aimed at achieving sustainable leadership and forming the efficient corporate culture. Thus, the Six Sigma methodology opens up entirely new possibilities for optimization, as for example, in management of financial and economic results, and in the general corporate management.

Key words: financial and economic results, management system, Six Sigma, optimization.

UDC 005.334:005.21

DEFINING THE ESSENCE OF AN ENTERPRISE'S ANTI-CRISIS STRATEGIES AND FEATURES OF THEIR FORMATION

**Oksana V. Syromyatnykova, teacher, Department of Economic Analysis and
Accounting, National Technical University «Kharkiv Polytechnic Institute».**

Theoretical aspects of defining the essence of the term «anti-crisis strategy» are under consideration and the basic parameters of features that contribute to the classification of strategies are defined. A three-dimensional matrix is formed for the development of crisis management strategies based on the key parameters definition within the coordinates: dynamic – «economic efficiency – solvency – scale of activity»; static – «personnel structure – labor productivity – nature of corporate communications»; the external environment impact – «macroeconomic factors – the functioning market parameters change».

Key words: crisis, strategy, anti-crisis strategy, economic stability of the enterprise, matrix of forming anti-crisis strategy.

UDC 657:634.6.087.44

USING THE ANALYSIS METHODS FOR PLANNING THE ENTERPRISE'S COSTS

**Yaroslav A. Susharnyk, post-graduate student, Department of Accounting and
Auditing, Podilsk State Agricultural and Technical University.**

The theoretical basis of changes in the structure of total expenditures is under consideration. The theoretical basis of the costs and factor analysis has been studied. The study deals with the correlation analysis theory. An attempt was made of establishing relationship between cost, volume of collected products, changes in the structure of total costs by means of the production function. The article deals with the results of the factor analysis on the basis of the reception chain substitution. The factor analysis results are depicted as a diagram for illustrative purposes. On their basis projections have been obtained for planning the regional development trajectory.

UDC 519.8:658.15

MODELING OF INFORMATION AND INNOVATIVE CRISIS MANAGEMENT MECHANISM OF MACHINE-BUILDING ENTERPRISES BASED ON THE THEORY OF FUZZY LOGIC

**Evgeny O. Grigorenko, PhD student.
Poltava National Technical Yuri Kondratyuk University.**

The features of the model development information and innovative crisis management mechanism of machine-building enterprises based on the theory of fuzzy logic were determined. MATLAB was selected as a medium for the construction of systems. There were highlighted the following incoming linguistic variables such as the relative level of financial condition, the probability of bankruptcy, the level of information security, the level of innovation potential. There were defined the terms of input variables and effective. The base rules for fuzzy inference system were formulated. The results of modeling information and innovative mechanism of crisis management in machine-building enterprises is presented with a fuzzy inference procedure and the surface, taking into account the input linguistic variables.

Keywords: information and innovative mechanism, crisis management, engineering enterprises, fuzzy logic, term-set.

UDC 330.322

PROBLEMS OF FINANCIAL SUPPORT OF INNOVATIONS IN UKRAINE

**L.O. Ptashchenko, PhD, Associate Professor, V.V. Sasko, undergraduate
Poltava National Technical Yuri Kondratyuk University**

Innovative entrepreneurship is based on the interaction of three key drivers: science, technology and knowledge, manifested in the development and implementation of innovative processes of science and technology.

In Ukraine, understanding of the exceptional role of science and innovation in the national economy, in the context of European integration guidelines, is under development. However, despite the general recognition of the high importance of innovative processes for the national economy, the current state of the system of financing is the evidence of failure to establish the necessary conditions for unlocking the existing innovative potential. The lack of adequate financial support, concentration and efficient use of available financial resources inhibits activation of the innovation process and reduces its total impact on the efficiency of economic innovation.

The financial support of innovation is referred to as a set of methods and tools of influence on innovations implemented in various forms through appropriate funding systems.

