ECONOMICS AND MANAGEMENT OF ENTERPRISE

EVALUATION OF THE SYNERGETIC EFFECT FROM IMPLEMENTATION OF ECONOMIC ACTIVITY BY SMALL BUSINESS ENTITIES

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The object of research is the synergistic effect of economic activity by small entrepreneurship and the process of its formation. One of the most problematic places is the quantitative assessment of the synergistic effect. To eliminate this drawback allows the use of a list of methods used to determine the synergistic effect, in particular, the method of regression analysis.

In the course of this research, the author classify the types of synergism according to the main classification criteria, such as profit components, types of assets, areas of human activity, sources of origin, scale of manifestation, duration of consequences of the manifestation of the synergistic effect. The applied methodology allows the author to justify the existence of a relationship between the main parameters that lead to the emergence of a synergistic effect from the implementation of economic activity by small entrepreneurship. As interrelated parameters, the number of types of economic activity of small entrepreneurship of individual entrepreneurs is considered, their income and tax burden.

It was found that the synergistic effect manifests itself in the case of moderate and related diversification corresponds to the implementation of 2–5 types of economic activity by small entrepreneurship. Dependence is characterized as polynomial of the third degree. The presence of a synergistic effect is evidenced by an increase in revenue with a decrease in the tax burden and the predominance of revenue growth over the growth rate of the tax burden for groups.

Thanks to the research, it becomes possible to determine the limit value of the number of types of economic activity of small entrepreneurship of individual entrepreneurs, providing a synergistic effect. The value of this indicator is 5. The author has proved that with an increase in the number of types of economic activity and an increase in the level of diversification of economic activity of small entrepreneurship, a gradual decrease in the synergistic effect is observed. The validity of the obtained results is confirmed by high reliability coefficients of the approximation R^2, which are 0.98 (in terms of tax burden) and 0.99 (in terms of income).

Keywords: synergistic effect, small entrepreneurship, individuals-entrepreneurs, tax burden, sources of synergy.

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DECISION MAKING ON THE DIRECTION OF INVESTMENT IN THE DEVELOPMENT OF SEPARATE PARAMETERS OF AGRICULTURAL EQUIPMENT

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The object of research is the process of self-financing, as a leading direction in the system of investment support for the development of business entities. One of the most problematic places in resolving this issue is prioritizing these investments.

During the study, the statistical method is used to analyze and summarize statistical information and the methods of cluster analysis and *k*-means to classify the main groups of indicators of technical and operational and economic and marketing parameters for the use of agricultural machinery. As well as methods of matrix analysis and multidimensional spaces – for the positioning of enterprises and the rationale for the choice of investment areas.

The paper proposes theoretical and methodological principles and conclusions, which together solve an important practical prob-lem – the need to search for areas of investment in the development of individual parameters of agricultural machinery. The analysis of the state and characteristics of the activities of agricultural engineer-ing enterprises of Ukraine is made. The necessity of breakthrough development of the machine-building sector of the agro-industrial complex is emphasized. It is noted that most of the Ukrainian enter-prises producing agricultural machinery have outdated equipment, so they need re-equipment and significant financial injections. When classifying the priority areas of investment, it is found that agricul-tural machinery, which is now produced by Ukrainian engineering enterprises, needs to be completely changed. Therefore, a list of stages for the selection of areas for improving tractor equipment is proposed. The proposed approach to determining the priority of in-vesting provides for the classification of quality indicators according to the priority of their improvement according to a certain algorithm. The investment areas are evaluated and it is established that the final decision on investing in the development of certain parameters of ag-ricultural machinery can be made by improving only those indicators of a certain group that were obtained using clustering.

Due to the simplicity of the proposed approach, it can be applied not only for agricultural engineering, but also for other enterprises of the economic complex of Ukraine. Compared with similar well-known approaches, its use will allow more accurate research and obtain the necessary data for targeted investment in the face of limited funds.

Keywords: agribusiness, agricultural engineering, market seg-ments, financing, product competitiveness, quality indicators.