The study confirmed, that funding for implementation and dissemination of innovations is carried out immediately after the crisis or depression, mainly by public funds.

In the last period of economic transformation and the difficult economic and political conditions in the present, the financial support problem of innovative development in Ukraine has deepened a number of problems, the most acute among which are:

- little innovation funding, compared to developed countries and continuing negative trend to reduce it;
- absence of strong and stable sources of funding, lack of own funds, deficit and public credit, unattractive country for foreign investors, lack of financial institutions that specialize in financing innovation, venture capital funds, private investors, etc.
- high level of shadow economy that promotes transparency of operations with innovative projects finance;
- deformed financing structure: fields of research, by the industry and by the region of Ukraine.

However, the financial support of innovation should be a priority of the innovation policy, based on a system of strategic priorities of innovation development with a reduction of their number and preserving those, who has a significant research achievement and prospects. It is necessary to develop and implement a comprehensive system of financial support to innovations, including the mechanisms of cheaper loans, and to encourage banks to lend innovation. These measures will stimulate increased investments in research institutions, technology parks and other science-intensive industries from other private sources.

УДК: 331.47: 33.06 (477)

MULTICHANNEL FINANCING OF PUBLIC HEALTH SERVICES OF UKRAINE IN THE CONTEXT OF THE BRANCH REFORMING

**Oksana I. Krasnova, post-graduate, Political Economy Department. Poltava V.G.
Korolenko National Pedagogical University.**

Abstract

Purpose: Well-being and life quality of the population in Ukraine directly depends on development of public health services system. State financing of public health services in Ukraine is limited nowadays. Insufficient financing of medical sphere and centralization of financial resources does not assist the state budget to raise the efficiency of functioning in this sphere: quality and a choice of medical services remain on a low level. Therefore, hospitals, as public health services, using the state financing means, should involve other sources of financial resources, including: insurance and charitable payments, receipts from paid services. The public health services require radical changes, which should begin first of all from strengthening the branch financing and search of new financial sources. The research objective is a model working out multichannel financings of the public health services system on the basis of using such additional sources as hospital cash desks and voluntary medical insurance, which will provide increase of the resources use efficiency at the initial stage of the obligatory medical insurance introduction.

Methods: While working at the present study, we used such methods of research as a retrospective method, an analysis content method, also deductive comprehension, the structurally-logic analysis method, taking into account the systematic principles used.

Results: Experience of the medical service organization in the world testifies, that an ideal model of financing public health services is the one, that provides free use of public health services resources and payment for medical service. The most efficient for the improvement of public health services sphere financing, in the majority of the world countries, is considered to be refusal of especially budgetary financing and transition to the model of the obligatory medical insurance and voluntary medical insurance. Considering the experience of the Eastern Europe countries, one can see, that introduction of budgetary-insurance medicine through development of the voluntary medical insurance system and hospital cash desks, with gradual introduction of the obligatory medical insurance, is a prospective direction for improving financing of the public health services system. The system of multichannel financing is a necessary stage in development of the budgetary-insurance model of public health services. At present, in Ukraine there is only a budgetary financing, voluntary medical insurance

and hospital cash desks. To solve the main problem of public health services, connected with insufficient financing, we have developed a model of multichannel financing of the public health services system, with active participation of hospital cash desks and voluntary medical insurance. As a means of hospital cash desks, voluntary medical insurance and a means of the obligatory medical insurance for population, the fund of medical insurance should increase. At transition to financing public health services at the expense of the obligatory medical insurance, the quality of health services, at the expense of a competition between medical hospitals, will raise.

Discussion: The offered model of multichannel financing of medicine will reduce loading by the budget, will allow to create conditions for satisfaction of the population's needs in receiving the accessible and qualitative medical service, to reduce shadow medicine, will help to avoid unreasonable expenses, will improve financial conditions of medical workers, and also will create possibilities for changing the economic relations, that is a basis for creating the new, rational mechanism for efficient utilization of the public health services' resources.