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ECONOMIC CYBERNETICS

DEVELOPMENT OF A METHOD FOR FORECASTING RANDOM EVENTS DURING INSTABILITY PERIODS

page 18–23

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The object of research is random events in the formation of new economic and financial models, in particular, with cardinal changes in economic and social strategies. The scope and variety of methods used in the prediction of random processes is large. Promising mathematical apparatus for solving the problem are statistical methods of analysis. Today, there are many methods for predicting random processes, but most existing models are not suitable for predicting non-stationary processes. One of the most problematic places in forecasting time series is that there is no single methodology by which to analyze the characteristics of a non-stationary random process. Therefore, it is necessary to develop special methods of analysis that can be applied to individual cases of unsteady processes. The optimal solution to the problem may be the approximation of the time series by finely rational functions or the so-called Padé approximation. Such an approach should take advantage of polynomial approximation. In polynomial approximation, polynomial can't have horizontal asymptotes, which makes it impossible to make long-term forecasts. A rational approximation is guaranteed to tend to horizontal asymptotes, with all the poles of the finely rational function lying on the left side of the p-plane, that is, the Laplace transform plane. A method for predicting non-stationary time series with high accuracy of estimation and flexibility of settings is proposed. To ensure the stability of the method and the stability of the obtained results, it is proposed that the poles of the approximating function be introduced into the stability zone – the unit circle of the z-plane in compliance with the rules of conformal transformation. Namely, by transforming linear dimensions and preserving the angles between the orthogonal coordinates on infinitely small neighborhoods of the coordinate plane (the so-called conservatism of angles). It is shown that, subject to the conformity of the proposed transformation, the dynamic characteristics of the estimation and forecasting system are stored. This method can be especially successfully applied in the presence of non-stationarity of various natures.

Keywords: random processes, non-stationary processes, time series, Padé approximation, long-term forecast, Laplace transform.

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DEVELOPMENT OF PRODUCTIVE FORCES AND REGIONAL ECONOMY

FORMATION OF A POLYFUNCTIONAL STRUCTURE OF THE SYSTEM OF TRANSITION MECHANISMS OF UKRAINE TO SUSTAINABLE DEVELOPMENT

page 24–29

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The object of research is the multifunctional structure of the system of mechanisms of transition of Ukraine to sustainable development. The use of the concept of sustainable development of the society, which is focused on the optimal satisfaction of people's needs, provides sufficient quality of life, rational use of natural resources and environmental protection, and focuses on the creation of certain prerequisites, the essence of which is revealed in these articles. One of the priority components that have not been fully formed to shape the conditions for sustainable development of the country are:

– economic (involves the effective use of all types of resources focused on reducing or eliminating pressure on natural ecosystems);

– environmental (as a way of restoring the original state of the natural environment, preserving it on this levels, implementation of measures to the maximum possible improvement);

– social (involves improving the well-being and quality of life of a person, preserving its health).

System-integrated approach is used to managing sustainable development mechanisms that provide the socio-economic vector of becoming regions of the country. In the course of the research it is determined that the structure of sustainable development mechanisms is formed by state and non-governmental organizational structures that are formed at different levels of the mechanism and implement their decisions through levers of influence that fall within their powers, namely through:

– regulatory;

– tax policy;

– budgetary-financial policy;

– promotional support and more.

Thanks to these levers, they can be effective and help to achieve the main goal of the organizational and management mechanism in the case of a clear division of powers at different levels of management and with a clear control of compliance with legal rules and strategic goals. It is concluded that the optimal multifunctional structure of the system of mechanisms of transition of Ukraine to sustainable development should combine structures of all these levels and mechanisms that would complement each other. And direct joint efforts to define and execute strategic decisions.

Keywords: multifunctional structure, organizational and management mechanism, sustainable development of Ukraine, concept of sustainable development, system-integrated approach.

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REPORTS ON RESEARCH PROJECTS

HUMAN CAPITAL DEVELOPMENT IN THE AGRICULTURAL ECONOMY SECTOR

page 30–36

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The object of research is the human capital of the agricultural sector of the national economy. The study of scientific works has revealed that in defining the essence of human capital as an economic category, scientists have not reached a common opinion. With all the variety of theoretical approaches, the problem of the peculiarities of human capital formation in the agricultural sector remains insufficiently studied. There are significant differences in methodological approaches to the interpretation of its essence at different levels of manifestation and certainty. The methods of systematic approach and structural-functional analysis, abstract-logical, monographic and graphical methods were used in the research. The study identifies the nature and peculiarities of human capital formation in the agrarian sector of the economy and clarifies the human capital functions of the agrarian sector and the factors that contribute to its development.

In the work on the basis of generalization of theoretical researches on the role of human capital in the economy, its state and prospects of development in the agrarian sector of economy are analyzed. The factors that influence the level of formation and development of human capital are analyzed. The functions of human capital are described and ways to improve the available human capital in rural areas are proposed.

The peculiarities of the human capital of the agrarian sector of the economy are revealed, the main of which are:

– close connection of the human capital of the agrarian sector with the rural way of life, agrarian work and life;

– significant social and professional homogeneity;

– great dependence of its use on natural rhythms and cycles;

– significant territorial dispersion of the human capital of the agricultural sector, its relatively low mobility compared to human capital in other sectors of the national economy;

– need for development and development under conditions of disability due to the lower standard and quality of life in rural areas, etc.

Keywords: human capital, agricultural sector of the economy, development factors, rural areas, labor resources.

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IMPROVEMENT OF THE METHODOLOGY FOR ASSESSING THE SAFETY OF THE ECONOMIC AND INFORMATION INTERESTS OF THE ENTERPRISE

page 37–40

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The object of research is the process of assessing the safety of the economic and information interests of the enterprise. The work clarifies its definition. It has been taken into account that the key objects of protection are information, as well as the level of use of informa-

tion systems at which they fulfill all the tasks assigned to them, which contributes to the achievement of the common current and strategic economic interests of the enterprise. Given this, it is proposed as part of this type of security to differentiate information security and information system security. It is substantiated that the assessment of the level of security of the economic and information interests of the enterprise should take into account the economic consequences of not achieving its desired level, which are manifested in the lack of profit before tax, which occurs due to the use of outdated information systems (compared with competing enterprises) and insufficient funding functioning of existing information systems. The indicators of the safety components of the economic and information interests of the enterprise are established. An example of the choice of indicators for enterprises in the extractive industry is given. It is shown that such an indicator widespread among scientists as the amount of information costs used in absolute terms does not adequately reflect the state of the level of ensuring the economic and information interests of the enterprise and, accordingly, their safety. For the first time, a coefficient of the level of security of economic and information interests is proposed as the ratio of the lack of profit before tax to the minimum amount of profit necessary for the enterprise. The scale of translation of the obtained values into linguistic terms is determined. In contrast to generally accepted practice, it is shown that the minimum and catastrophic safety levels are low and medium hazard levels, respectively.

The result of this study is an improved methodology for assessing the level of security of the economic and information interests of the enterprise, which takes into account the economic consequences for the enterprise from non-compliance with this type of security. Application of the developed concept expands the capabilities of managerial analytics, allowing more adequately assess the level of security of economic and information interests for making managerial decisions aimed at increasing it.

Keywords: security level, economic and information interests, security indicators, information systems, lack of profit.

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ANALYSIS OF CONSUMER BEHAVIOR FORMATION MODELS UNDER THE INFLUENCE OF MARKETING COMMUNICATION ENVIRONMENT OF THE ENTERPRISE

page 41–44

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The object of research is the influence of the marketing communication environment of the enterprise on the model of formation of consumer behavior. The study of this influence in today's conditions is becoming increasingly promising and is due, first of all, to the increasing role of marketing communications in the promotion of goods and services of an enterprise. The application of scientific approaches to the formation of consumer behavior will more accurately determine the target audience. This will increase the effectiveness of the advertising campaign of the enterprise. When writing the work, such methods and approaches as logical generalization, analysis and synthesis are used to substantiate conceptual approaches to shaping consumer behavior. As well as a grouping method – for compiling methodological approaches to the study of consumer behavior.

The paper analyzes the differences between the adoption of consumer decisions about the purchase of goods and the communication component of marketing in the relationship of business models B2B and B2C. In particular, it is indicated that industrial consumers in the B2B business model are influenced by corporate marketing, which reflects not the personal interests, but the interests of business entities. At the same time, the business model in the B2B segment is aimed at maintaining stable and mutually beneficial relations between economic entities as strategic partners using a specific set of methods and tools. The author systematizes the main methodological approaches to the study of consumer behavior and its models, in general terms it can be divided into two enlarged groups: psychographic (value style) and commodity or subject.