UDC 338.48

SPHERES OF MEDICAL AND HEALTH TOURISM DEVELOPMENT

Peter V. Hutz, Doctor of Economics, Professor, Department of Management.

Tatyana E. Kungurtseva, undergraduate, Department of Management.

Zaporizhzhya National Technical University.

In the today's world of leisure, recreation, tourism, recreation is the highest social value. So, over the past few decades in the world, the importance of medical and health tourism and recreation is gradually increasing. Having a huge natural potential, Ukraine needs to develop recreational and tourism infrastructure. Medical and health tourism is one of the most stable types of tourist markets in Ukraine, and it is its priority. However, it is most in need of support and coordinated development. That is why the definition of its capacity, the studied spheres of medical and health tourism revitalization is a key issue today.

Medical and health tourism is among the most ancient types of tourism industry. Since ancient times, people have learned to use mineral water and mud for medicinal purposes. Medical and health tourism is a broader concept that includes two components: treatment and rehabilitation, which determine its variants such as medical, health spa and wellness tourism. This type of tourism is based on health resort study: the science of natural healing factors and their effects on the body and methods of using them for therapeutic and prophylactic purposes.

Features of medical and health tourism are: length of stay, which should be at least three weeks, regardless of a resort and a disease, since only this time you can achieve health effect; high cost of stay and treatment - a common treatment in the resorts is expensive, so this type of tourism is designed for wealthy clients who order an individual program of staying and treatment; age - statistics show that older people more frequently go to resorts, although in recent years young people also spend their vacations at resorts and choose the type of moderately severe ailments. The choice is between the resorts that specialize in the treatment of a particular disease, resorts and mixed-type health-care settings enhance health and help restore strength and stress management.

The particular problem for the development of therapeutic, recreational and sanatorium areas is the lack of qualified medical personnel, who have adequate training to work in the system of specialized medical institutions, as the medical universities of the region do not prepare specialists in this field.

Based on the above material, we can draw a number of the conclusions about the problem solving system-wide measures for development and management of the health tourism in Ukraine. Therapeutic and sanatorium tourism should:

- Update the conceptual state programs to meet the requirements of the international standards and to unlock the tourism potential of the regions;
- Improve the state cadastre of tourist and recreational resources, create reference and information base of the existing facilities of spa types, camping, recreation, etc.;
- Intensify efforts to develop investment proposals in the spheres of tourism and recreation in attractive areas, in order to attract potential investors to upgrade existing facilities, expanding the list of quality services;
- Update the resorts within the program of socio-economic development of the strategic priorities, organize the local authorities participation in the development of tourism and resorts, providing them with financial support from the local budgets;
- Regulate on the regional level the procedure for implementing local fees on the use of therapeutic and travel resources, for the intended use of the funds raised for the complex infrastructure renewal and rehabilitation of small towns with recreational potential, for laying the quality of communications and reorganization (technical upgrade) utilities;
- Establish a system of continuous and rapid monitoring to track the dynamics of national and inbound medical and health tourism, determination of the popular tourism products, thereby correcting the work of a resort complex.
- Implement a system of continuous training for personnel employed in service spa, medical and wellness tourism in hospitality and restaurant management, using both vocational schools and special programs and courses at service centers for employment;
- Regional employment centers develop a set of programs for retraining of the working population, including work in the spheres related to the functioning of the medical, health-care and spa complex tourism and the recreation industry.

UDC 338.48 (075.8)

STATE AND PROSPECTS OF “WINE TOURISM” MARKET DEVELOPMENT IN UKRAINE

**Daria L. Basyuk, PhD, Associate Professor, Head of the Tourist and Hotel Business
Department, National University of Food Technologies.**

In this article, we analyze the main trends of the “wine tourism” market development in Ukraine. Segments of consumers, who are interested in the development and distribution of “wine tourism” market have been identified and described. The key characteristics of the wine tours, drawing the respondents’ interest, are studied.

Key words: wine tourism, consumers, tourism product.

UDK: 657.47:658.

CHARGES ACCOUNT AND THE FIXED ASSETS IMPROVEMENT AT AN ENTERPRISE

**Yu.Yu. Mironova, PhD, A.M. Popova,
Poltava National Technical Yuri Kondratyuk University**

The problems of charges account are considered in the context of the fixed assets improvement at an enterprise. Comparison of the normative legislative base is carried out on the basis of book-keeping and tax accounts in relation to the essence of terms «repair», «modernization», «improvement of the fixed assets». The problem is, that there is no clear definition of the concepts of modernization, repair and other types of improvements in the legislation. We found out disagreements in the list of such activities types, that complicate the process of the fixed assets improvement cost registration.

Certainly, variants of the fixed assets improvement types are corresponding to the Methodological recommendations on the fixed assets record-keeping: modification, modernization of the fixed assets objects with the purpose of their useful exploitation term prolongation or of their production capacity increase; replacement of separate parts of equipment for products upgrading; introduction of more efficient technological processes, which will allow to decrease production charges, which are primitively appraised; completion (building on) of building, which will increase a building seating (area) capacity, volumes and quality of executed works (services) or to create conditions for their implementation.

The problems of organization and methods of charges account of the repaired fixed assets were studied in accordance with the requirements of the Internal revenue code of Ukraine and changes to it. Depending upon the type of capital assets improvement transferred in the tax legislation, a requirement corresponds to the clear determination of the concept of «improvement of the fixed assets», and also it is necessary: to differentiate operations on improvement from other operations, above all, from the operations on technical service and exploitation; to determine, what particular charges belong to the charges on improvement. Before registration in a book-keeping or tax account operations on repair or improvement of the fixed assets, it is necessary to make sure, that it is really an operation on repair or improvement, but not charges, related to maintenance and exploitation of a fixed assets object.

For the purpose of the synthetic account improvement, it is offered (to reflect the charges on repair) to open 23 «Productions» on accounts, 91 the «General production charges», 92 «Administrative expenses», 93 «Selling Expenses», free sub-account «Repair of the fixed assets» with a selection of the articles «Major repairs» and «Permanent repairs». On this account it is expedient to accumulate «Repair of the fixed assets» information about the repairs made and charges after the proper repairing of objects. It will allow to analyze periodicity, expedience and efficiency of the repairs made at an enterprise.

The generalized classification of the fixed assets improvements types is a result of the enterprise activities studying. In accordance to the classification it is foreseen to include into the fixed assets improvement expenses on: modernization; technical reequipment; modification; technical service; completion (building on); replacement of separate parts of equipment; introduction of more efficient technological processes; technical examination; reconstruction; major repairs; other types of the fixed assets improvement.

Trends of perfecting the charges record-keeping are offered according to the fixed assets improvement: revision of normative legal acts, which regulate the record-keeping in the context of the term of «improvement of the fixed assets» interpretation and the list of the charges types included; according to the charges account on the fixed assets improvement, which will allow a detailed determination of basic accounts information on the types of improvement and, certainly, to provide information for taking administrative decisions at an enterprise.

UDC 657.1.012.1

WAYS OF IMPROVING ACCOUNTING OF INVENTORY

**Dmitrenko Alla, candidate of economic sciences, assistant professor
of department of account and audit. Slepova Anna, student.
Poltava National Technical Yuri Kondratyuk University.**

The essential disparities in recognition, assessment and accounting for inventories provided by the Ukrainian National Regulation (Standard) of Accounting 9 "Inventory" and International Accounting Standard 2 "Inventory" were found out. Business collisions caused by the disparities were highlighted. Basic notions and statements about accounting for inventories are analyzed and their distinguishing features are justified.

Keywords: accounting, stocks, stocks inventories.