It is argued that the successful use of the considered models is an effective tool of marketing communications, the use of which will increase the effectiveness of the advertising campaign, will turn potential consumers into real ones. This, in the future, will lead to an increase in the volume of sales of products (services) and an increase in the competitiveness of the enterprise.

Keywords: marketing communications, consumer behavior, consumer decisions, enterprise communications environment, industrial consumers, individual consumers.

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RESEARCH OF INSTITUTIONAL ASPECTS OF THE PROJECT FINANCING OF SOCIO-ECONOMIC DEVELOPMENT OF THE REGION

page 45–50

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The object of research is the institutional aspects of project financing of the socio-economic development of the region. One of the most problematic places is the opaque and imperfect system of applying the project approach to its financial support.

The study presents a generalized and interpreted definition of project financing of the socio-economic development of the region as an innovative mechanism for financial support for the implementation of the strategic tasks of the socio-economic development of the region based on the project approach. The analysis of the problematic aspects of the institutionalization of state financial support for the development of the regions on the basis of the project approach:

– funds of the State Regional Development Fund (SRDF);

– subvention for the development of infrastructure of the united territorial communities (UTC);

– funds of the state budget of Ukraine received from the European Union.

An institutional approach has been applied to consider the mechanisms of interaction and relationships of subjects of public relations, assess their behavior in meeting the norms of distribution and use of funds for project financing. The key general and distinctive institutional aspects of project financing of socio-economic development of the regional level are identified. The main problematic aspects for improving the institutional foundations of project financing of the socio-economic development of the region are identified.

It is substantiated in the work that the mismatch of projects with the objective of regional development strategies, the terms of reference for plans for their implementation, as well as lobbying for non-development projects, and «projects supporting current activities» do not contribute to the development of territories.

The research results are recommended for use in practice by representatives of legislative and executive authorities making decisions on the use of project financing tools for the socio-economic development of the region. It is proposed to the expert commissions on the selection of regional development projects, the working groups on strategic planning for the development of territories to take into account the identified positive and negative factors in order to further clarify the mechanisms of state financial support for developing projects at the regional level.

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RESEARCH OF THE INFLUENCE OF HUMANOMICS ON THE ECONOMIC EFFECT OF COMPENSATION AGREEMENTS

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The object of research is the humanitarian context of offset policy, which is studied using the collection of evidence in the field of study – in the defense industry of Europe. One of the most problematic places in the sphere of trade in military goods is the humanitarian factor of economic relations, namely the influence of non-economic factors on the economic effect. The humanitarian aspect of economic relations led to a study of the foundations of the so-called «humanitarian economy» or «humanomics» as a moral and ethical category of economic relations, and military-technical cooperation, as a purely rational category of relations between producers, suppliers and importers of military products. The concept of «humanomics» is formed not so long ago, therefore this topic is not sufficiently disclosed in the literature, making research promising. During the study, the key concepts of the traditional and humanitarian economics, their dialectic unity, interpenetration and interconnection were revealed. In addition to studying the impact of compensation trans- actions on business processes in small and medium-sized enterprises, a special business model, the so-called compensation transaction model, is developed in this research. The model is based on a three-stage systematic approach: at the first stage, problems associated with compensation agreements at small and medium enterprises are identified, and at the second stage, empirical data are analyzed. At the latter, a theoretical model is proposed that is specially developed for practicing specialists and is tested using practically two specific cases. Thanks to the use of the proposed model, it is possible to support the implementation of compensation agreements at all levels of management, including planning, implementation of tasks and control. For the military-trade cooperation of Ukraine with other weapons-importing countries, offset models will contribute to deepening economic cooperation in the competition on the global arms and military equipment markets. Therefore, it is extremely important, while strengthening the humanitarian aspects of offset policy, at the same time actively developing and implementing mechanisms of competitive counteraction.

Keywords: humanitarian economy, military goods, military equipment, military-technical cooperation, offset policy, offset deal.

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