UDC 658.15

**ESTIMATION AND PROGNOSTICATION FINANCIAL
SAFETY OF ENTERPRISE ON THE BASIS OF METHODS
OF MULTIDIMENSIONAL STATISTICAL ANALYSIS**

**Antonets Olga, candidate of economic sciences, associate professor
of department of economic cybernetics and marketing management.
Sahaydachniy Dmitro, candidate of engineering sciences, associate professor of
department of economic cybernetics and marketing management. National technical
university «Kharkiv polytechnic institute».**

The features of estimation of financial safety of enterprises machine-building industry of Ukraine are investigational in the article. The stages of the methodical going are set forth near the estimation of financial safety. The clusters of enterprises are certain on financial strength security on the basis of procedure of hierarchical clusterization, a discriminant analysis is conducted with the purpose of creation of evaluation model financial safety of enterprises, that will allow to build a probabilistic prognosis this index. Procedures of multidimensional statistical analysis are conducted by application SPSS.

Keywords: financial safety, prognostication, clusters, discriminant function, enterprises of engineer.

UDC 334.752

**FORMALIZATION OF THE KEY BUSINESS PROCESSES
SELECTION FOR THEIR OUTSOURCING BASED ON THE
USE OF STATISTICAL ANALYSIS**

**Victoria A. Alexandrova, senior lecturer, Department of Economic Analysis and
Accounting, National Technical University "Kharkiv Polytechnic Institute".**

The article describes the principles of business processes formalization, the approach to the formation of the cost model of business processes by means of the regression linear model of profit based on the costs of implementing business processes. The influence of the business processes costs on changes in income, shows the key business processes that can be outsourced.

Keywords: outsourcing, process approach, business process model, cost.

UDC 338.43, 330.43

**MODELING OF GRAIN PRODUCTION
PARAMETERS IN UKRAINE**

**Natalia L. Panasenko, PhD, Associate Professor, Economic Cybernetics Department.
Poltava National Technical Yuri Kondratyuk University**

Parameters of grain production in Ukraine are investigated. The economic and mathematical models for determining the factors effecting grain output are determined. A method for the grain production dynamics forecasting by means of the developed models is suggested.

Key words: cereals, production, economic modelling, forecasting, set of models.

UDC 330: 502.131

ANALYSIS OF APPROACHES TO MODELING OF ECONOMIC GROWTH, ACCOUNTING, ENVIRONMENTAL AND SOCIAL FACTORS

**Oksana P. Antonyuk, PhD, Associate Professor, Department of Economic Cybernetics
and Information Technologies. State University "National Mining University".**

An outline of mathematical models of economic growth simulation theory taking into account the processes of physical and human capital accumulation is provided in the paper. The necessity of developing 5-sector growth model, that takes into account the relationship and mutual influence of industrial, environmental, social sectors, education and scientific and technological progress sector, is substantiated.

An important objective of the country's economic policy is a choice of acceptable model of economic growth, that will provide stimulating of economic development potential, qualitative improvement of living standards, reducing poverty, ensuring social protection of vulnerable groups, healthy development and education of the young generation. In recent years, an increasing number of works, which study, how production growth reflects the ecological environment, how ecology affects the possibility of growth, the level of economic development is associated with different indicators of social status. However, not enough attention is paid to the mutual influence of economy, ecology and social services despite the desire of many countries to sustainable development, which is defined as the development that meets the needs of both present and future generations for the economic and environmental benefits. At present, an effective model of economic development, on the basis of which the conscious control of national and economic interests would be done, and that would become the theoretical basis of effective economic policy, has not been developed in Ukraine.

The most comprehensive model is currently a description of the national economy by a system of nonlinear differential equations. It describes the development of the economy as a whole, with the possibility of managing the distribution of work resources.

The production factors in the model are: the amount of physical capital, the amount of unskilled labor, skilled labor volume, stock of knowledge and technology in the economy, environmental index, social index and index of scientific and technical progress. The value of the amount of unskilled labor is given exogenously, all other factors are endogenous variables of the suggested model. Development and implementation of economic growth models should ensure the efficient management of national and economic interests, become the theoretical basis of efficient economic policy, lead the Ukraine's economy to a balanced state of its components: economic, technological, industrial, social, and environmental.

Key words: economic growth, physical capital, human capital, research and technological progress, sustainable development and ecology.

UDC 330.342

FINANCIAL SAFETY OF ENGINEERING ENTERPRISES AS A TREND OF STRATEGIC MANAGEMENT

**Tatyana V. Oleksiuk – post-graduate student, Department of
Economic Cybernetics and Marketing Management,
National technical university “Kharkiv Polytechnic Institute”.**

The article is devoted to studying the theoretical aspects of forming the strategy of financial safety management at the engineering enterprises, aimed at the adequacy of administrative measures to the internal and external changes of the economic environment and keeping steadfast stances in the target markets. Essence of the concepts «financial safety», «strategy», «management strategy» is specified, the multi-aspect and multi-dimensional nature of these definitions is demonstrated. On this basis, the necessity of forming the strategy of the enterprise's financial safety management is grounded, which will facilitate making the efficient administrative decisions in the financial sphere of the enterprise activity and create the basis for the engineering enterprises development in the conditions of unstable and changeable environment in the long-term prospect.

Key words: financial safety, strategy, management, strategy of management, engineering enterprise.

UDC 005.336.4:005.53

DECISION SUPPORT SYSTEM FOR SELECTING THE INVESTMENT FIELDS TO DEVELOP SOCIAL CAPITAL

**Karina R. Nemashkalo, lecturer, Department of Management and Business.
Simon Kuznets Kharkiv National University of Economics**

In this article a decision support system is elaborated for choosing patterns of investment for the efficient formation and development of social capital, which is based on the hierarchies analysis method. Elaboration of a decision support system (DSS) of investment patterns for the efficient formation and social capital development was carried out in a software environment DSS "Select". It is based on the hierarchies analysis method (HAM), which is a simple and convenient tool, helping to structure the problem of determining the patterns of investment for the efficient formation and social capital development, to build a set of alternatives, identify the characterizing factors, specify the importance of these factors, evaluate alternatives for each of the factors, find

inaccuracies and contradictions in the judgment of the decision maker / expert to rank alternative solutions, to analyze and validate the results.

For a graphic display of the hierarchy the method of specification (decomposition) of a given set of elements (criteria, alternatives) was used. It allowed to specify social capital by dividing its component elements: the external social capital (networks in the environment, confidence in the external environment, reputation, values, norms in the external environment) and the internal one (the internal network, trust and reputation in the domestic environment, corporate values, standards in the internal environment). Such a method of constructing a hierarchy makes it possible to specify, what criteria are achieved thanks to the efficient formation and development of social capital, as well as to determine, which patterns of investment are the most important to determine the social capital structure.

After constructing the hierarchical model the method of comparing its elements is used. To determine the priority patterns of investment for the efficient formation and development of the enterprise's social capital the method of paired comparisons is applied.

When conducting the paired comparisons, one should answer the following questions: which of the two elements being compared is more important or has more impact, which is more likely to occur and which is preferred.

In order to determine the relative importance of the elements, the hierarchy scale of relations is used, which allows the expert to set an appropriate degree of superiority of one object over the other to compare some numbers.

Adequacy of the model is confirmed by the values of the consistency results index (DSS "Choice" is designated IP) to quantify the conflicting results of the comparison. The recommended value of the index ranges from 0 to 0.1. This index is defined both as the entire system and for each of its node separately. The lower the value of the index is, the lower is reliability of the results.

As a result, the patterns of adjusting the level of the formation and development of social capital at enterprises have been obtained, under the certain conditions and certain elements of internal and external social capital.

Using the suggested approach to the choice of investment patterns of the social capital formation and development makes it possible to obtain informed management decisions to achieve the desired criterion.